

THE ESTATES OF CHAPEL RIDGE-2ND PLAT

LOTS 23 & 24 AND

THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT

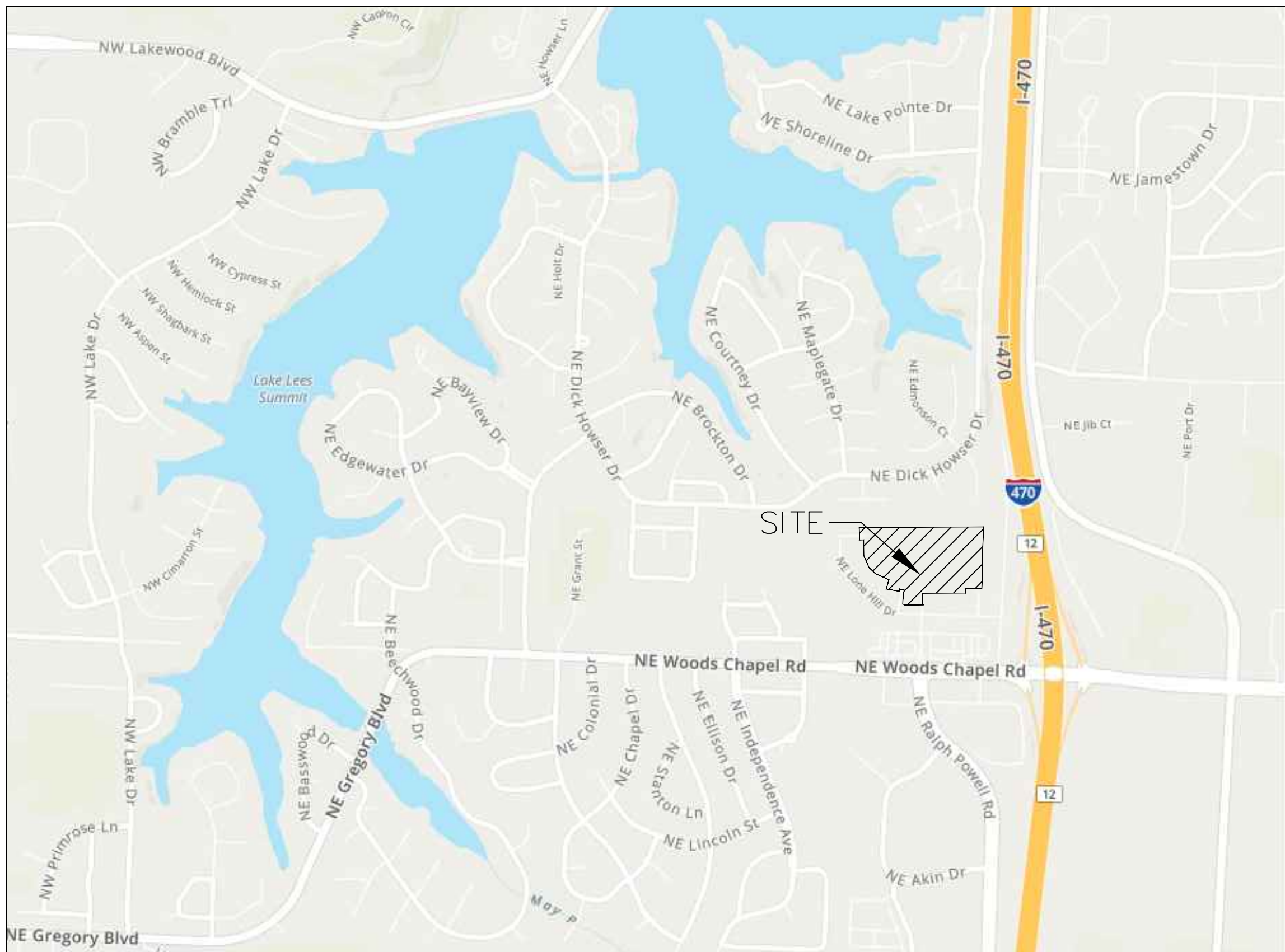
LOTS 9-19 & TRACTS A-D

WATER LINE CONSTRUCTION PLANS

Section 8, Township 48 North, Range 31 West

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

- WATER:
- 1 ~ THE CONTRACTOR SHALL COORDINATE WITH THE DEVELOPMENT ENGINEERING INSPECTOR PRIOR TO ANY CONNECTIONS TO THE PUBLIC WATER SUPPLY.
- 2 ~ ALL WATER MAINS SHALL COMPLY WITH ANSI/AWWA C150/A21.50 AND C151/A21.51, AND CITY OF LEES SUMMIT STANDARDS.
- 3 ~ FIRE HYDRANTS SHALL BE OPTIC YELLOW WATEROUS "PACER" MODEL NO. WB-67-250 WITH NON-RISING STEM OR CITY ENGINEER APPROVED EQUAL. HYDRANTS SHALL HAVE A 5 1/4" VALVE WITH A 4 1/2" PUMPER NOZZLE AND 2 - 2 1/2" HOSE NOZZLES (LEFT HAND OPENING).
- 4 ~ GATE VALVES SHALL BE MUELLER NO. A 2380-5 HUB END "O" RING SEAL NON-RISING STEM. VALVES 12" OR LARGER SHALL BE BUTTERFLY VALVES MANUFACTURED BY THE HENRY PRATT COMPANY OR CITY ENGINEER APPROVED EQUAL. LEFT HAND OPENING. MINIMUM 200# TESTING AWWA.
- 5 ~ VALVE BOXES SHALL BE CLAY & BAILEY NO. P-108 OR CITY ENGINEER APPROVED EQUAL. ALL VALVE BOXES SHALL BE LOCATED OUT OF EXISTING OR PROPOSED PAVEMENT AREAS.
- 6 ~ ALL WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 42 INCHES. STREET GRADING SHALL BE COMPLETED PRIOR TO BEGINNING CONSTRUCTION OF WATER MAINS.
- 7 ~ ALL BENDS, TEES AND FIRE HYDRANTS SHALL BE INSTALLED WITH SUITABLE CONCRETE THRUST BLOCKS POURED IN PLACE AGAINST UNDISTURBED EARTH AND PER CITY OF LEES SUMMIT AND APWA STANDARDS.
- 8 ~ THE MINIMUM SEPARATION BETWEEN THE PROPOSED WATER MAIN AND SANITARY OR STORM SEWERS IS AS FOLLOWS:
- A ~ SANITARY SEWERS: HORIZONTAL = 10 FEET - VERTICAL = 18 INCHES
- B ~ STORM SEWERS: HORIZONTAL = 10 FEET - VERTICAL = 18 INCHES
- THESE SEPARATIONS SHALL PREVAIL OVER ANY DATA SHOWN IN THESE PLANS AND THE CONTRACTOR SHALL INSTALL BENDS OR OTHER FITTINGS AS NECESSARY TO ACHIEVE THE REQUIRED SEPARATIONS.
- 9 ~ ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813



SITE LOCATION MAP

- INDEX OF SHEETS:
- C.500 ~ COVER SHEET
- C.501 ~ WATER MAIN GENERAL LAYOUT
- C.502 ~ WATER MAIN LINE PLAN & PROFILE
- C.503 ~ WATER MAIN LINE PLAN & PROFILE
- C.504 ~ DETAIL SHEET

UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

KCP&L ~ 298-1196

MISSOURI GAS ENERGY ~ 756-5261

SOUTHWESTERN BELL TELEPHONE ~ 761-5011

COMCAST CABLE ~ 795-1100

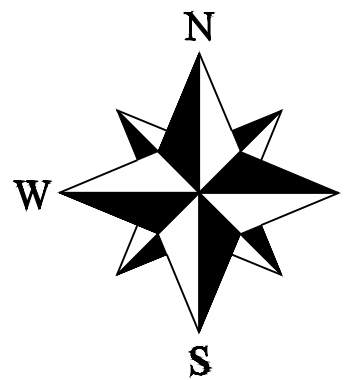
WILLIAMS PIPELINE ~ 422-6300

CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800

CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING INSPECTION AT 816.969.1200

CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900

MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483



- LEGEND:
- B/L ~ BUILDING SET-BACK
- C/A ~ COMMON AREA
- D/E ~ DRAINAGE EASEMENT
- FND. ~ FOUND
- L/E ~ LANDSCAPE EASEMENT
- L.N.A. ~ LIMITS OF NO ACCESS
- R/W ~ RIGHT OF WAY
- SAN ~ SANITARY SEWER LINE
- S/W ~ SIDEWALK
- U/E ~ UTILITY EASEMENT
- W ~ WATER LINE
- ST ~ STORM SEWER LINE

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.

CITY OF LEE'S SUMMIT, MISSOURI

APPROVED: DATE: _____

BY: _____
CITY ENGINEER

Water Main Cover Sheet

Construction Plans for:

THE ESTATES OF CHAPEL RIDGE-2ND PLAT

LOTS 23 & 24 AND

THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT

LOTS 9-19 & TRACTS A-D

Lee's Summit, Jackson County, Missouri

Project: VILLAS OF CHAPEL RIDGE, L&MO

Issue Date: April 10, 2020

THE ESTATES OF CHAPEL RIDGE-2ND PLAT

LOTS 23 & 24 AND

THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT

LOTS 9-19 & TRACTS A-D

Lee's Summit, Jackson County, Missouri

Professional Registration

Missouri

Engineering 2005002186-D

Surveying 2005006319-D

Kansas

Engineering E-1695

Surveying LS-218

Oklahoma

Engineering 6254

Nebraska

Engineering CA2821

ENGINEERING SOLUTIONS

ENGINEERING & SURVEYING

50 SE 30TH STREET

LEE'S SUMMIT, MO 64082

P: (816) 623-9888 F: (816) 623-9849

Matthew J. Schlacht

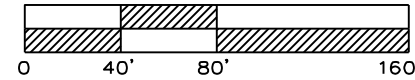
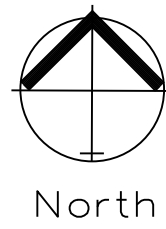
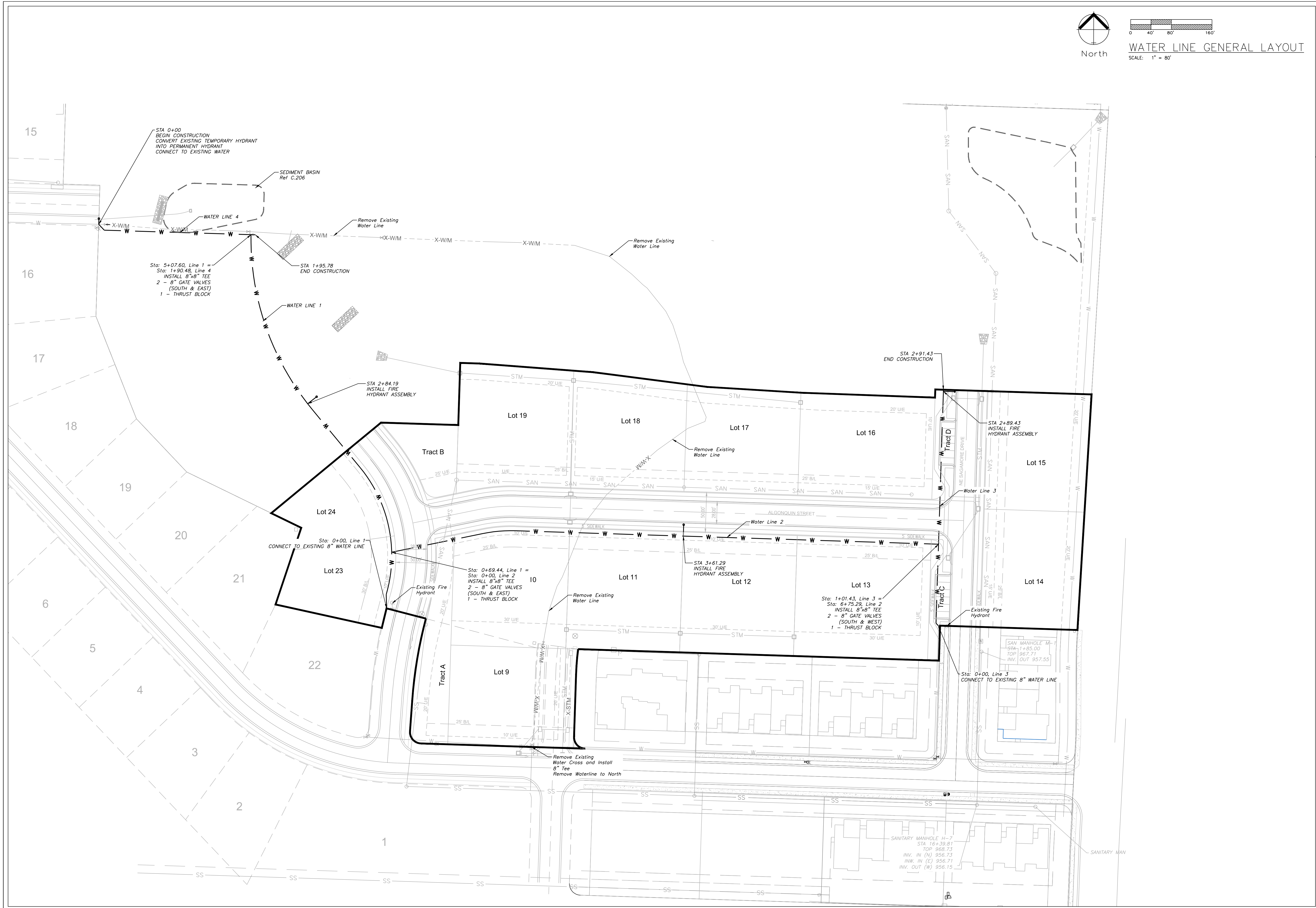
MO PE 2006019708

KS PE 19071

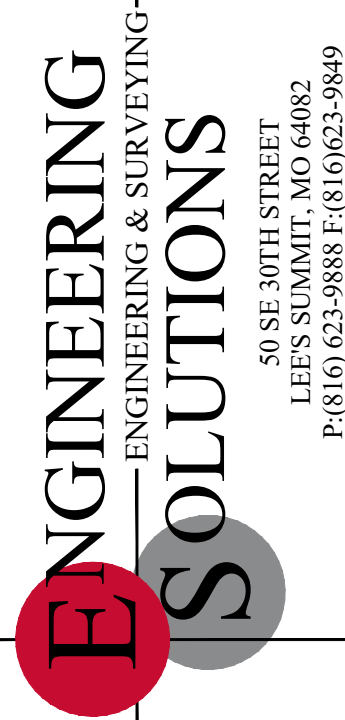
OK PE 25228

NE PE E-114335

REVISIONS



WATER LINE GENERAL LAYOUT
SCALE: 1" = 80'



Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

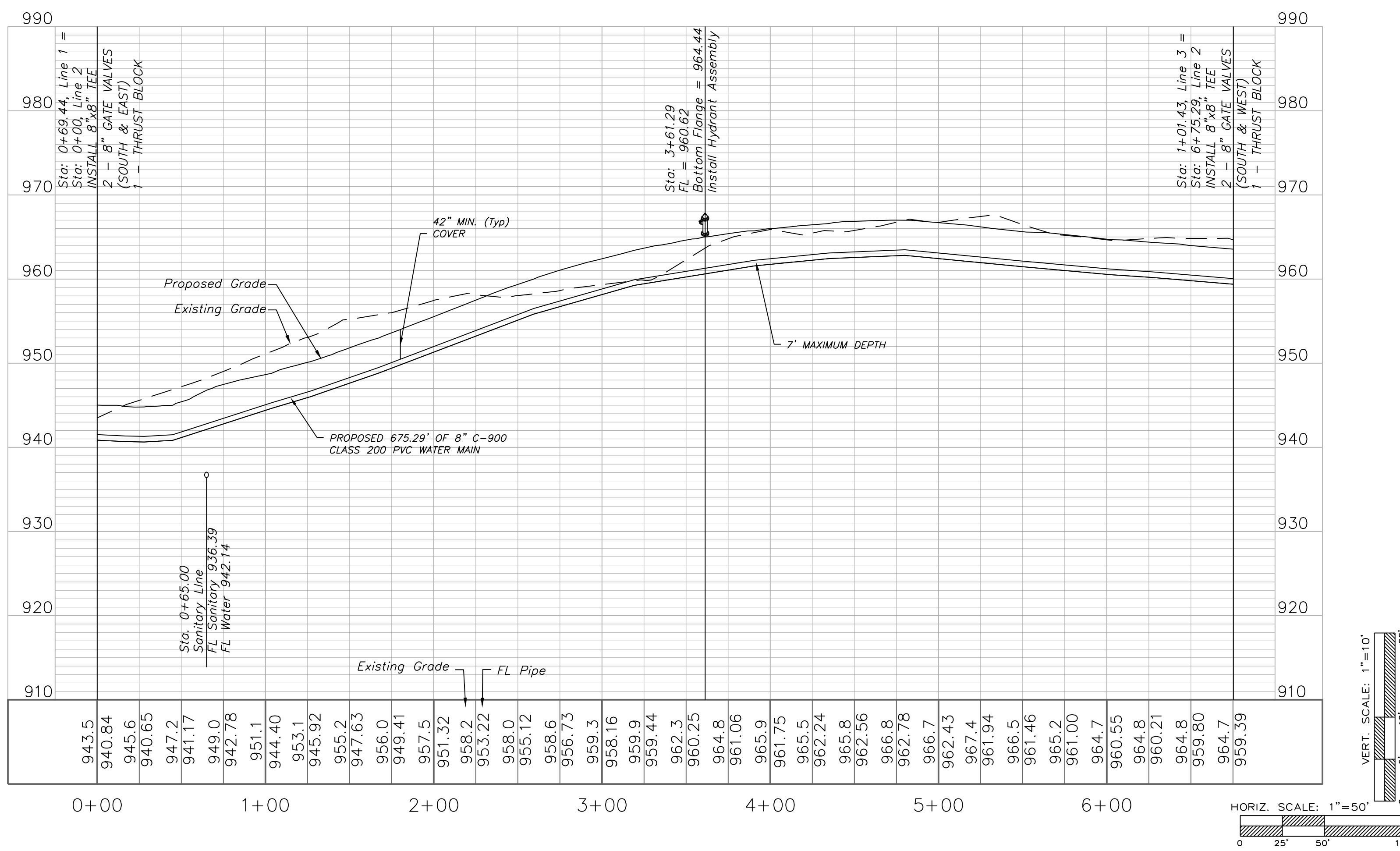
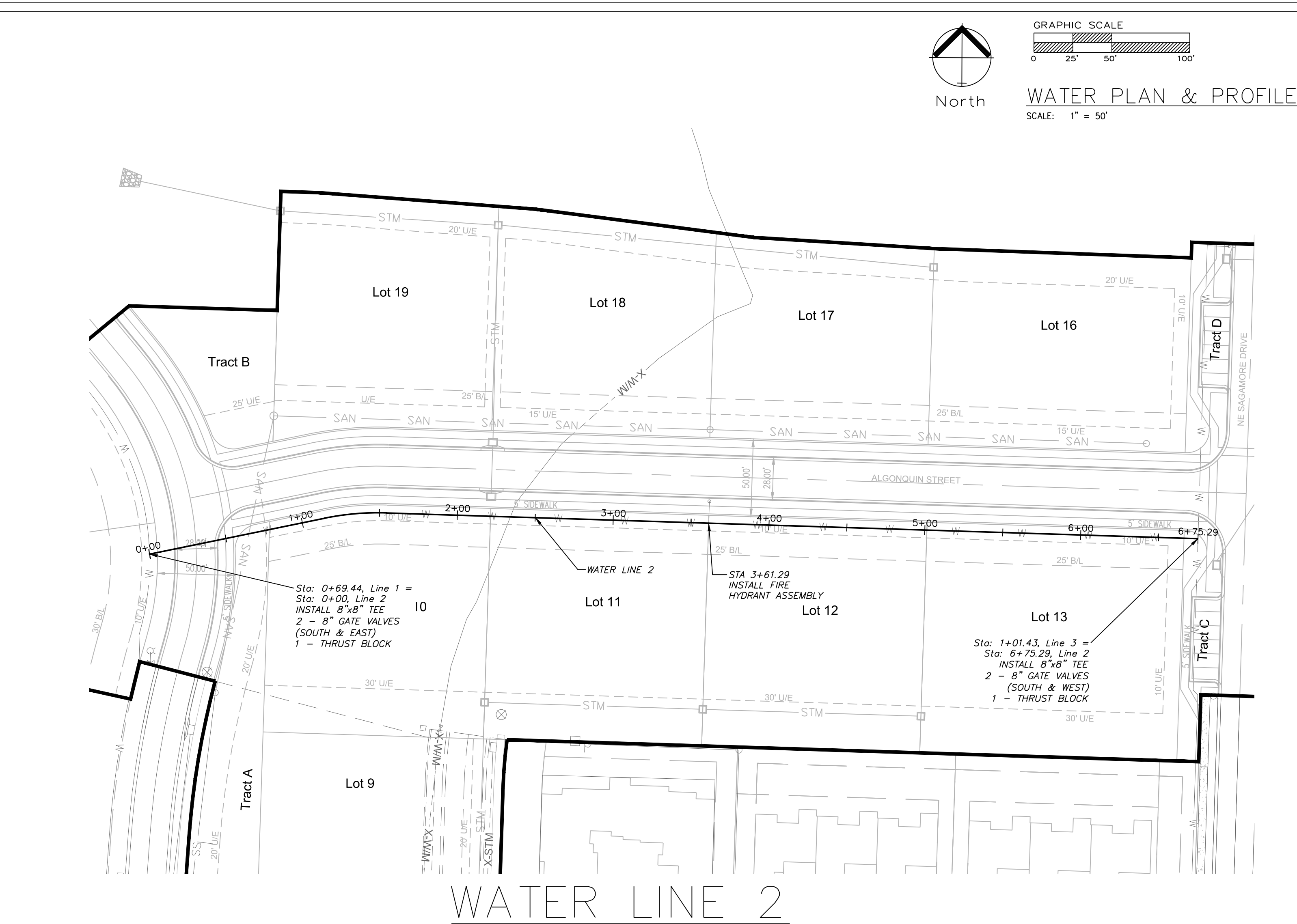
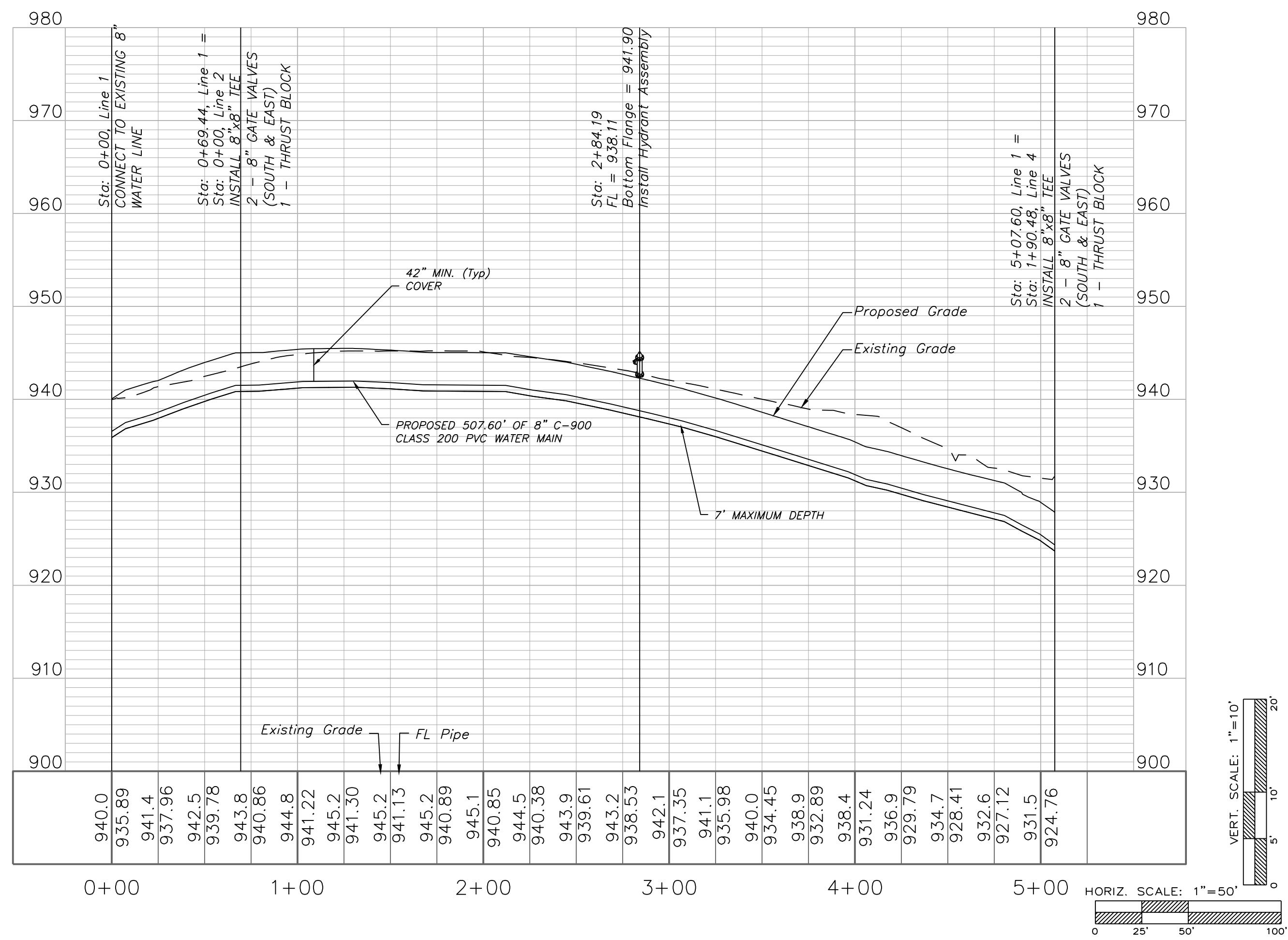
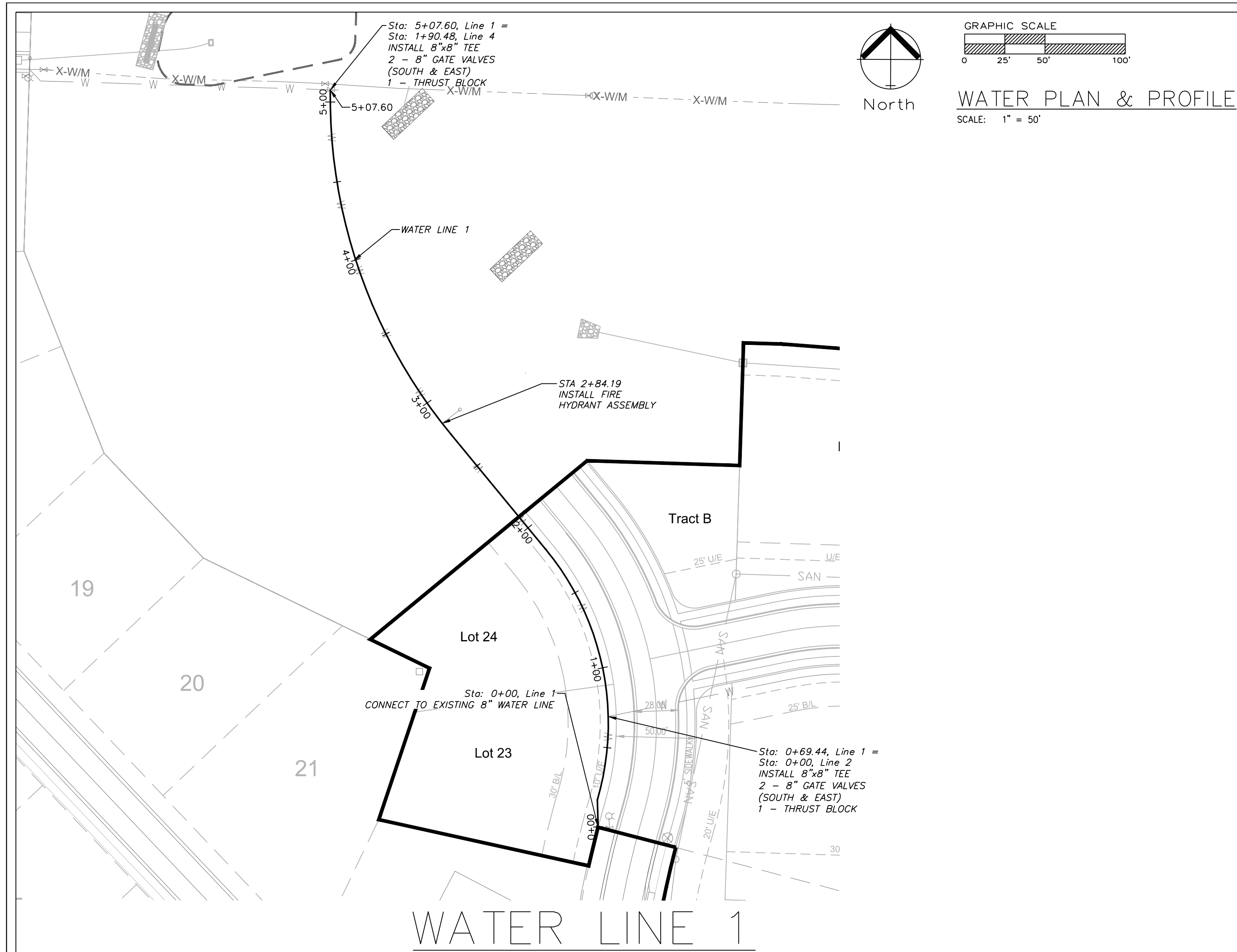
THE ESTATES OF CHAPEL RIDGE-2ND PLAT
LOTS 23 & 24 AND
THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT
LOTS 9-19 & TRACTS A-D
Lee's Summit, Jackson County, Missouri

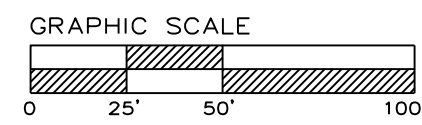
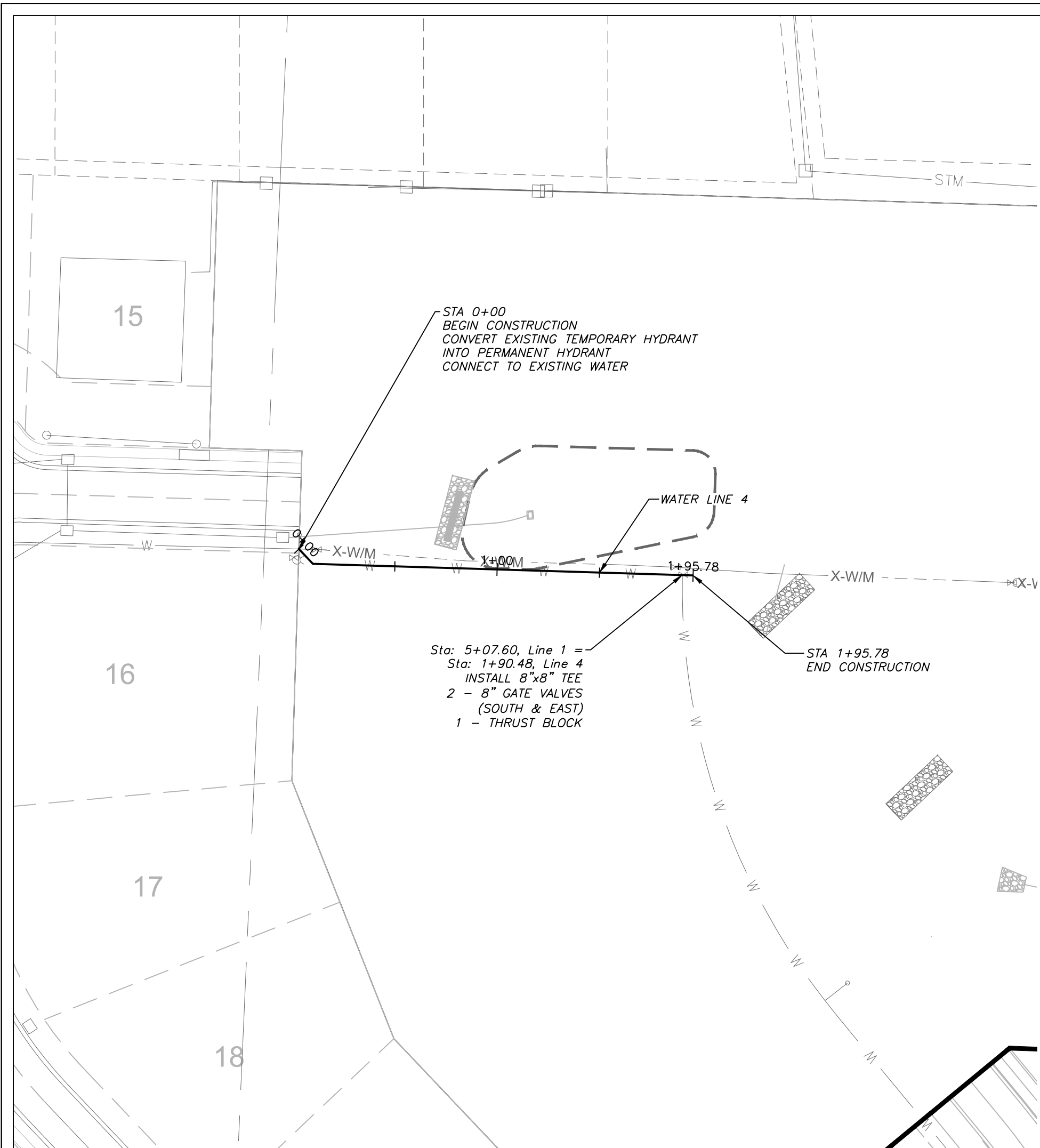
Project:
VILLAS OF CHAPEL
RIDGE, LS MO
Issue Date:
April 10, 2020

Water Line General Layout
Construction Plans for:
THE ESTATES OF CHAPEL RIDGE-2ND PLAT
LOTS 23 & 24 AND
THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT
LOTS 9-19 & TRACTS A-D
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25228
NE PE E-1114335

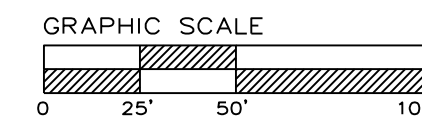
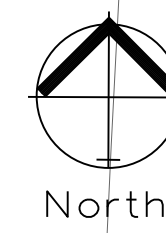
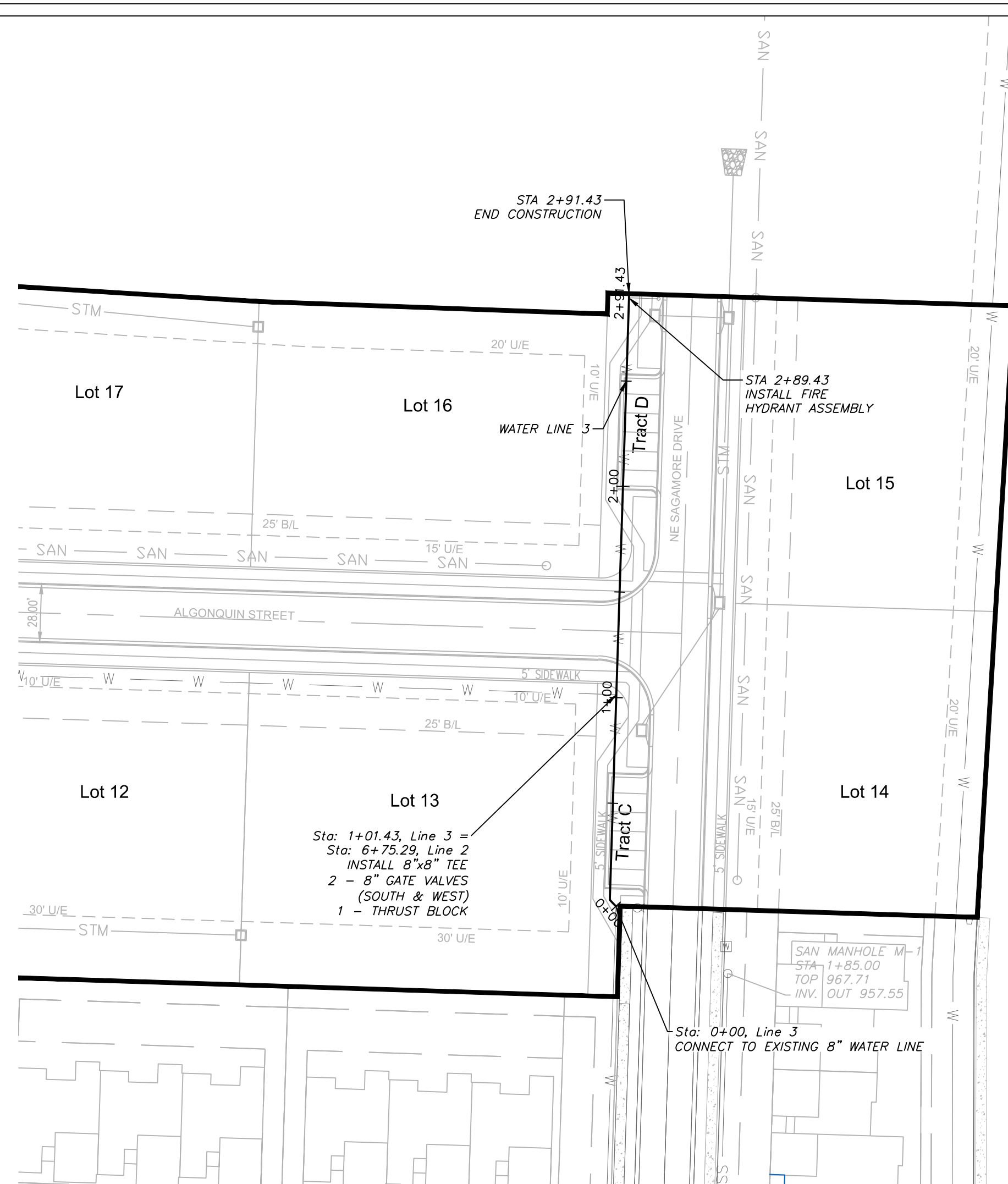
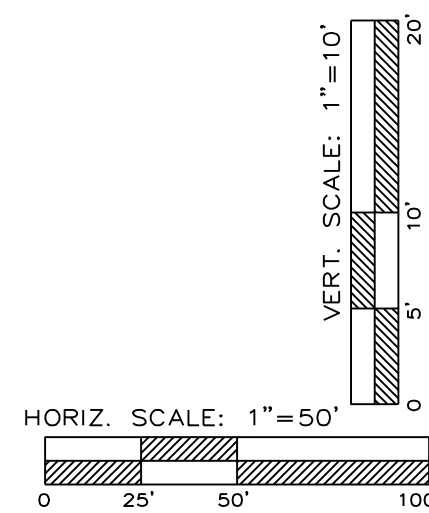
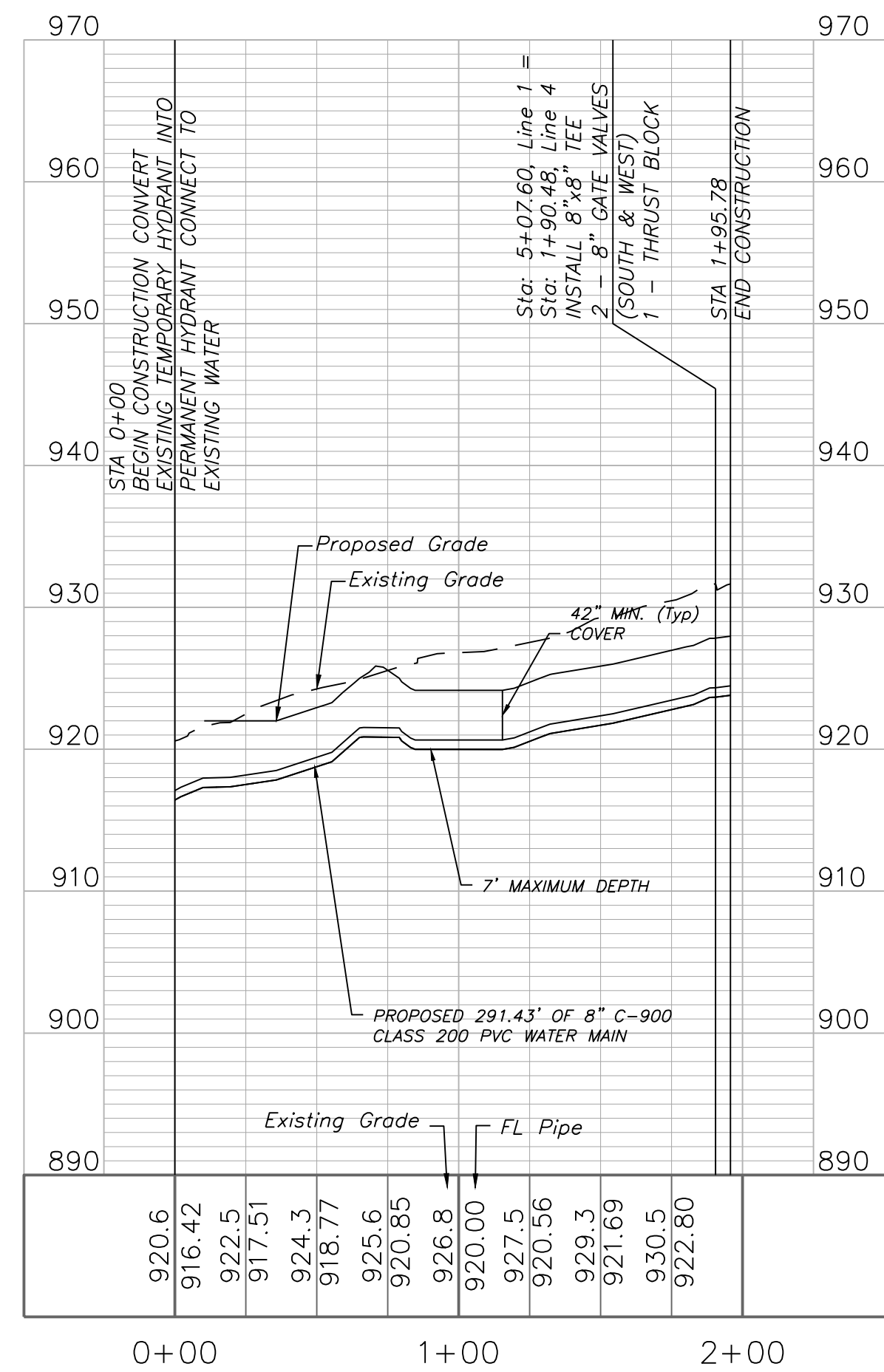
REVISIONS





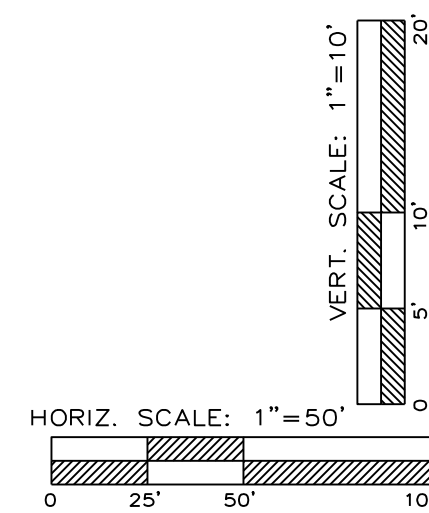
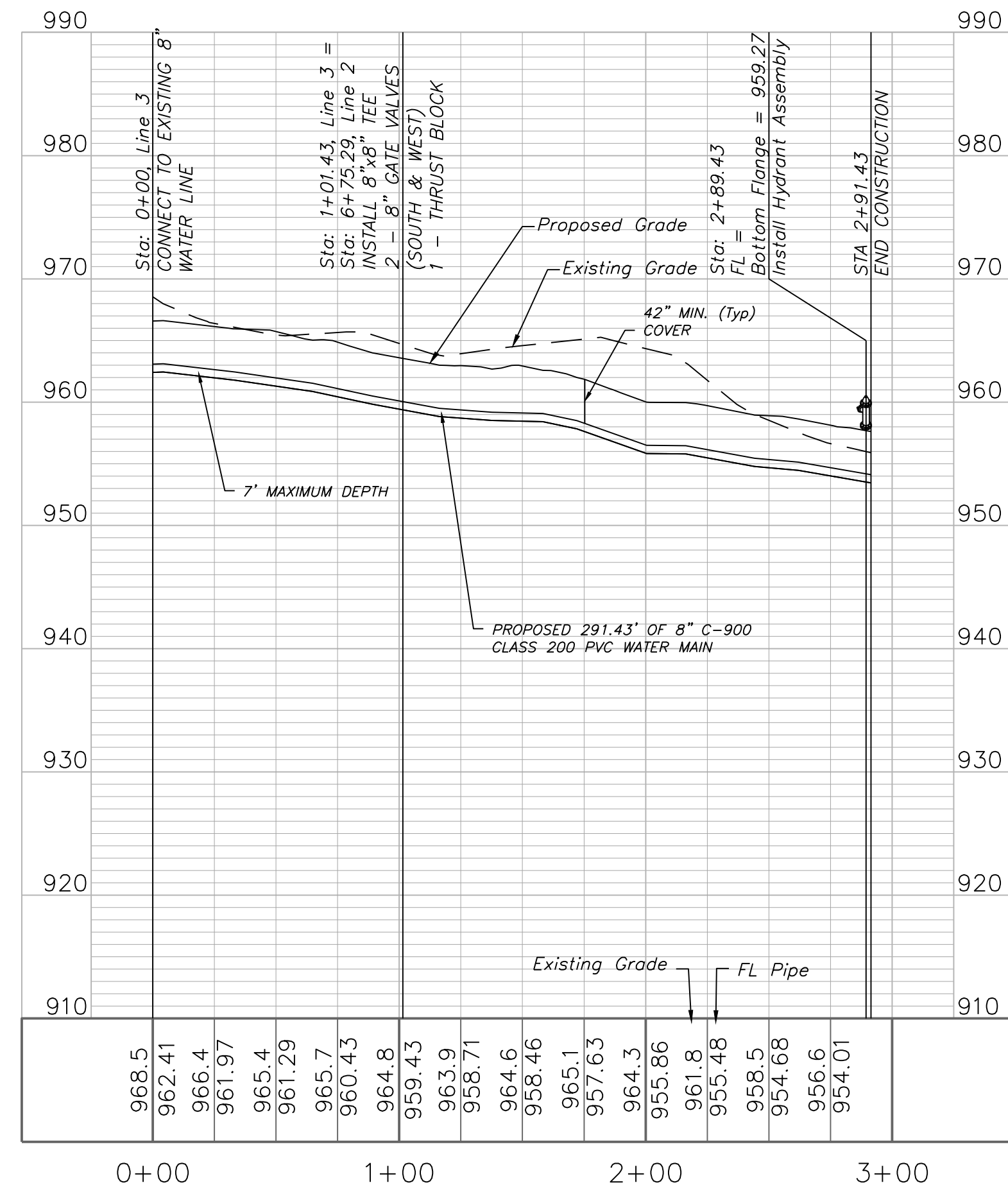
WATER PLAN & PROFILE
SCALE: 1" = 50'

WATER LINE 4



WATER PLAN & PROFILE
SCALE: 1" = 50'

WATER LINE 3



ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P: (816) 623-9888 F: (816) 623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005006319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

THE ESTATES OF CHAPEL RIDGE-2ND PLAT
LOTS 23 & 24 AND
THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT
LOTS 9-19 & TRACTS A-D
Lee's Summit, Jackson County, Missouri

Project: VILLAS OF CHAPEL RIDGE, LS MO
Issue Date: April 10, 2020

Water Main Plan and Profile, Line 2
Construction Plans for:
THE ESTATES OF CHAPEL RIDGE-2ND PLAT
LOTS 23 & 24 AND
THE TOWNHOMES OF CHAPEL RIDGE-2ND PLAT
LOTS 9-19 & TRACTS A-D
Lee's Summit, Jackson County, Missouri

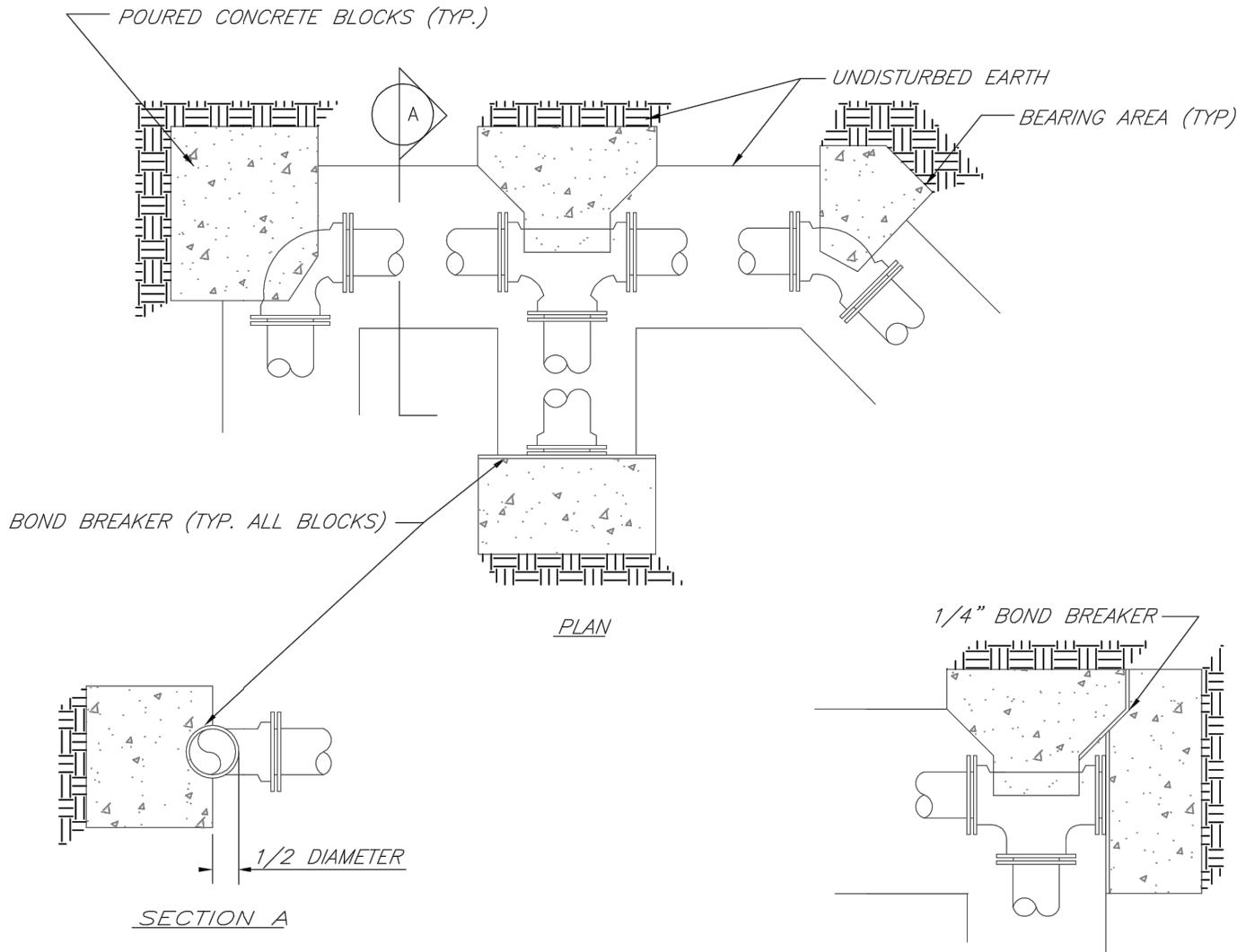
Matthew J. Schlacht
MO PE 2006019708
KS PE 19071
OK PE 25228
NE PE E-114335

REVISIONS

REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)						
NOM. DIA. (INCHES)	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	18.6	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:

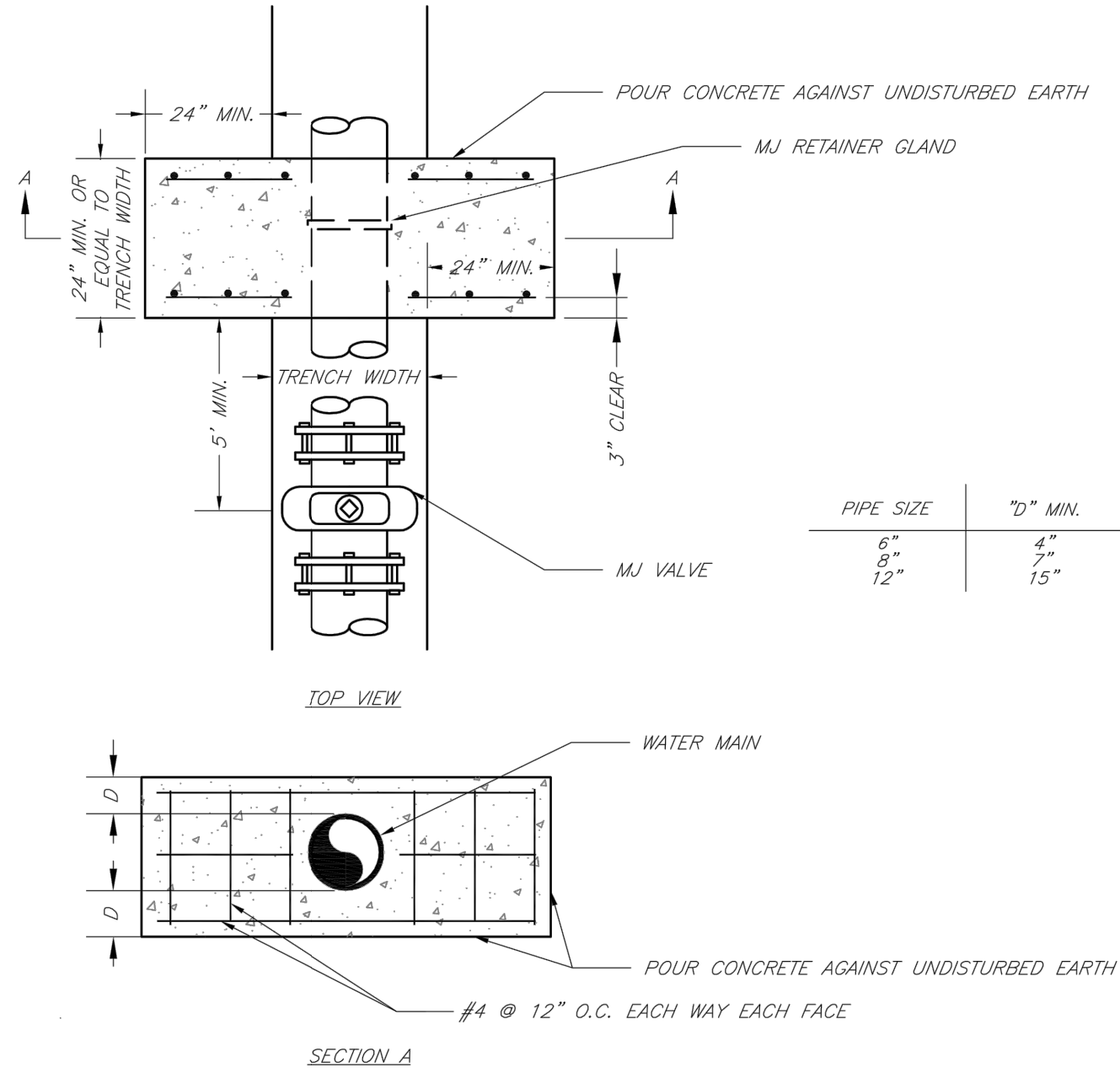
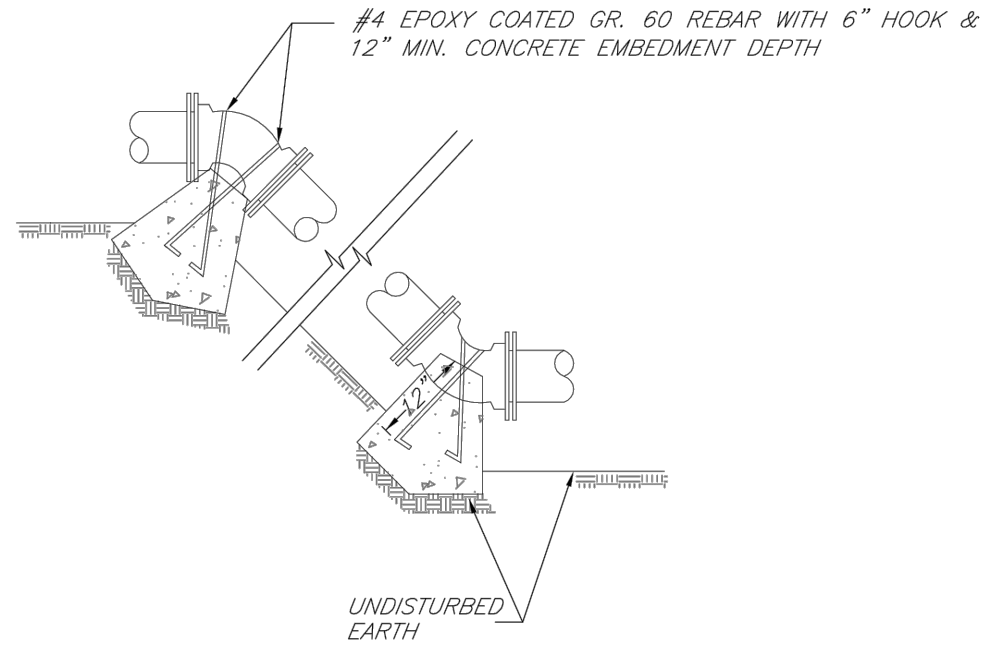
- ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
- MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
- BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
- DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)						
NOM. DIA. (INCHES)	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.	134.6	76.8	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.



NOTE:

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

LS

LEE'S SUMMIT

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 1200 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-1

Rev: 1/14

Rev:

HORIZONTAL THRUST BLOCKS

LS

LEE'S SUMMIT

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 1200 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-2

Rev: 1/14

Rev:

VERTICAL THRUST BLOCKS

LS

LEE'S SUMMIT

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 1200 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 02/13

Drawn By: JN

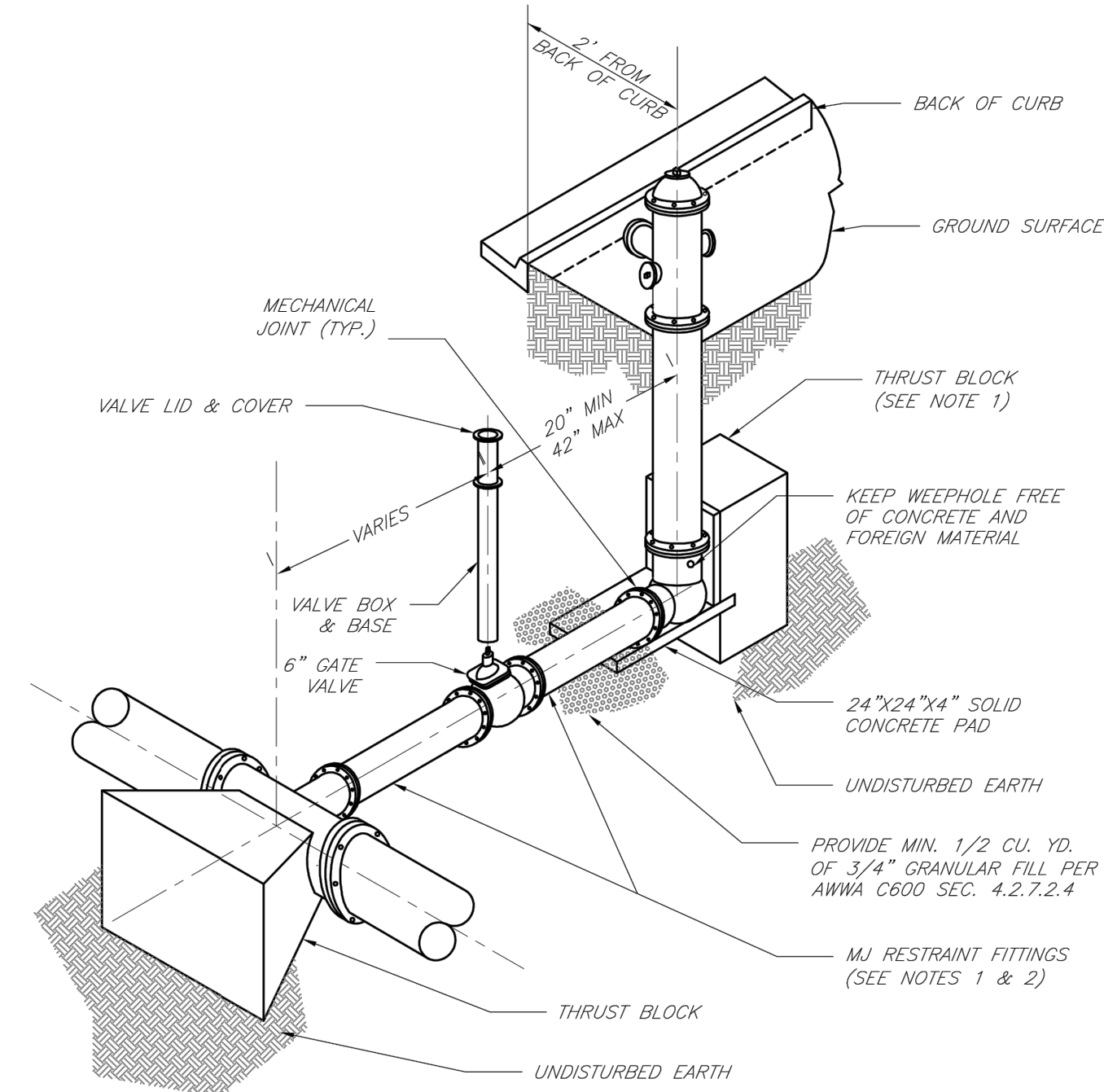
Checked By: DL

FILE: WAT-3

Rev: 1/14

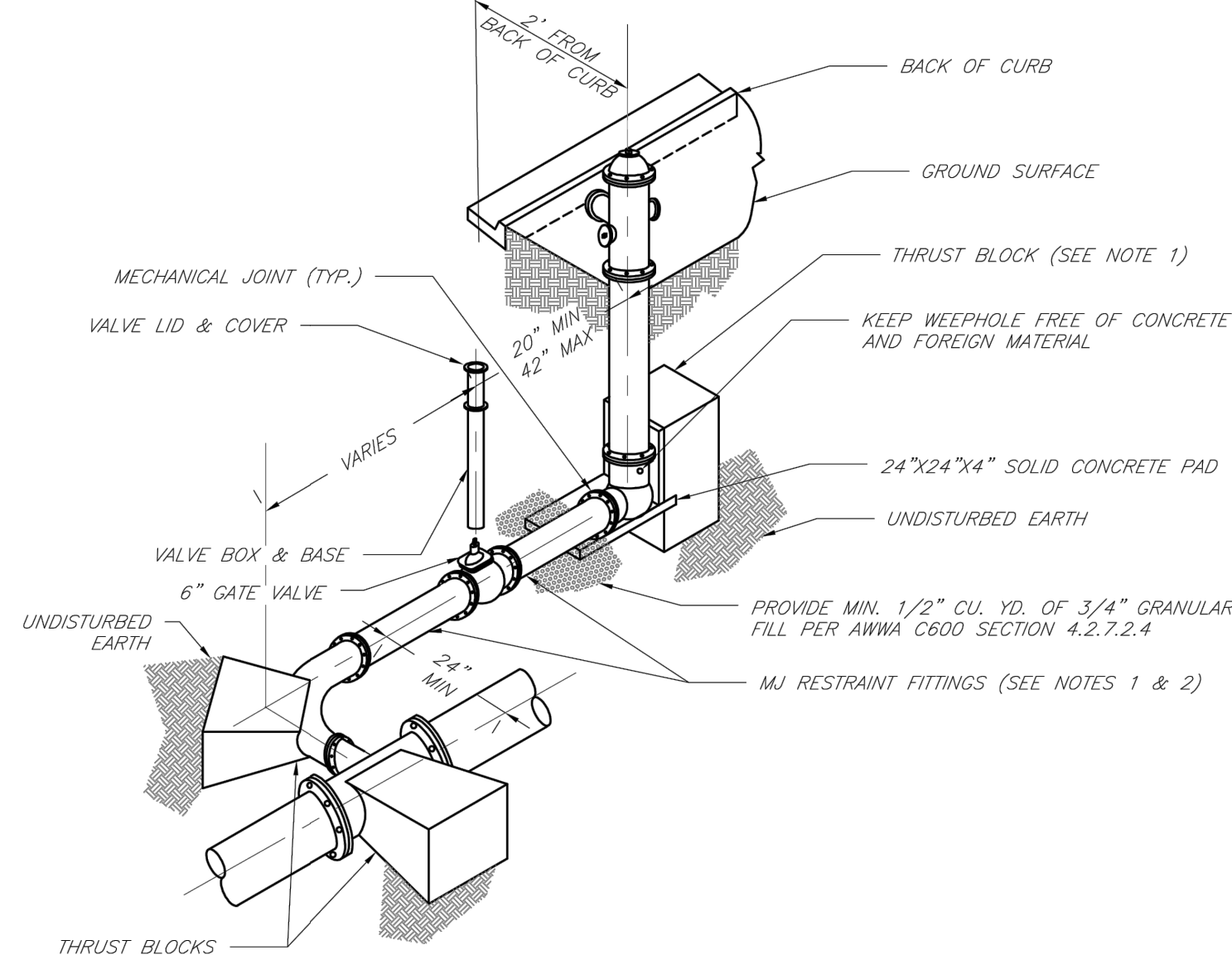
Rev:

STRADDLE BLOCK



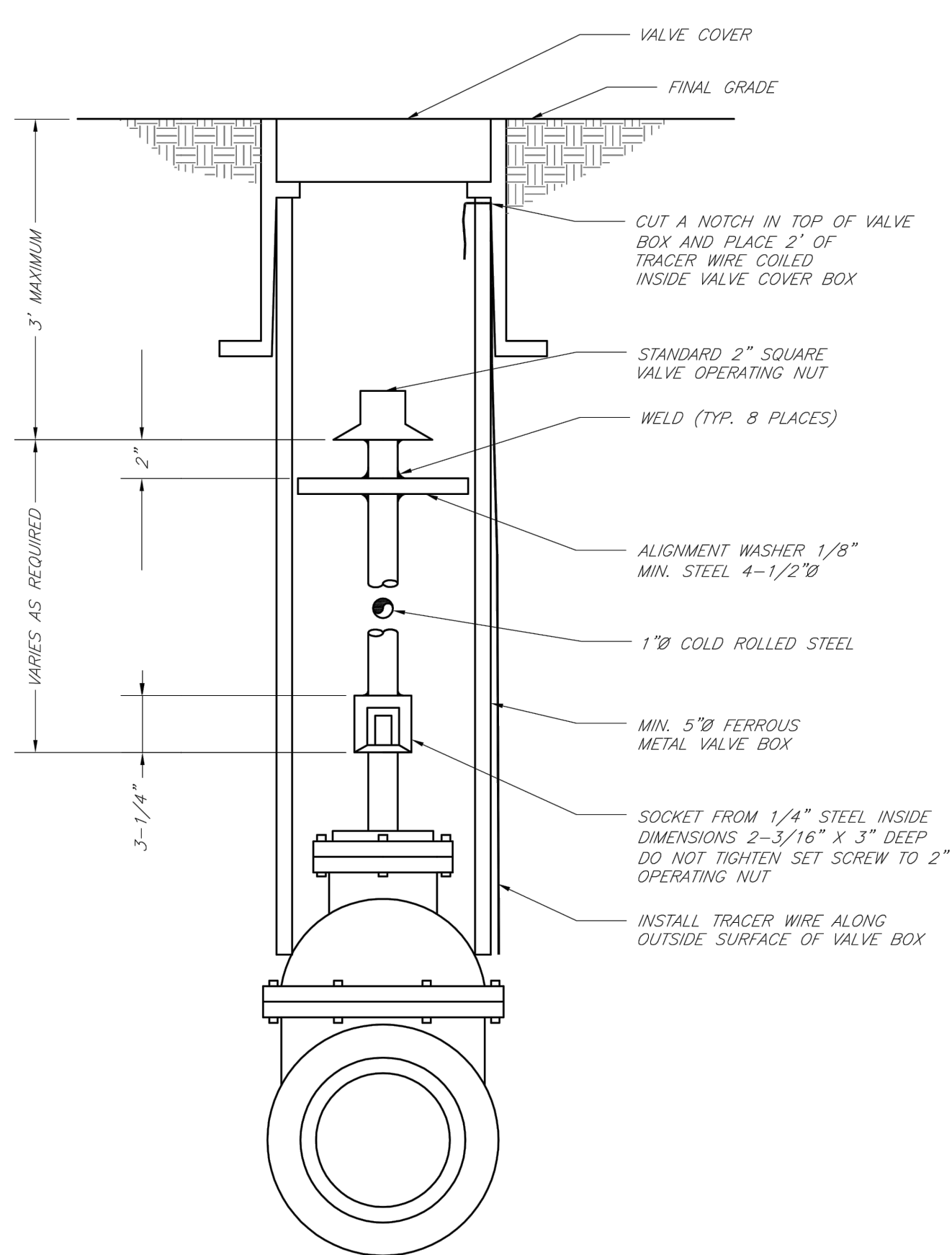
NOTES:

- 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.



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.



LS

LEE'S SUMMIT

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 1200 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-7

Rev: 1/14

Rev:

HYDRANT INSTALLATION - STRAIGHT SET

LS

LEE'S SUMMIT

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 1200 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-8

Rev: 1/14

Rev:

HYDRANT WITH 90 DEGREE BEND

LS

LEE'S SUMMIT

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 1200 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-9

Rev: 1/14

Rev:

VALVE STEM EXTENSION AND VALVE BOX

REVISIONS