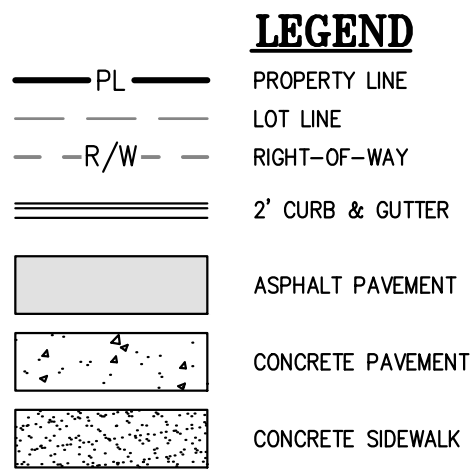
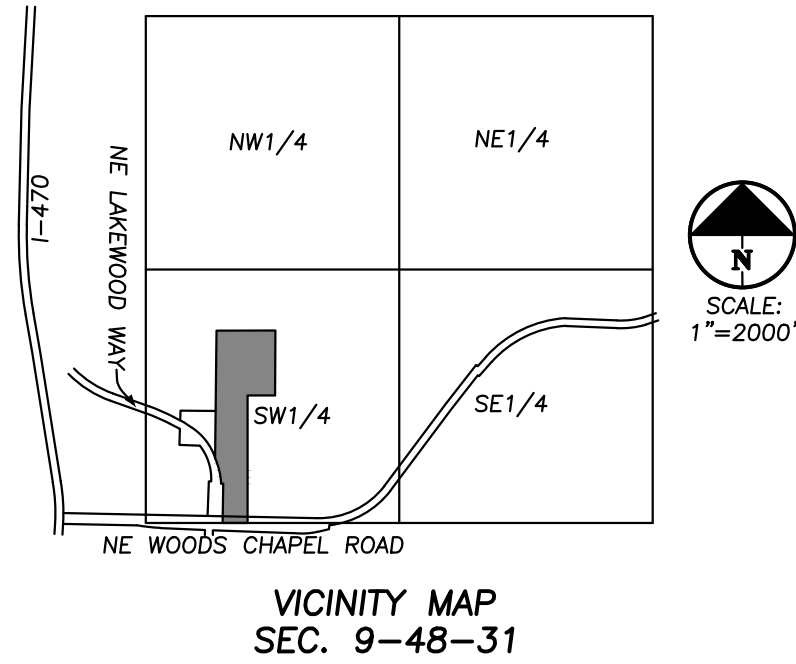


WATER MAIN PLANS  
FOR  
ORCHARD WOODS

IN THE CITY OF LEE’S SUMMIT, JACKSON COUNTY, MISSOURI



UTILITY COMPANIES:

MISSOURI GAS ENERGY (816) 969-2218  
LUCAS WALLS (LUCAS.WALLS@SUG.COM)  
3025 SOUTHEAST CLOVER DRIVE  
LEE’S SUMMIT, MO 64082

EVERGY (816) 347-4339  
PHILLIP INGRAM (PHILLIP.INGRAM@KCPL.COM)  
RON DEJARNETTE (RON.DEJARNETTE@KCPL.COM) (816) 347-4316  
1300 HAMBLIN ROAD  
LEE’S SUMMIT, MO 64081

STORM SEWER (PUBLIC WORKS DEPARTMENT) (816) 969-1800  
220 SE GREEN STREET  
LEE’S SUMMIT, MO 64063

SANITARY SEWER & WATER (WATER UTILITIES DEPT.) (816)-969-1900  
1200 SE HAMBLEM ROAD,  
LEE’S SUMMIT, MO 64081

AT&T (913) 383-4929  
MR. CLAYTON ANSPAUGH (CA4089@ATT.COM) (913) 383-4849-FAX  
9444 NALL AVENUE  
OVERLAND PARK, KANSAS 66207



UTILITY NOTES:  
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN.  
UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR  
LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN  
THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL  
FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.

Know what’s below.  
Call before you dig.

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 (AASHTO 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 SANITARY AND STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, DUCTILE IRON PIPE, DIP, SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT ON THE WATER LINE.
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.

INDEX

- 1 COVER SHEET
- 2 GENERAL LAYOUT
- 3 WATER LINE 1 PLAN & PROFILE
- 4 WATER LINE 2 PLAN & PROFILE
- 5 WATER LINES 3 & 4 PLAN & PROFILE
- 6 WATER LINE DETAILS

PREPARED & SUBMITTED BY:

PHELPS ENGINEERING, INC.  
1270 N. WINCHESTER  
OLATHE, KS 66061  
913-393-1155 OFFICE  
913-393-1166 FAX  
CONTACT: JUDD CLAUSSEN, P.E.

OWNER:

ENTRES DEVELOPMENT, LLC  
ATTN: DANIEL VILLANUEVA  
424 NE BROCKTON DR  
LEE’S SUMMIT MO, 64064  
(310) 760-6205

BENCHMARKS:

BM #1  
CENTER LINE FRONT FACE OF CURB INLET SOUTHEAST COR. OF  
INTERSECTION OF NE LAKEWOOD WAY, PRIVATE DRIVE FOR HOPE CHAPEL,  
AND PRIVATE DRIVE FOR LEE’S SUMMIT WATER TOWER.  
ELEVATION = 963.96

BM #2  
“+” CUT S.W. CORNER CURB INLET EAST SIDE OF INTERSECTION OF NE  
SUWANNEE DRIVE & NE PIEDMONT DRIVE  
ELEVATION=965.22

PHELPS ENGINEERING, INC.  
1270 N. Winchester  
Olathe, Kansas 66061  
(913) 393-1155  
Fax (913) 393-1166  
www.phelpengineering.com

PLANNING  
ENGINEERING  
IMPLEMENTATION



COVER SHEET  
ORCHARD WOODS  
LEE’S SUMMIT, JACKSON COUNTY, MISSOURI

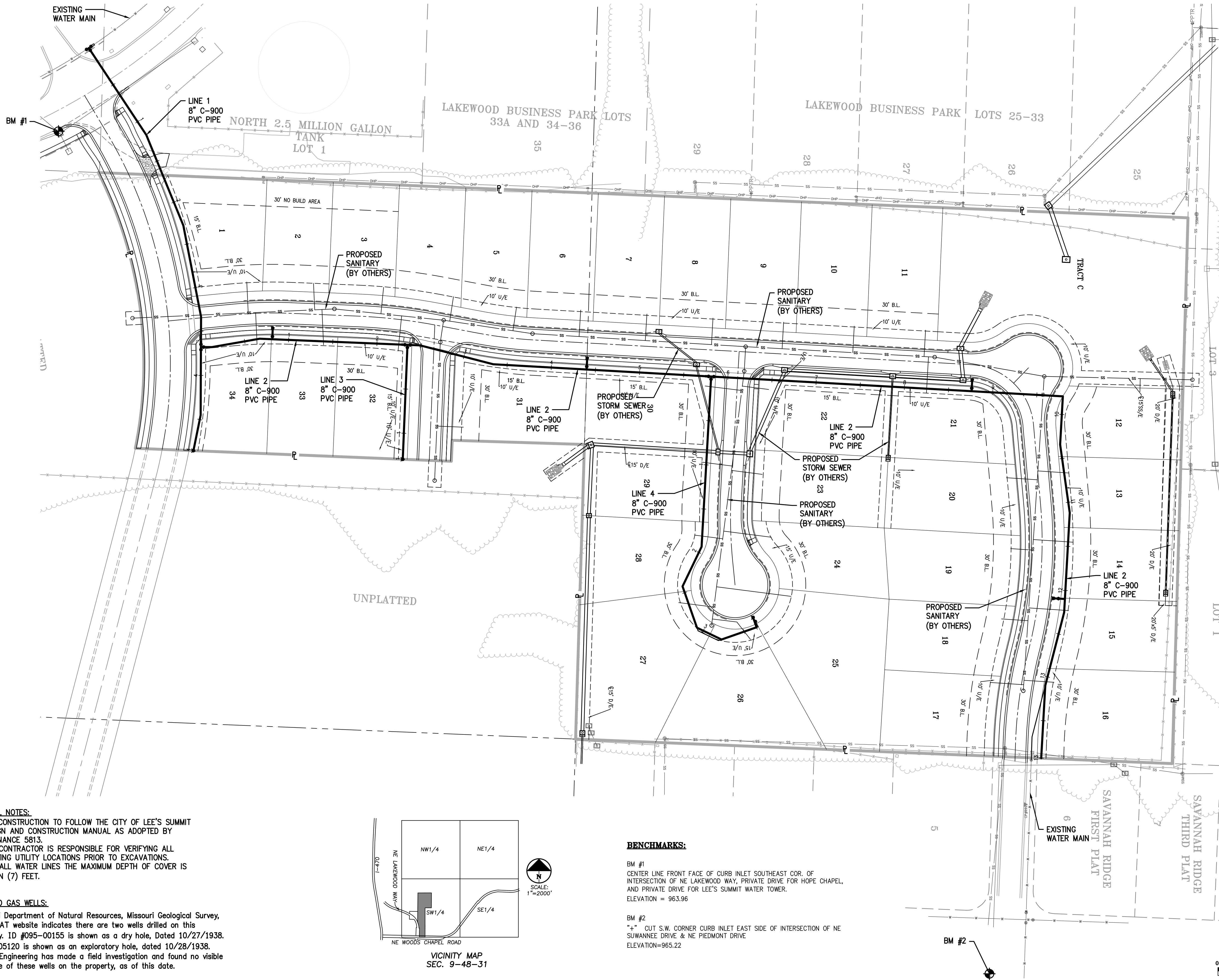
| APP.                         | By  | Revisions:                | Date     | No.    |
|------------------------------|-----|---------------------------|----------|--------|
| KSJ                          | DEU | REVISED PER CITY COMMENTS | 12/15/22 | 211142 |
| DATE: 11-14-2022 [DRAWN:KSJ] |     |                           |          |        |
| CHECKED: DEU APPROVER: DEU   |     |                           |          |        |
| CERTIFICATE OF AUTHORIZATION |     |                           |          |        |
| LAND SURVEYING - LS-82       |     |                           |          |        |
| ENGINEERING - E-361          |     |                           |          |        |
| CERTIFICATE OF AUTHORIZATION |     |                           |          |        |
| LAND SURVEYING-2007001028    |     |                           |          |        |
| ENGINEERING-2007000209       |     |                           |          |        |

SHEET

1



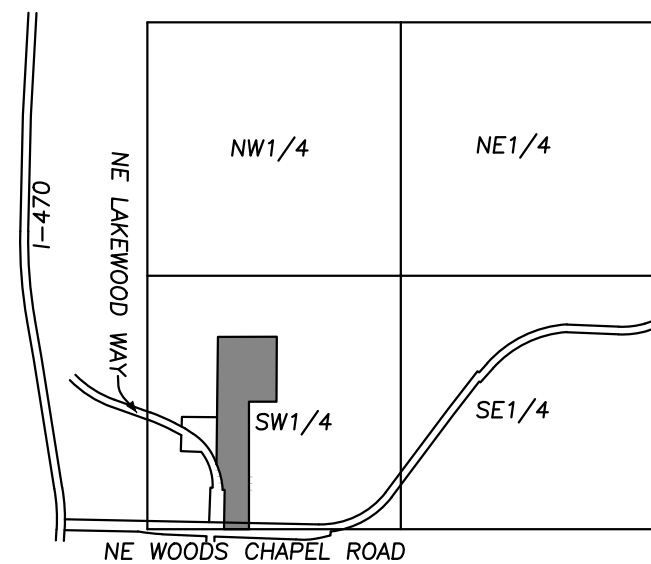
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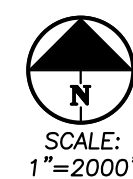
- GENERAL NOTES:**
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  2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATIONS.
  3. FOR ALL WATER LINES THE MAXIMUM DEPTH OF COVER IS SEVEN (7) FEET.

**OIL AND GAS WELLS:**

Missouri Department of Natural Resources, Missouri Geological Survey, GeoSTRAT website indicates there are two wells drilled on this property. ID #095-00155 is shown as a dry hole, Dated 10/27/1938. ID# 0005120 is shown as an exploratory hole, dated 10/28/1938. Phelps Engineering has made a field investigation and found no visible evidence of these wells on the property, as of this date.



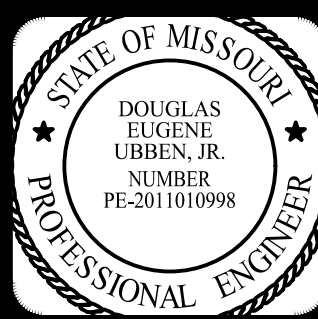
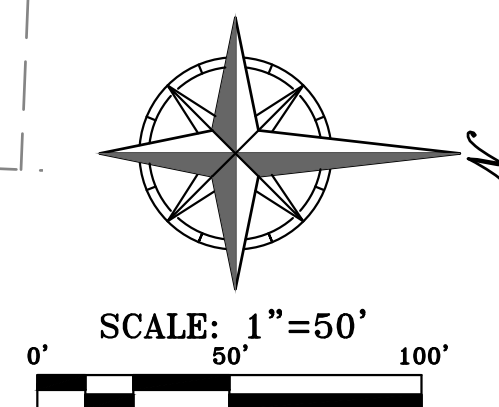
VICINITY MAP  
SEC. 9-48-31



**BENCHMARKS:**

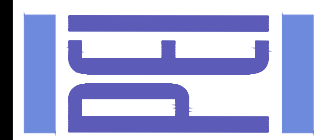
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CENTER LINE FRONT FACE OF CURB INLET SOUTHEAST COR. OF  
INTERSECTION OF NE LAKEWOOD WAY, PRIVATE DRIVE FOR HOPE CHAPEL,  
AND PRIVATE DRIVE FOR LEE'S SUMMIT WATER TOWER.  
ELEVATION = 963.96

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"4" CUT S.W. CORNER CURB INLET EAST SIDE OF INTERSECTION OF NE  
SUWANNEE DRIVE & NE PIEDMONT DRIVE  
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IMPLEMENTATION



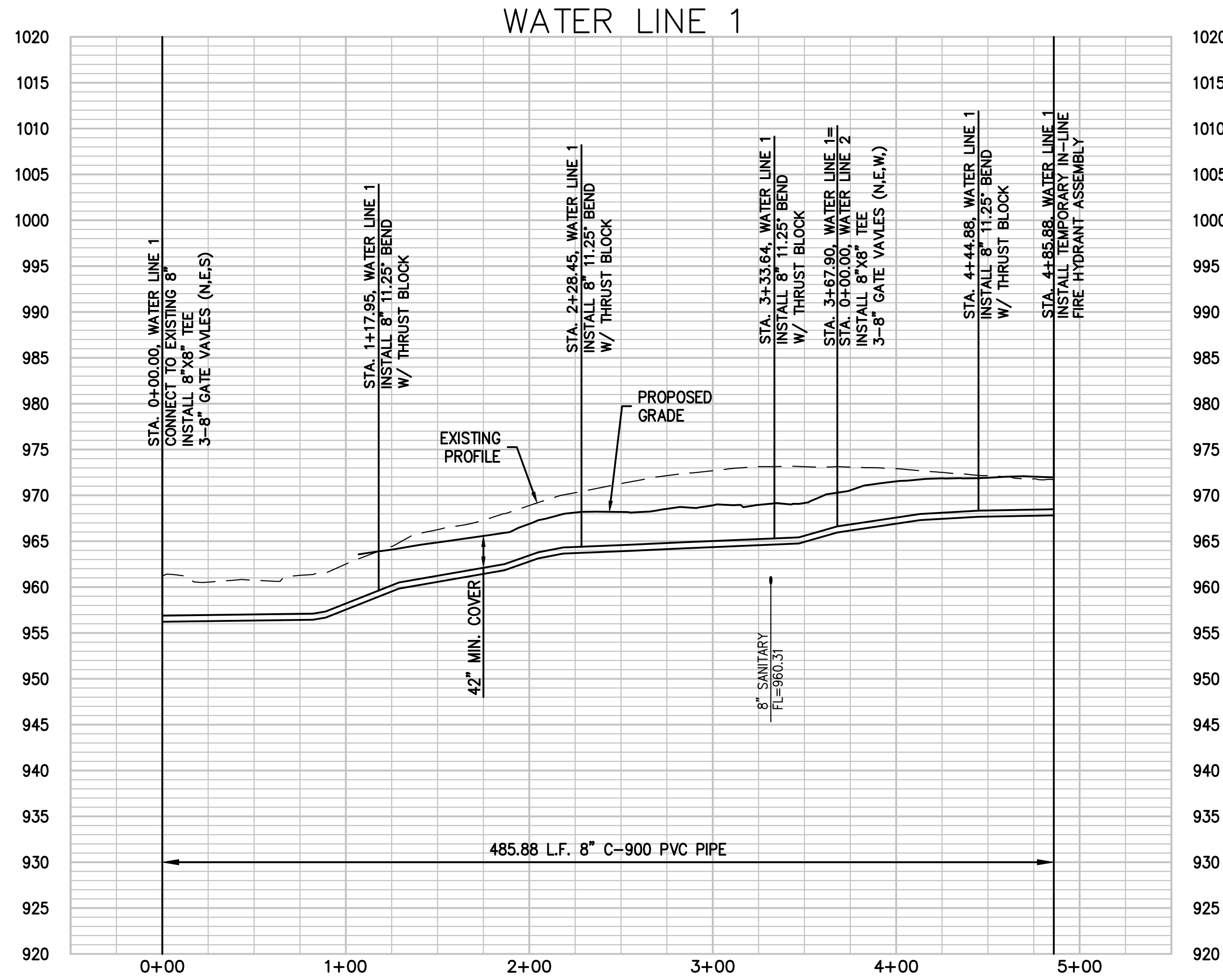
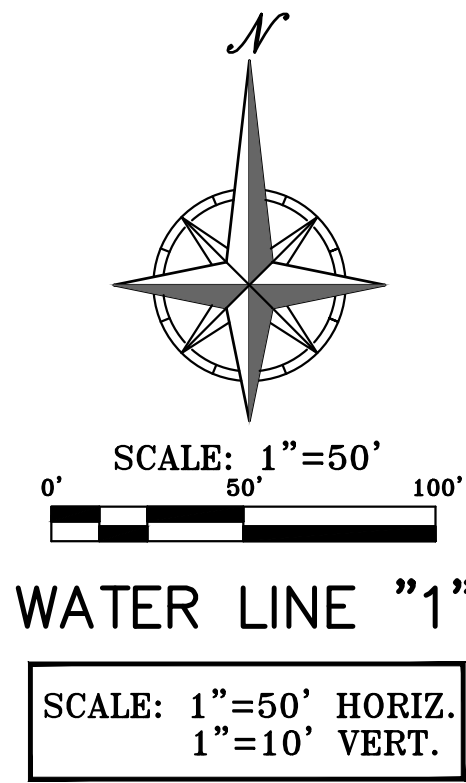
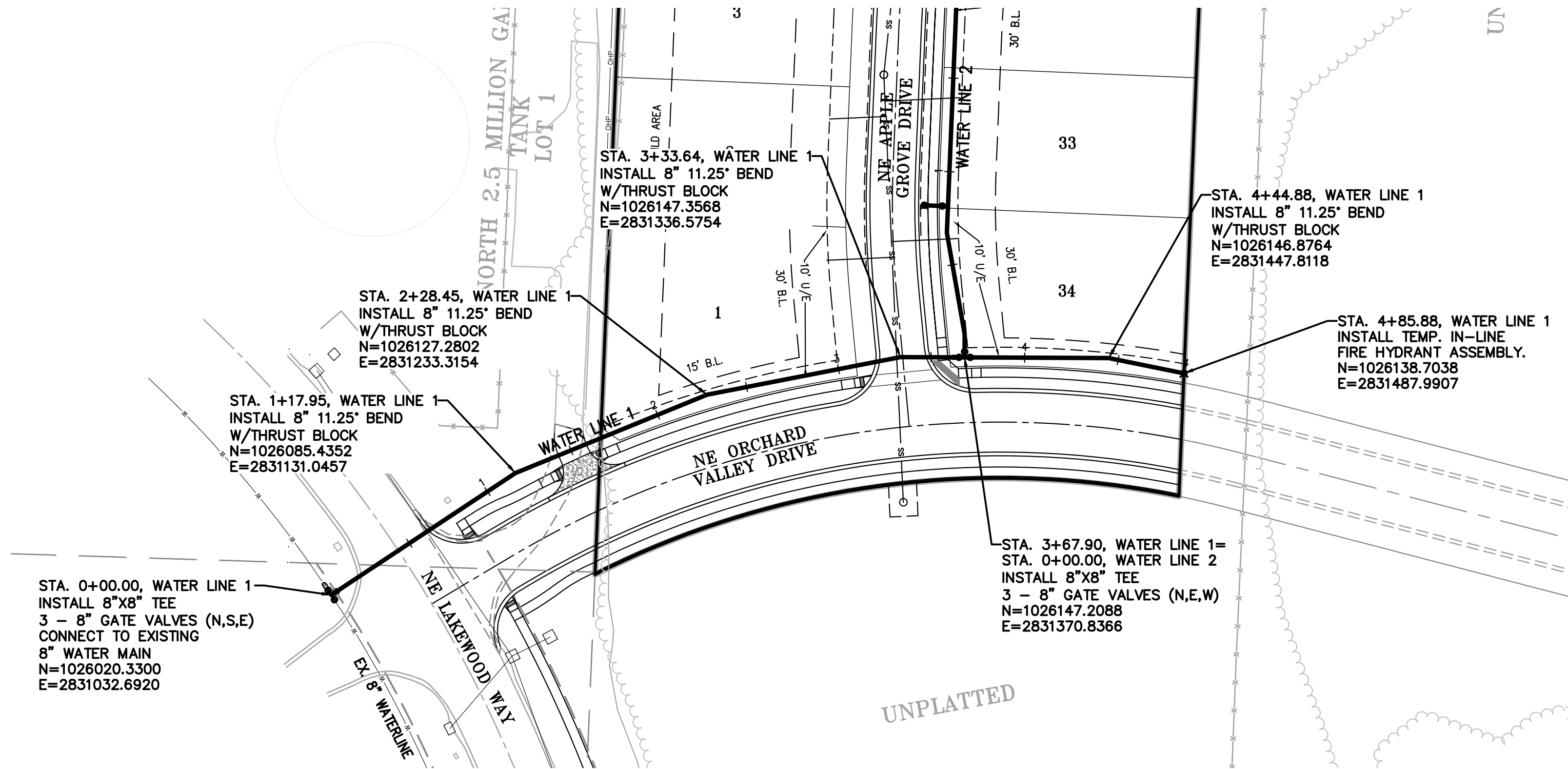
**GENERAL LAYOUT**  
ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

| PROJECT NO. | 211142 | No.      | 1   | Date | 12/15/22 | By | App. | Revisions: | Revised Per City Comments |
|-------------|--------|----------|-----|------|----------|----|------|------------|---------------------------|
| CHECKER     | DEU    | APPROVED | DEU |      |          |    |      |            |                           |
| CORPORATE   | DEU    | APPROVED | DEU |      |          |    |      |            |                           |
| CERTIFICATE | DEU    | APPROVED | DEU |      |          |    |      |            |                           |
| CERTIFICATE | DEU    | APPROVED | DEU |      |          |    |      |            |                           |
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SHEET

2

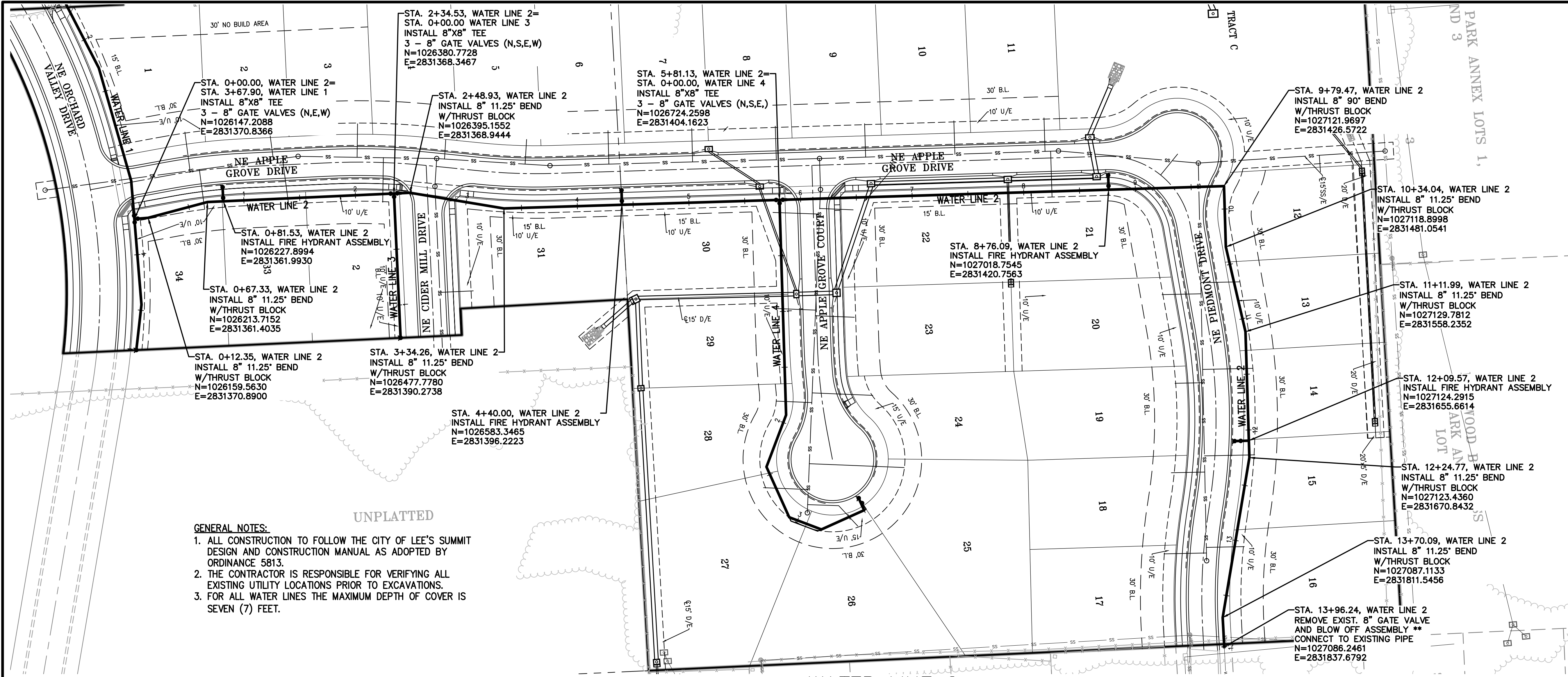




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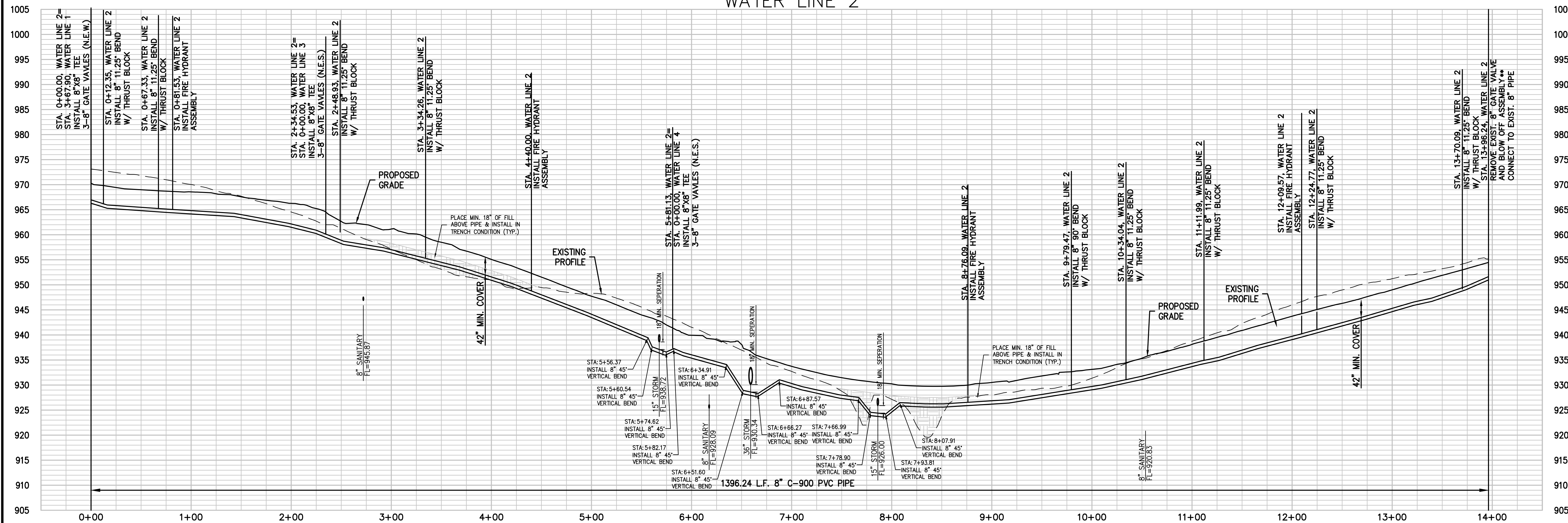
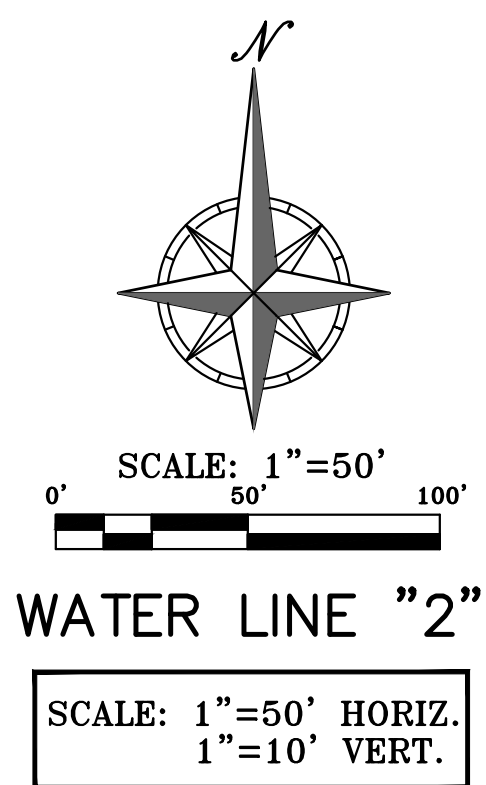
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| DATE: 11-14-2022             | DRAWN: KSJ                  | 1   | 1 | 12/15/22 |          | REVISED PER CITY COMMENTS | KSJ | DEU  |
| CHECKED: DEU                 | APPROVED: DEU               |     |   |          |          |                           |     |      |
| CORPORATE SEAL               | DATE OF AUTHORIZATION       |     |   |          |          |                           |     |      |
| LAND SURVEYING - LS-82       | ENGINEERING - E-361         |     |   |          |          |                           |     |      |
| CERTIFICATE OF AUTHORIZATION | LAND SURVEYING - 2007001028 |     |   |          |          |                           |     |      |
| ENGINEERING - 2007000208     |                             |     |   |          |          |                           |     |      |





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\*\* IF THE OFFSITE WATERLINE WORK IS DONE PRIOR TO THIS PROJECT, THEN THERE WILL BE NO BLOW OFF ASSEMBLY TO BE REMOVED.



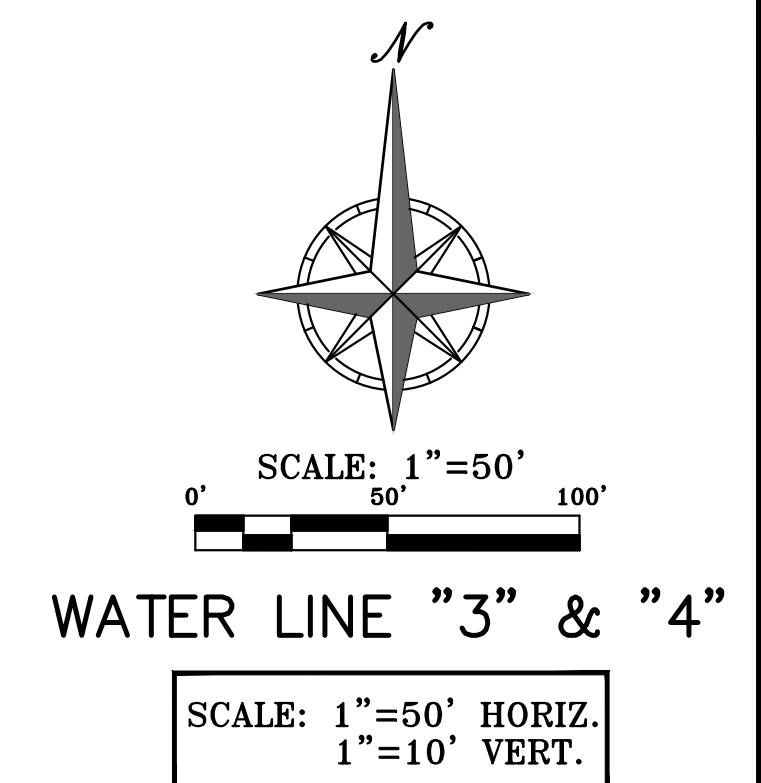
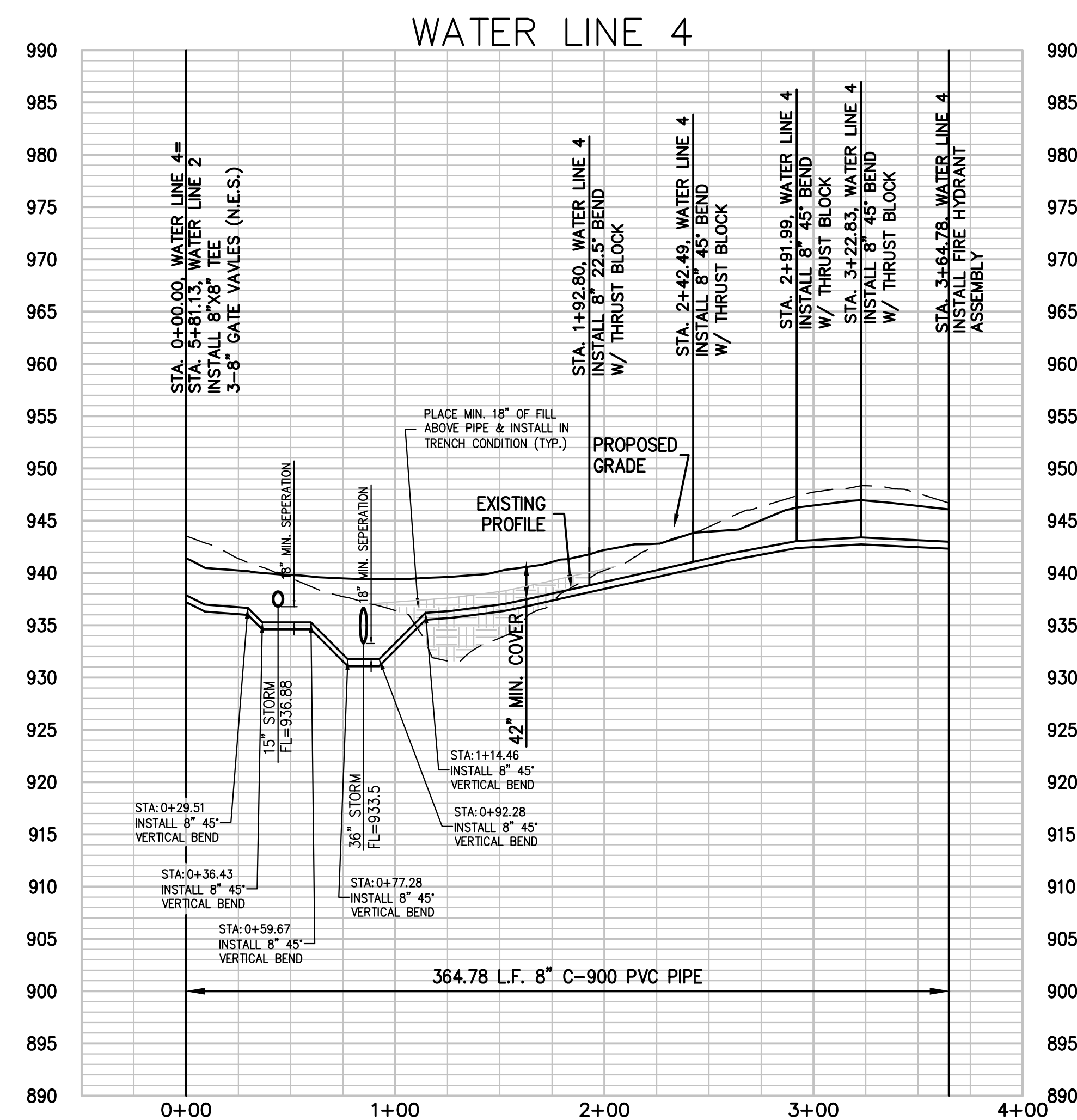
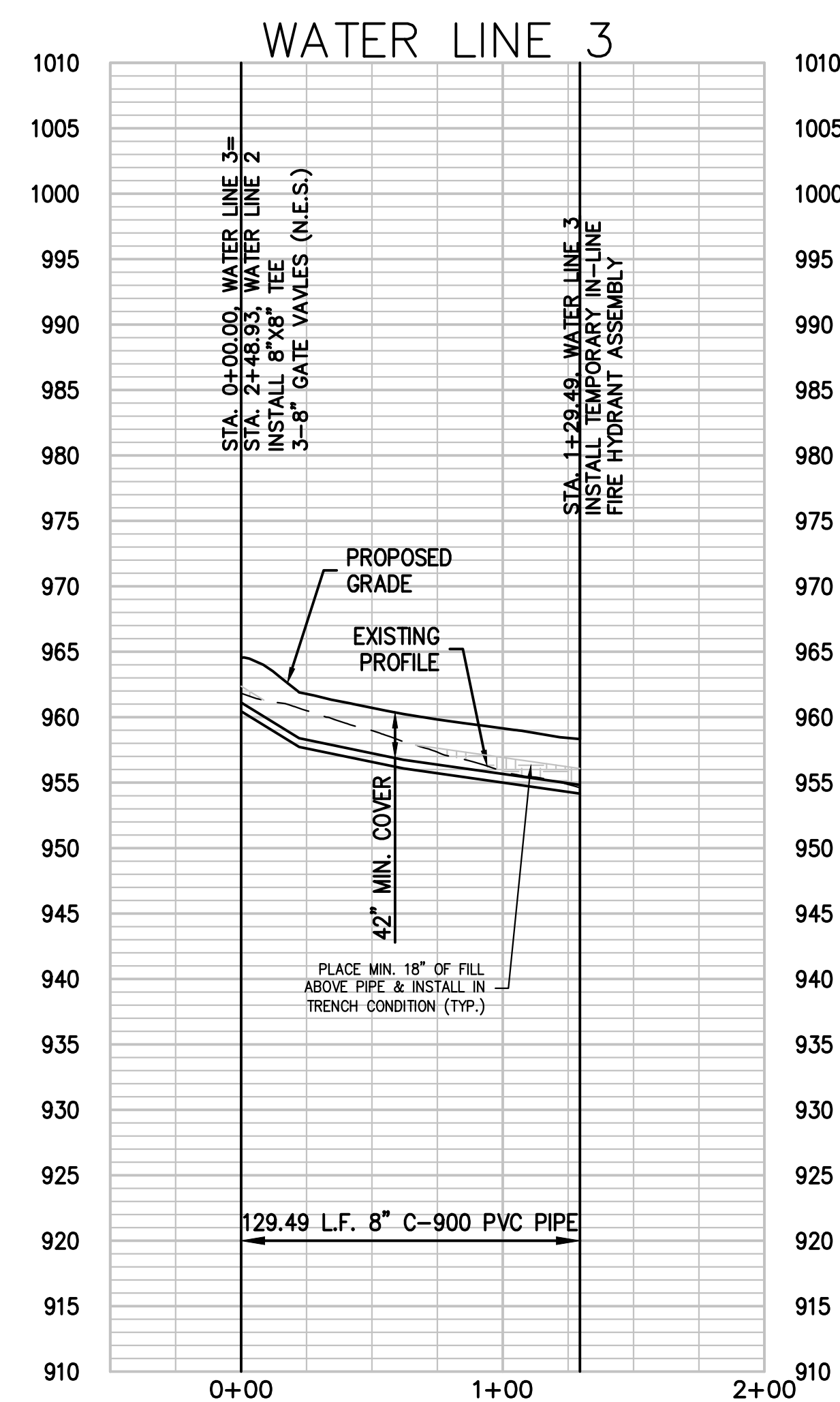
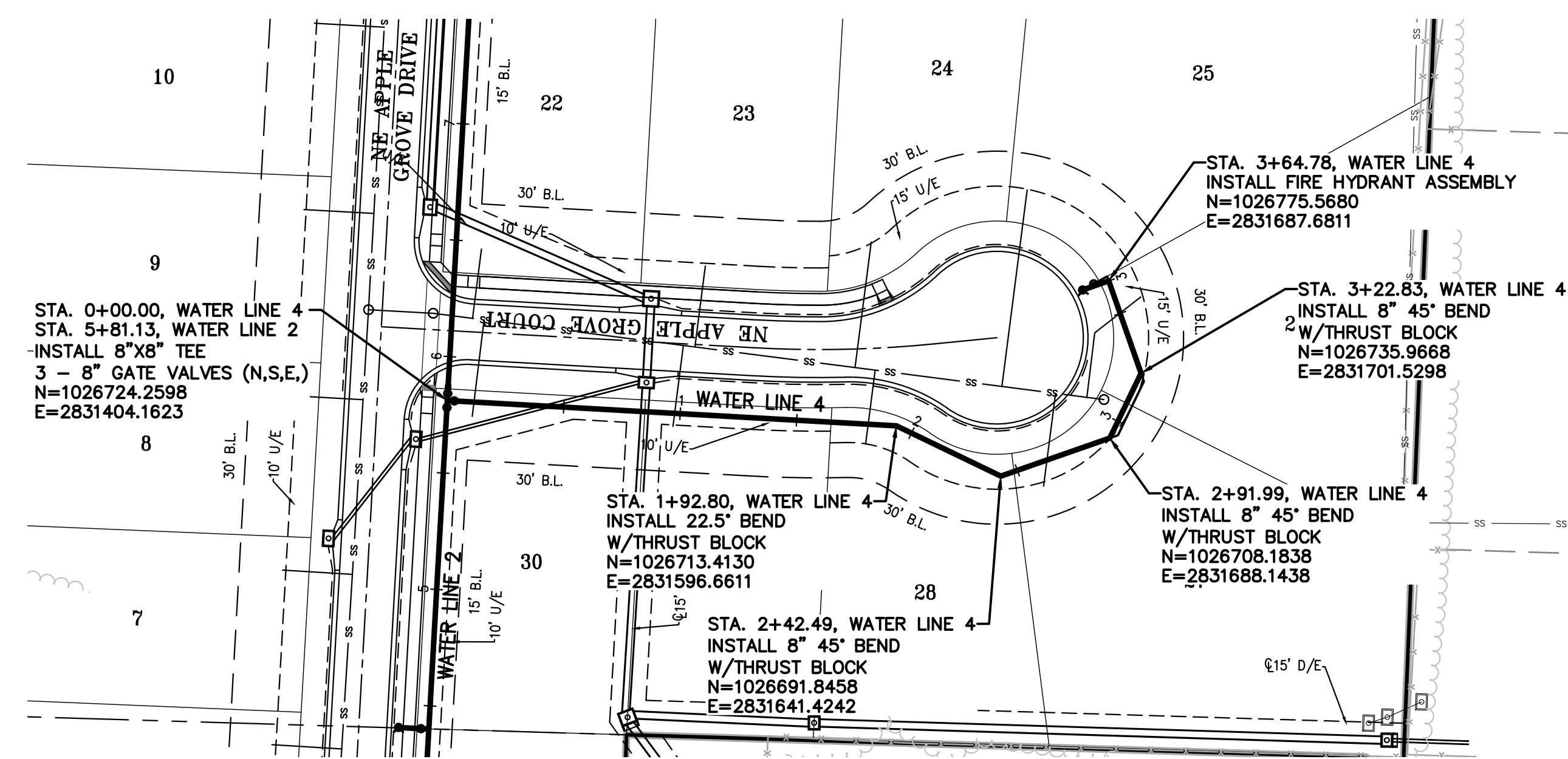
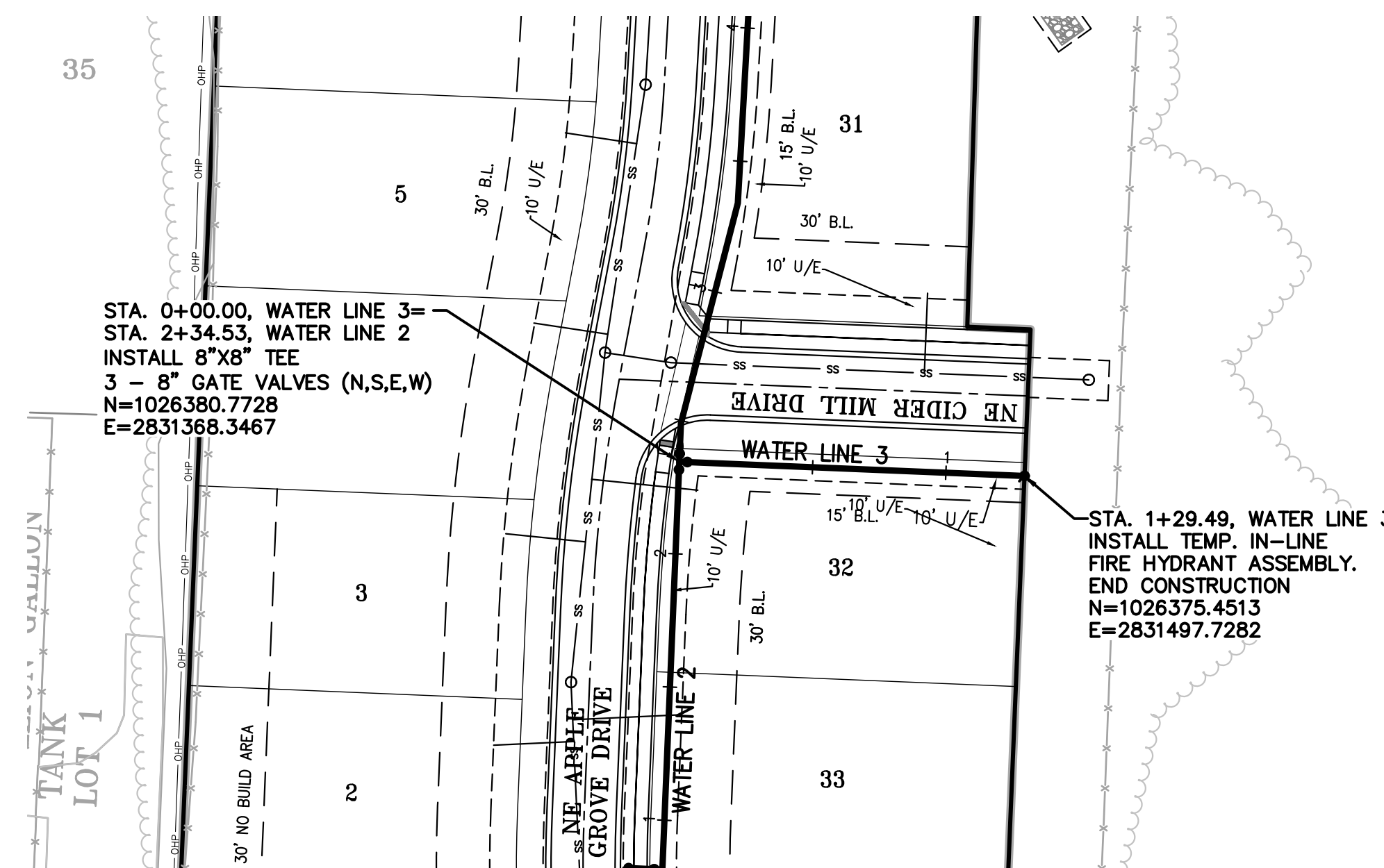
PHILIPS ENGINEERING, INC.  
1270 N. Winchester  
Olathe, Kansas 66061  
(913) 993-1155  
Fax: (913) 993-1165  
www.philipsengineering.com



**WATERLINE PLAN & PROFILE**  
ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

| PROJECT NO.                  | 211142 | No.      | Date                      | Revisions: | By  | App. |
|------------------------------|--------|----------|---------------------------|------------|-----|------|
| CHECKED/DEU                  | 1      | 12/15/22 | REVISED PER CITY COMMENTS |            | KSJ | DEU  |
| DATE: 11-14-2022             |        |          |                           |            |     |      |
| CORPORATE OF AUTHORIZATION   |        |          |                           |            |     |      |
| LAND SURVEYING - LS-82       |        |          |                           |            |     |      |
| ENGINEERING - E-361          |        |          |                           |            |     |      |
| CERTIFICATE OF AUTHORIZATION |        |          |                           |            |     |      |
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| ENGINEERING-20070028         |        |          |                           |            |     |      |

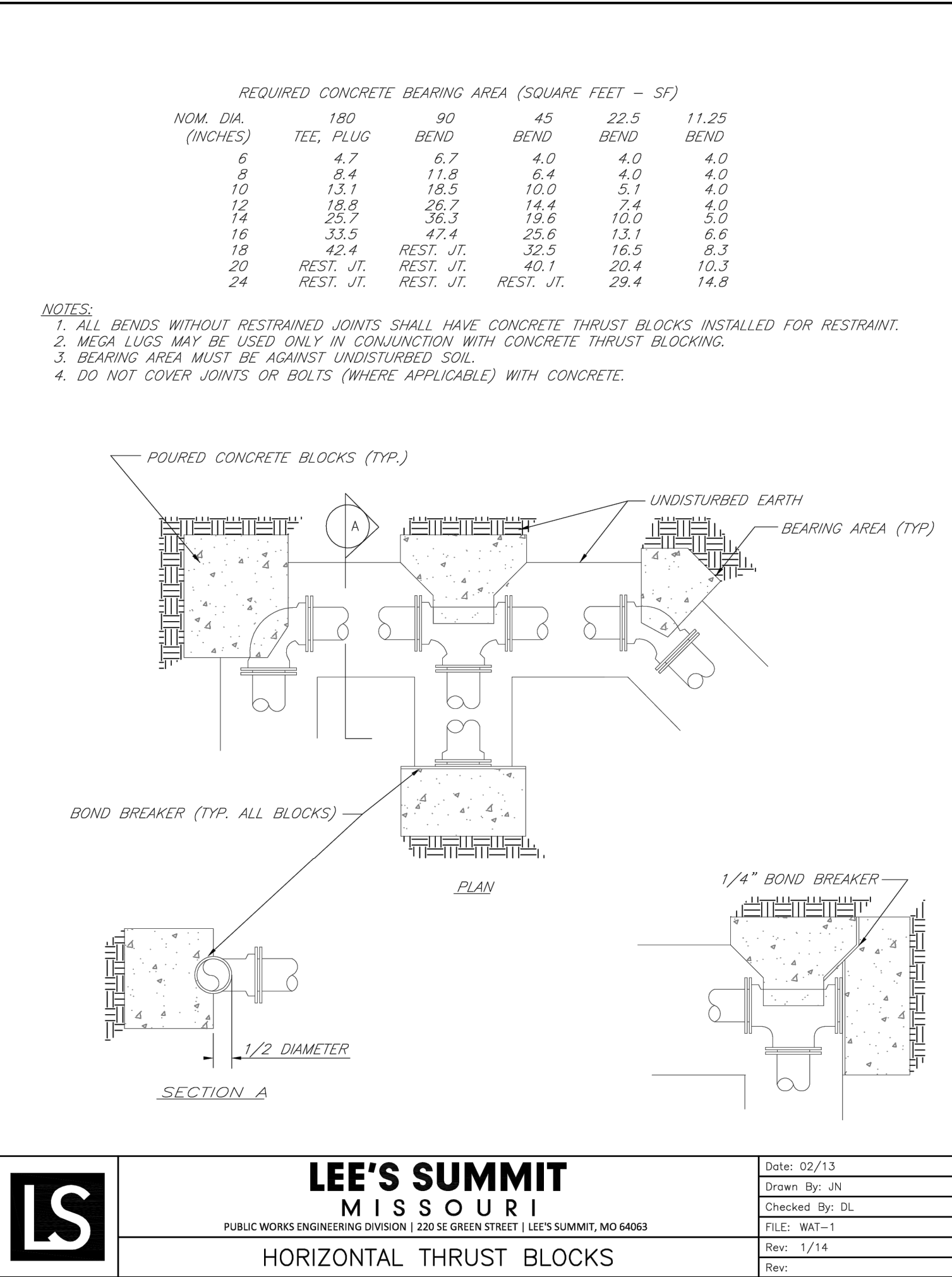




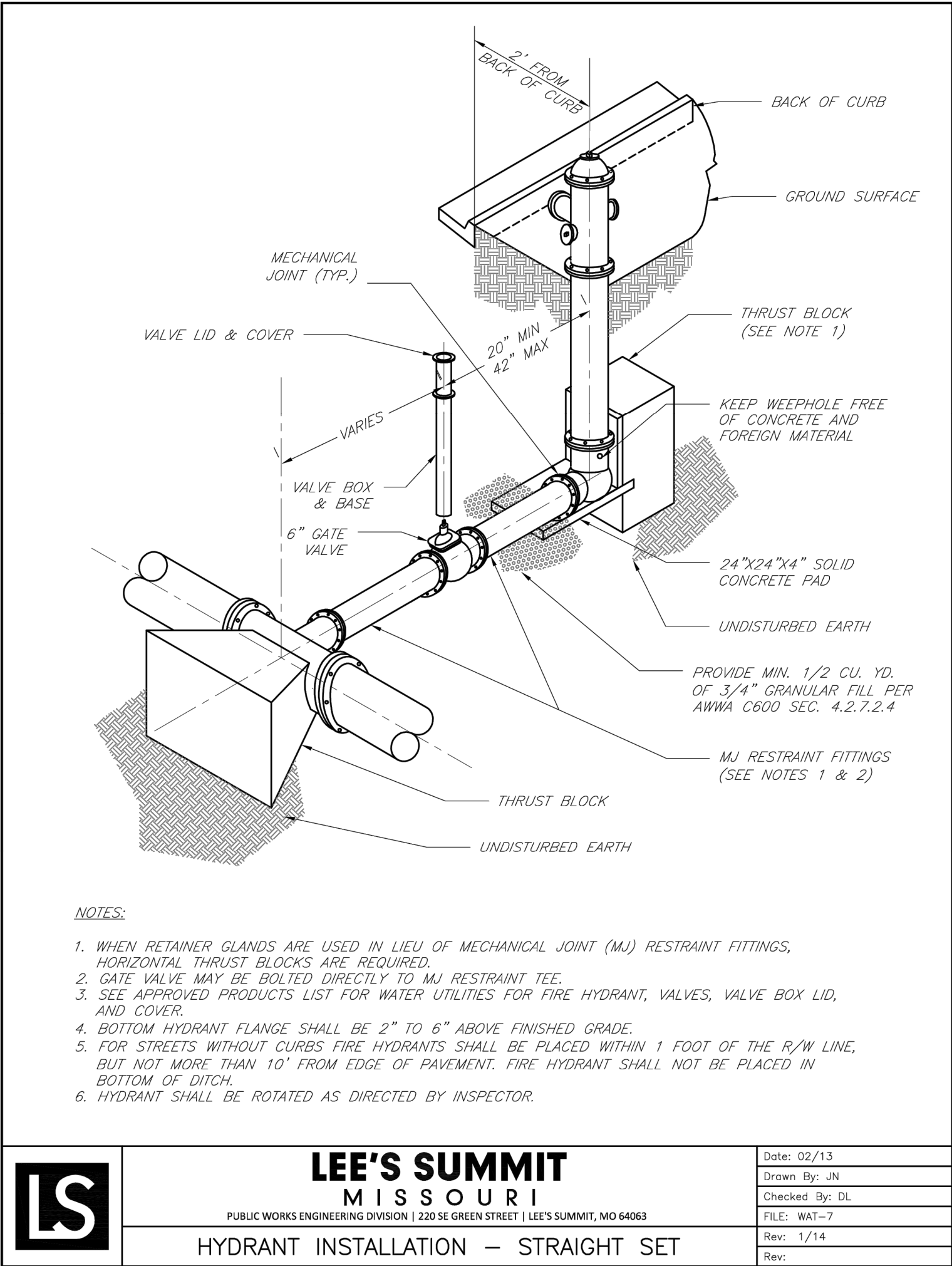
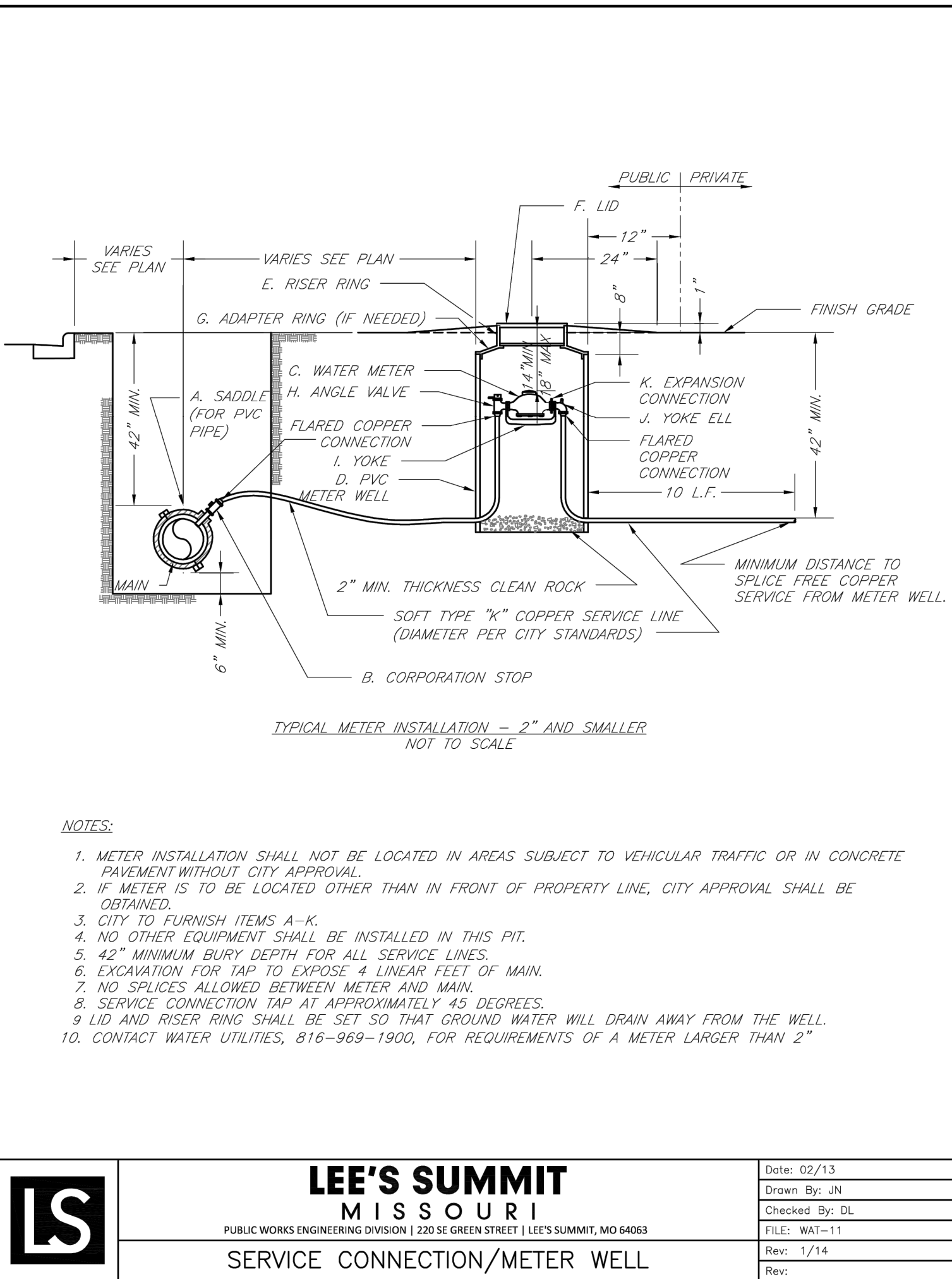
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| PROJECT NO.                    | No. | Date     | Revisions:                | By  | App. |
|--------------------------------|-----|----------|---------------------------|-----|------|
| PROJECT NO.                    | No. | Date     | REVISED PER CITY COMMENTS | KSJ | DEU  |
| PROJECT NO. 211142             | 1   | 12/15/22 |                           |     |      |
| PROJECT NO. 2114-2022 DRINKING |     |          |                           |     |      |
| CHECKED: DEU APPROVED: DEU     |     |          |                           |     |      |
| CERTIFICATE OF AUTHORIZATION   |     |          |                           |     |      |
| FOR THE CITY OF BIRMINGHAM     |     |          |                           |     |      |
| AND HENRY W. WILSON, JR.       |     |          |                           |     |      |
| AND HENRY W. WILSON, JR.       |     |          |                           |     |      |
| CERTIFICATE OF AUTHORIZATION   |     |          |                           |     |      |
| FOR THE CITY OF BIRMINGHAM     |     |          |                           |     |      |
| AND SURVEYING: 2007001128      |     |          |                           |     |      |
| ENGINEERING: 2507002008        |     |          |                           |     |      |

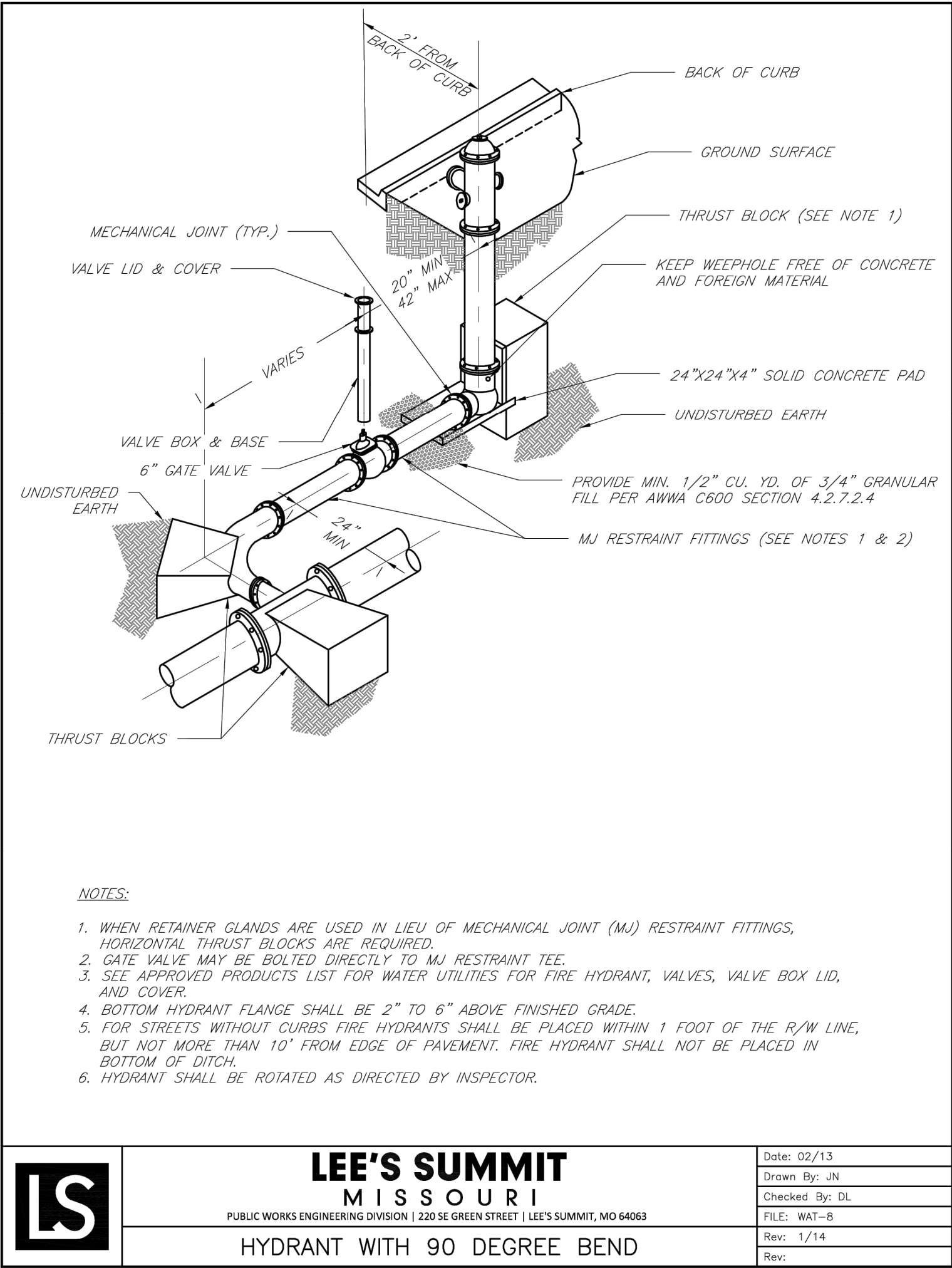




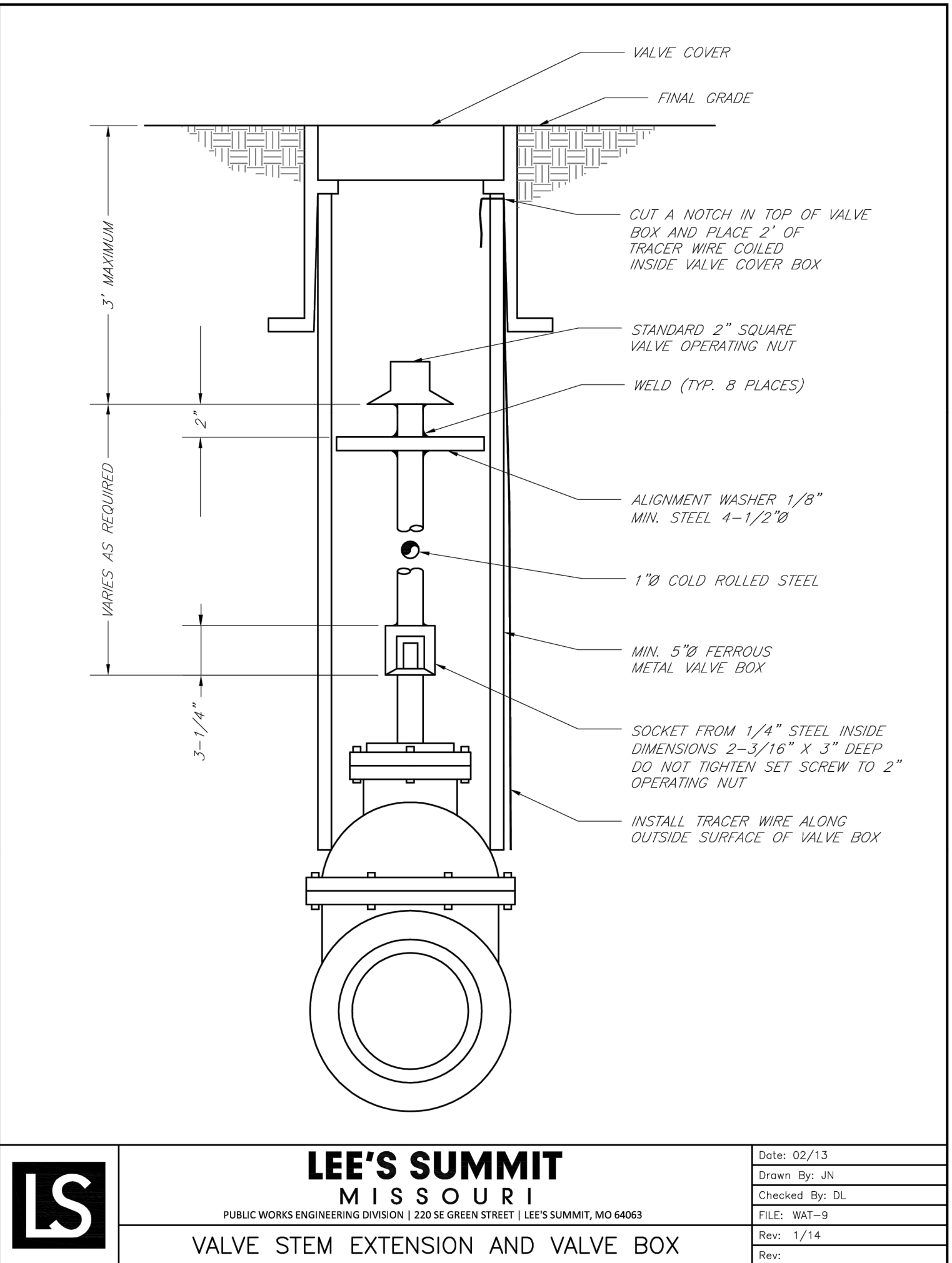
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|  | <div>LEE'S SUMMIT<br/>MISSOURI</div> <div>PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063</div> | Date: 02/13    |
|                                                                                   |         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



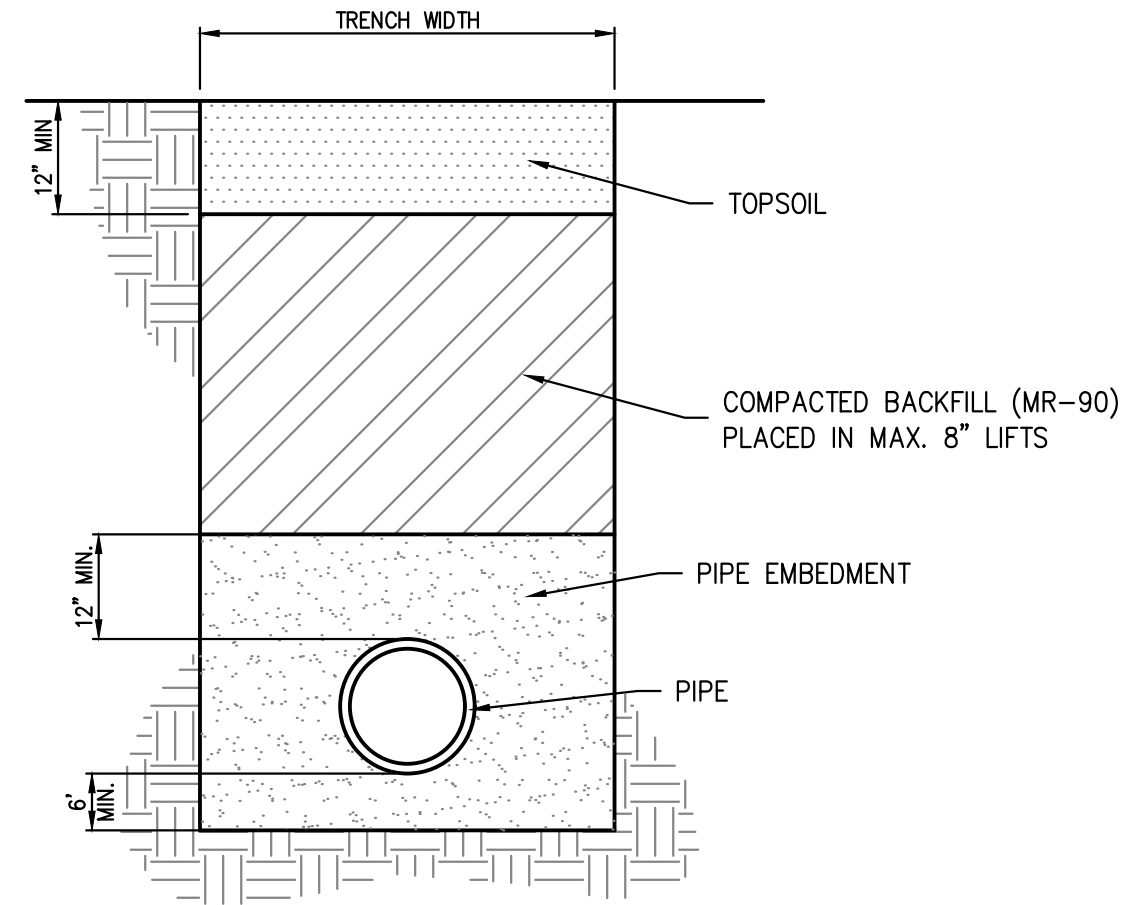
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|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------|
|  | <div>LEE'S SUMMIT<br/>MISSOURI</div> <div>PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063</div> | Date: 02/13    |
|                                                                                   |                                                                                                                                  | Drawn By: JN   |
|                                                                                   |                                                                                                                                  | Checked By: DL |
|                                                                                   |                                                                                                                                  | FILE: WAT-7    |
|                                                                                   |                                                                                                                                  | Rev: 1/14      |
|                                                                                   |                                                                                                                                  | Rev:           |
| HYDRANT INSTALLATION – STRAIGHT SET                                               |                                                                                                                                  |                |



|                                                                                     |                                                                                                                                  |                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------|
|  | <div>LEE'S SUMMIT<br/>MISSOURI</div> <div>PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063</div> | Date: 02/13    |
|                                                                                     |                                                                                                                                  | Drawn By: JN   |
|                                                                                     |                                                                                                                                  | Checked By: DL |
|                                                                                     |                                                                                                                                  | FILE: WAT-8    |
|                                                                                     |                                                                                                                                  | Rev: 1/14      |
| HYDRANT WITH 90 DEGREE BEND                                                         |                                                                                                                                  |                |
| Rev:                                                                                |                                                                                                                                  |                |



|                                                                                     |                                                                                                                                  |                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------|
|  | <div>LEE'S SUMMIT<br/>MISSOURI</div> <div>PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063</div> | Date: 02/13    |
|                                                                                     |                                                                                                                                  | Drawn By: JN   |
|                                                                                     |                                                                                                                                  | Checked By: DL |
|                                                                                     |                                                                                                                                  | FILE: WAT-9    |
|                                                                                     |                                                                                                                                  | Rev: 1/14      |
| VALVE STEM EXTENSION AND VALVE BOX                                                  |                                                                                                                                  |                |



PHILIPS ENGINEERING, INC.  
1370 N. Windhester  
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WATER MAIN DETAILS  
ORCHARD WOODS  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

| PROJECT NO.      | 211142       | No.            | 1            | Date      | 12/15/22 | Revisions: | By | App. |
|------------------|--------------|----------------|--------------|-----------|----------|------------|----|------|
| DATE: 11-14-2022 | DRAWN BY: JN | CHECKED BY: DL | FILE: WAT-11 | REV: 1/14 |          |            |    |      |
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| DATE: 11-14-2022 | DRAWN BY: JN | CHECKED BY: DL | FILE: WAT-11 | REV: 1/14 |          |            |    |      |
| DATE: 11-14-2022 | DRAWN BY: JN | CHECKED BY: DL | FILE: WAT-11 | REV: 1/14 |          |            |    |      |
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