

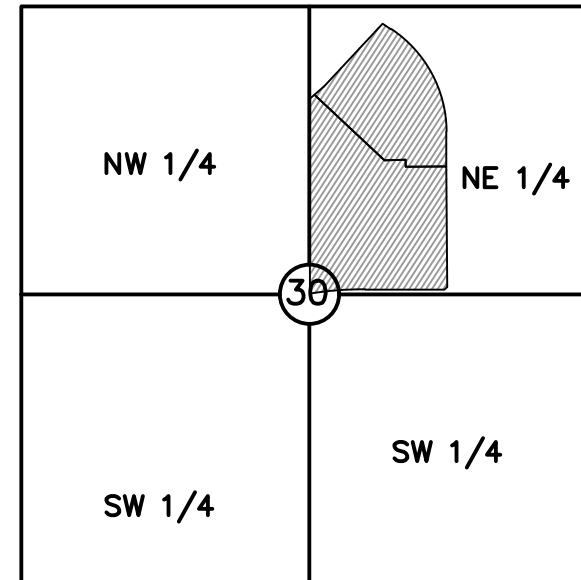
# PUBLIC WATER MAIN EXTENSION PLANS FOR THE VILLAGE AT DISCOVERY PARK ZONE 1

SECTION 25, TOWNSHIP 48N, RANGE 32W  
SECTION 30, TOWNSHIP 48N, RANGE 31W  
IN LEE'S SUMMIT, JACKSON COUNTY, MO

**RELEASED FOR CONSTRUCTION**  
As Noted on Plan Review

Development Services Department  
Lee's Summit, Missouri

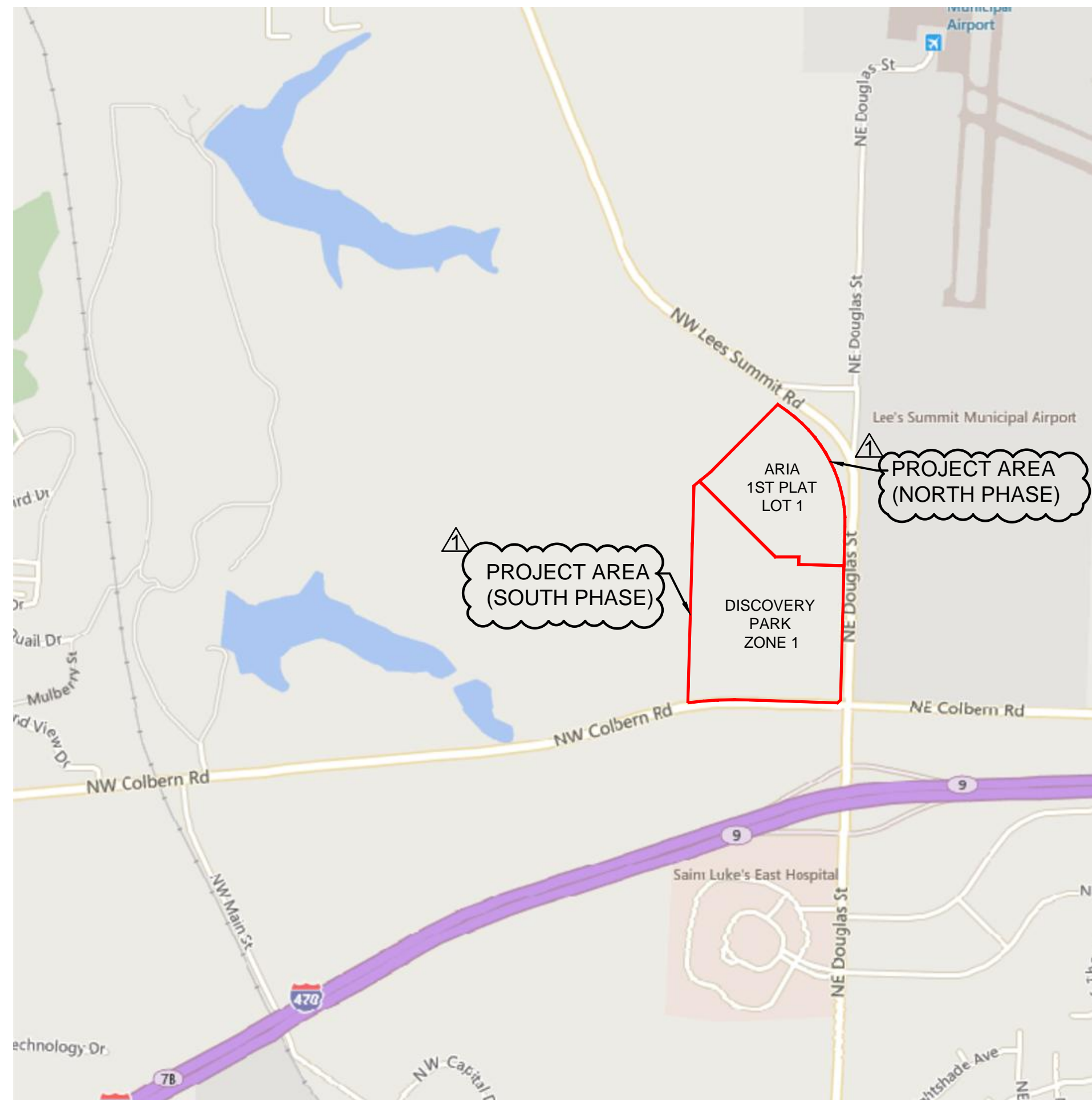
11/14/2023



S25, T48N, R32W  
S30, T48N, R31W  
N.T.S.  
**VICINITY MAP**

### PROJECT TEAM & UTILITY CONTACT LIST

<b>OWNER/DEVELOPER</b> INTRINSIC DEVELOPMENT 3622 ENDEAVOR AVE. STE. 101 COLUMBIA, MO 65201 CONTACT: BRIAN MAENNER PHONE: 573.881.0280 EMAIL: BMAENNER@INTRINSICDEVELOPMENT.COM	<b>UTILITY SERVICE NUMBERS</b> NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800 NAME: LEE'S SUMMIT WATER UTILITIES PHONE: 816-969-1900 NAME: SPIRE PHONE: 314-342-0500
<b>ENGINEER</b> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: DAVID EICKMAN PHONE: 816.442.6046 EMAIL: DEICKMAN@OLSSON.COM	NAME: AT&T PHONE: 800-286-8313 NAME: EVERGY PHONE: 816-471-5275 NAME: SPECTRUM PHONE: 877-772-2253
<b>SURVEYOR</b> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH PHONE: 816.361.1177 EMAIL: JROUDEBUSH@OLSSON.COM	NAME: GOOGLE FIBER PHONE: 877-454-6959
<b>LANDSCAPE ARCHITECT</b> OSCHNER HARE & HARE THE OLSSON STUDIO 1814 MAIN STREET KANSAS CITY, MO 64108 PHONE: 816.842.8844	



### PROPERTY DESCRIPTION

**ARIA FIRST PLAT LOT 1:**  
AS PROVIDED BY STEWART TITLE GUARANTY COMPANY:  
TRACT OF LAND IN THE NORTHEAST QUARTER OF SECTION 30 TOWNSHIP 48 NORTH, RANGE 31 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER SECTION; THENCE SOUTH 01 DEGREES 37 MINUTES 50 SECONDS WEST, ON THE WEST LINE OF SAID QUARTER SECTION, 853.75 FEET TO A POINT ON THE SOUTHEAST LOT LINE OF LOT 1, LEE'S SUMMIT ROAD PUMP STATION, A SUBDIVISION RECORDED IN BOOK I 51 AT PAGE 90 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE SOUTH 01 DEGREES 50 SECONDS EAST, ON SAID SOUTHEAST LOT LINE, 59.22 FEET; TO THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE CONTINUING NORTH 50 DEGREES 41 MINUTES 15 SECONDS EAST ALONG SAID LINE, 116.89 FEET; THENCE NORTH 44 DEGREES 49 MINUTES 51 SECONDS EAST, 792.38 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NW LEE'S SUMMIT ROAD AS ESTABLISHED BY DOCUMENT NUMBER 2015E0017982 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE ON SAID WESTERLY RIGHT-OF-WAY LINE, SOUTH 54 DEGREES 34 MINUTES 12 SECONDS EAST, 95.69 FEET; THENCE SOUTHEASTERLY ALONG A CURVE TO THE RIGHT BEING TANGENT TO THE LAST DESCRIBED COURSE WITH A RADIUS OF 1,142.00 FEET, A CENTRAL ANGLE OF 56 DEGREES 01 MINUTES 43 SECONDS AND AN ARC DISTANCE OF 1,116.74 FEET; THENCE SOUTH 01 DEGREES 27 MINUTES 31 SECONDS WEST, 322.27 FEET; THENCE LEAVING SAID RIGHT-OF-WAY LINE, NORTH 88 DEGREES 32 MINUTES 29 SECONDS WEST, 375.74 FEET; THENCE NORTH 01 DEGREES 27 MINUTES 27 SECONDS EAST, 62.94 FEET; THENCE SOUTH 90 DEGREES 00 MINUTES 00 SECONDS WEST, 195.68 FEET; THENCE NORTH 45 DEGREES 00 MINUTES 00 SECONDS WEST, 889.18 FEET TO THE POINT OF BEGINNING, SUBJECT TO THAT PART, IF ANY, IN STREETS, ROADWAYS, HIGHWAYS OR OTHER PUBLIC RIGHT-OF-WAYS.

**DISCOVERY PARK ZONE 1:**  
A TRACT OF LAND IN THE NORTHEAST QUARTER OF SECTION 30 TOWNSHIP 48 NORTH, RANGE 31 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER SECTION; THENCE SOUTH 01°37'50" WEST, ON THE WEST LINE OF SAID QUARTER SECTION, 853.75 FEET TO A POINT ON THE SOUTHEAST LOT LINE OF LOT 1, LEE'S SUMMIT ROAD PUMP STATION, A SUBDIVISION RECORDED IN BOOK I 51 AT PAGE 90 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE, AND THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE NORTH 50°41'15" EAST, ON SAID SOUTHEAST LOT LINE, 59.22 FEET; THENCE LEAVING SAID LOT LINE, SOUTH 45°00'00" EAST, 889.18 FEET; THENCE NORTH 90°00'00" EAST, 195.68 FEET; THENCE SOUTH 01°27'27" WEST, 62.94 FEET; THENCE SOUTH 88°32'29" EAST, 375.74 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NE DOUGLAS STREET AS ESTABLISHED BY DOCUMENT NUMBER 2015E0017982 IN THE JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE ON SAID WESTERLY RIGHT-OF-WAY LINE, SOUTH 01°27'31" WEST, 1,114.58 FEET; THENCE SOUTH 46°40'17" WEST, 35.22 FEET TO THE INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY LINE OF NE COLBURN ROAD AS ESTABLISHED BY A SURVEY PROVIDED BY HAMILTON STERRETT AND DOOLEY, PROJECT NUMBER 99021; THENCE ON SAID NORTHERLY RIGHT-OF-WAY LINE NORTH 88°06'56" WEST, 730.85 FEET; THENCE WESTERLY ALONG A CURVE TO THE LEFT HAVING AN INITIAL TANGENT BEARING OF NORTH 87°33'04" WEST WITH A RADIUS OF 2,904.93 FEET, A CENTRAL ANGLE OF 10°06'02" AND AN ARC DISTANCE OF 512.10 FEET TO THE SOUTHWEST CORNER OF THE SAID NORTHEAST QUARTER; THENCE NORTH 01°37'22" EAST, ON THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30, A DISTANCE OF 1,328.05 FEET TO THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SAID NORTHEAST QUARTER; THENCE CONTINUING ON THE SAID WEST LINE, NORTH 01°37'50" EAST, 473.96 FEET TO THE POINT OF BEGINNING. CONTAINING 1,717,197 SQUARE FEET OR 39.42 ACRES, MORE OR LESS.

Sheet Number	Sheet Title
C550	TITLE SHEET
C551	GENERAL NOTES
C552	GENERAL LAYOUT (SOUTH PHASE)
C552a	GENERAL LAYOUT (NORTH PHASE)
C553	WATER MAIN ABANDONMENT PLAN
C553a	WATER MAIN ABANDONMENT PLAN
C554	SOUTH PH WATER PLAN & PROFILE (LINE A)
C555	SOUTH PH WATER PLAN & PROFILE (LINE A CONT'D)
C556	SOUTH PH WATER PLAN & PROFILE (LINE A CONT'D)
C557	SOUTH PH WATER PLAN & PROFILE (LINE B)
C558	SOUTH PH WATER PLAN & PROFILE (LINE B CONT'D)
C559	SOUTH PH WATER PLAN & PROFILE (LINE B CONT'D)
C560	SOUTH PH WATER PLAN & PROFILE (LINE B CONT'D & LINE C)
C561	NORTH PH WATER PLAN & PROFILE
C562	NORTH PH WATER PLAN & PROFILE
C563	NORTH PH WATER PLAN & PROFILE
C564	NORTH PH WATER PLAN & PROFILE
C565	SOUTH PH DETAIL SHEET
C566	SOUTH PH DETAIL SHEET (CONT'D)
C567	NORTH PH DETAIL SHEET
C568	NORTH PH DETAIL SHEET (CONT'D)

### OIL/GAS WELLS:

NO OIL OR GAS WELLS ARE LOCATED WITHIN PROJECT LIMITS. INFORMATION OBTAINED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, GEOLOGICAL SURVEY GEOSCIENCES TECHNICAL RESOURCE ASSESSMENT TOOL (GEOSTRAT).

### FLOOD CERTIFICATION:

THE ENTIRE SITE IS LOCATED WITHIN ZONE X, "AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM THE 1% ANNUAL CHANCE FLOOD" AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 29095C0409G, REVISION DATE JANUARY 20, 2017.

**olsson**



DAVID EICKMAN, P.E.  
No. 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION
1	10/07/2023	REVISED PER CITY COMMENTS
2	10/31/2023	REVISED PER CITY COMMENTS
3	11/09/2023	REVISED PER CITY COMMENTS

TITLE SHEET  
PUBLIC WATER MAIN EXTENSION PLANS  
THE VILLAGE AT DISCOVERY PARK ZONE 1  
NW COLBERN RD & NE DOUGLAS ST  
LEE'S SUMMIT, MISSOURI

drawn by: GSS/SUN  
checked by: AR/JN  
approved by: DE  
QA/QC by: JS/NH  
project no.: D21-04643  
drawing no.: C\_TTL01\_D2104643  
date: 11.09.2023

SHEET  
C550



PL2023144  
PRSUBD20232726

**RELEASED FOR CONSTRUCTION**  
 As Noted on Plan Review  
  
 Development Services Department  
 Lee's Summit, Missouri  
  
 11/14/2023

**GENERAL NOTES**

- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER IS OBTAINED.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
- ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
- THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS ARE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
- 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.
- 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.
- 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.
- 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.
- 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**

- UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
  - ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
  - ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
  - ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
  - ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES.
  - ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI
- 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**

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

- 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.
- 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.
- THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
- 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.
- THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

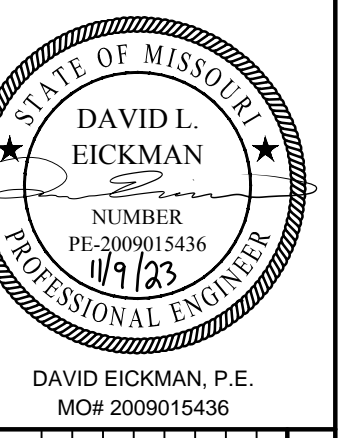
**SHOP DRAWINGS**

- 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 FOR CONFORMANCE WITH THE DESIGN OF 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:
  - ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIC PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
  - ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
  - ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
  - 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.
  - ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
- SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
  - ALL WATER MAIN STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
  - ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

**WATER PLAN NOTES**

- PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.
- ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF FITTING OR WALL OF VAULT.
- COORDINATES ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.
- THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.
- 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.
- 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.
- 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.
- DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.
- ALL EXISTING FIRE HYDRANTS ON SITE OR IN THE RIGHT-OF-WAY BETWEEN PROPERTY AND ROADWAY SHALL BE REPAINTED PER LOCAL CODES AND ORDINANCES.
- 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
SOUTH PHASE				
1	12" C900 PLASTIC PIPE	L.F.	2598.64	
2	12" X 12" TEE	EA.	2	
3	12" X 8" TEE	EA.	1	
4	FIRE HYDRANT ASSEMBLY (INCLUDING TEE)	EA.	10	
5	12" GATE VALVES	EA.	6	
6	12" DIP BENDS	EA.	10	
7	DEMOLITION OF EXISTING WATER MAIN	L.F.	2718.00	
8	CONNECTION TO EXISTING WATER MAIN	EA.	3	
9	STEEL CASING	L.F.	93.00	
10	AS-BUILTS	EA.	1	
NORTH PHASE				
11	SIDEWALK	S.Y.	50	
12	12" C900 PLASTIC PIPE	L.F.	1801	
13	8" GATE VALVE	EA.	4	
14	12" GATE VALVE	EA.	8	
15	12" 45-DEG BEND	EA.	5	
16	12" 22.5-DEG BEND	EA.	1	
17	8" MJ PLUG	EA.	4	
18	12" MJ PLUG	EA.	1	
19	12" X 12" TEE	EA.	1	
20	12" X 8" TEE	EA.	4	
21	12" X 6" TEE	EA.	6	
22	12" SOLID SLEEVE	EA.	3	
23	STRADDLE BLOCK	EA.	5	
24	FIRE HYDRANT ASSEMBLY	EA.	3	
25	TEMPORARY FLUSHING ASSEMBLY	EA.	1	
26	STEEL CASING	L.F.	100.00	



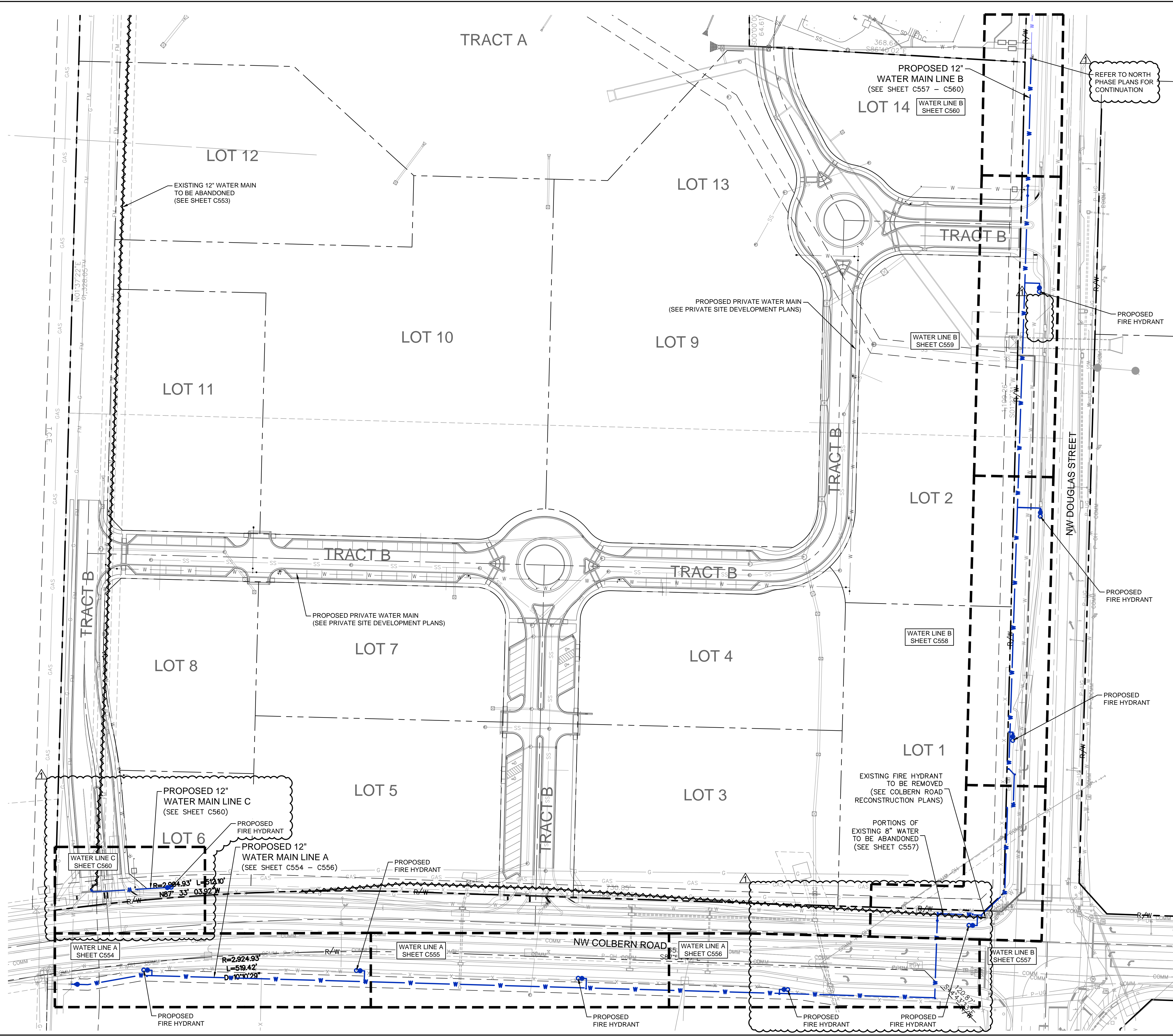
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**GENERAL NOTES**  
**PUBLIC WATER MAIN EXTENSION PLANS**  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

drawn by: GSOSUN  
 checked by: ARJIN  
 approved by: DE  
 QA/QC by: JSNH  
 project no.: D21-04643  
 drawing no.: C\_TTL01\_D2104643  
 date: 11.09.2023

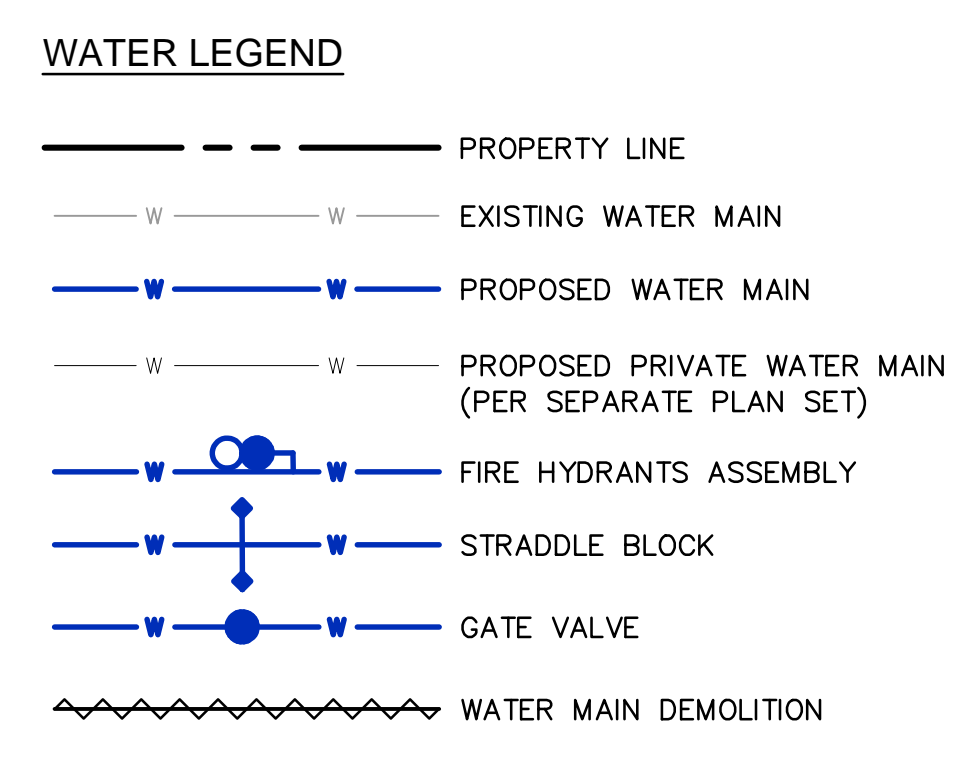
**SHEET**  
**C551**

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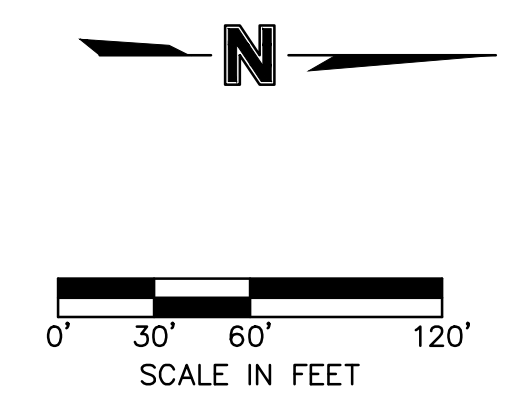


**GENERAL NOTES**

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE STANDARDS AND SPECIFICATIONS FOR WATER MAIN EXTENSIONS OF THE LEE'S SUMMIT, MISSOURI WATER SERVICES DEPARTMENT. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
- AREAS WITH LESS THAN 4 FEET OF DEPTH FROM EXISTING GRADE TO PROPOSED TOP OF PIPE SHALL BE FILLED TO AN ELEVATION OF 18 INCHES ABOVE THE PROPOSED TOP OF PIPE, COMPACTED 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698 PRIOR TO TRENCHING FOR PIPE INSTALLATION.



**RELEASED FOR CONSTRUCTION**  
 As Noted on Plan Review  
 Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023



olsson

Olsson - Civil Engineering  
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TEL 816.361.1177  
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DAVID L. EICKMAN, P.E.  
MOR 2009015436

REVISIONS

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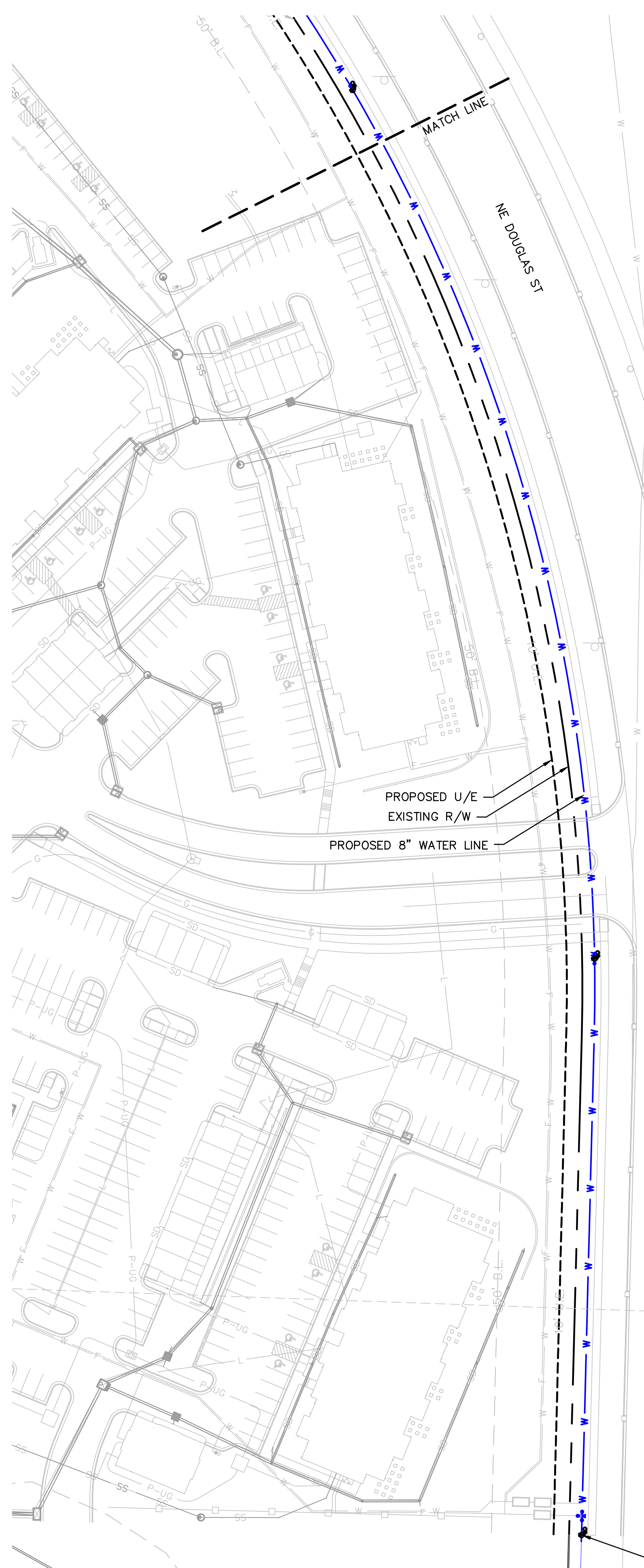
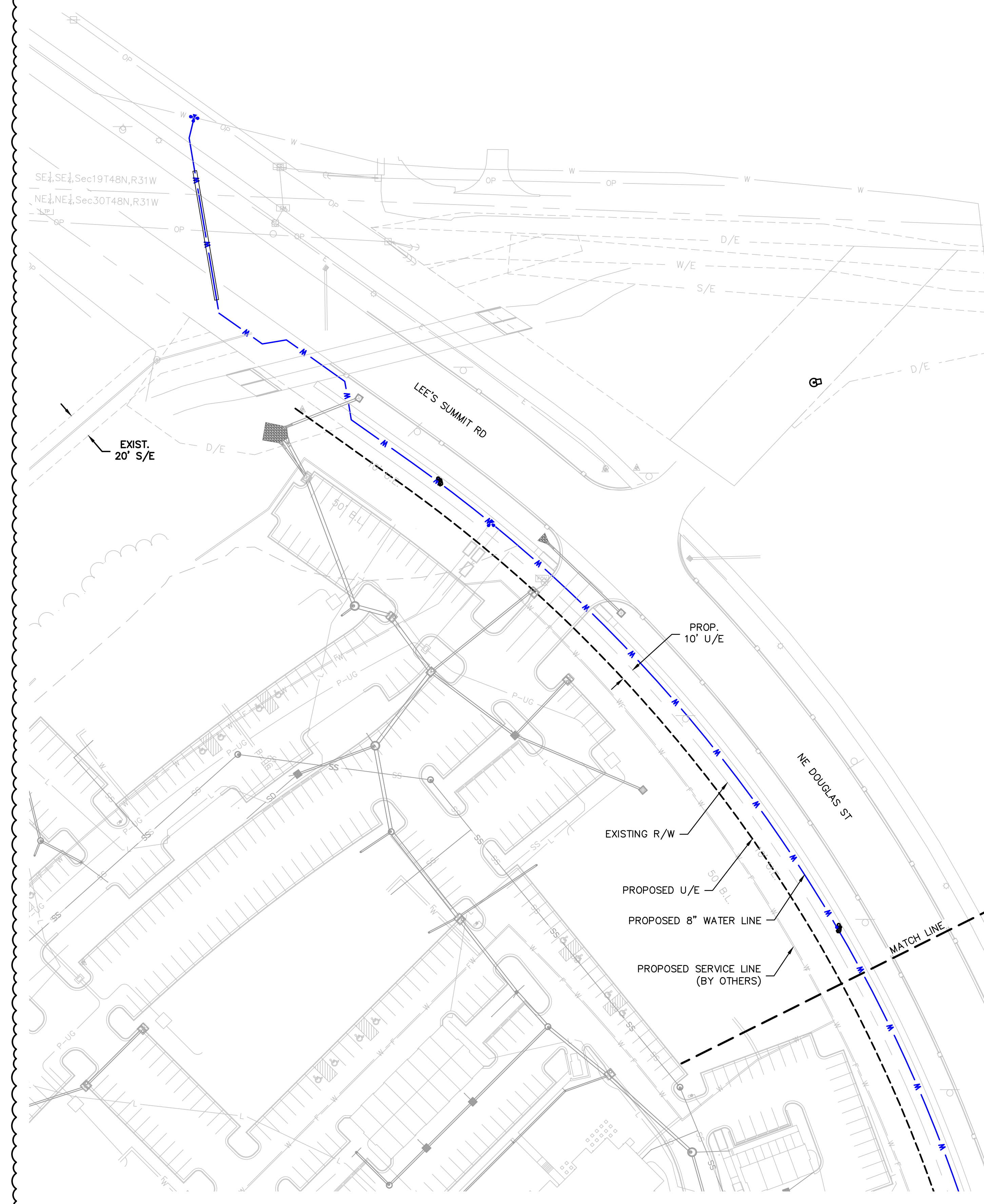
GENERAL LAYOUT (SOUTH PHASE)  
PUBLIC WATER MAIN EXTENSION PLANS  
THE VILLAGE AT DISCOVERY PARK ZONE 1  
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LEE'S SUMMIT, MISSOURI

drawn by: GS/SJSIN  
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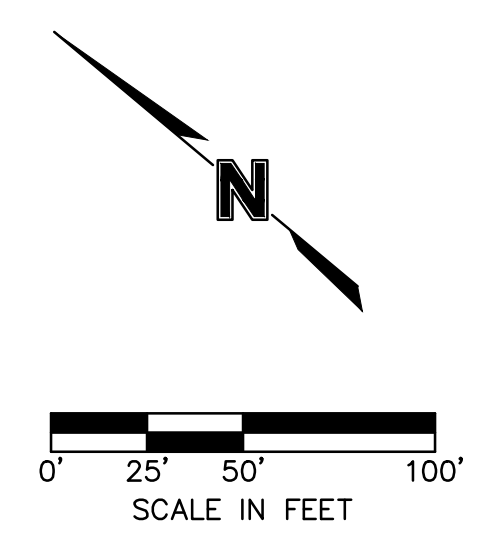
2023

**SHEET C552**

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 Lee's Summit, Missouri  
 11/14/2023



REFER TO SOUTH PHASE  
 PLANS FOR CONTINUATION

GENERAL LAYOUT (NORTH PHASE)  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBURN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

drawn by: GS/SJN  
 checked by: AR/JN  
 approved by: DE  
 QA/QC by: JS/NH  
 project no.: D21-04643  
 drawing no.: B190012 - D214346  
 date: 11.09.2023

SHEET  
 C552A

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/07/2023	REVISED PER CITY COMMENTS	

REVISIONS

STATE OF MISSOURI  
 DAVID L. EICKMAN  
 NUMBER PE-2009015436  
 01/1/23  
 PROFESSIONAL ENGINEER  
 DAVID EICKMAN, P.E.  
 MO# 2009015436

**olsson**  
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 Missouri Certificate of Authority #001932  
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 TEL 816.361.1177  
 www.olson.com

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MATCH LINE. SEE SHEET C553A

**GENERAL NOTES**

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE STANDARDS AND SPECIFICATIONS FOR WATER MAIN EXTENSIONS OF THE LEE'S SUMMIT, MISSOURI WATER SERVICES DEPARTMENT. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
- AREAS WITH LESS THAN 18 INCHES OF DEPTH FROM EXISTING GRADE TO PROPOSED TOP OF PIPE SHALL BE FILLED TO AN ELEVATION OF 18 FEET ABOVE THE PROPOSED TOP OF PIPE, COMPACTED 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698 PRIOR TO TRENCHING FOR PIPE INSTALLATION.

**WATER LEGEND**

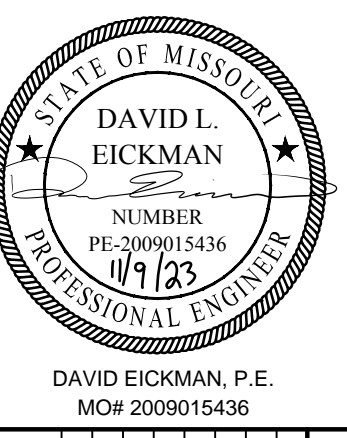
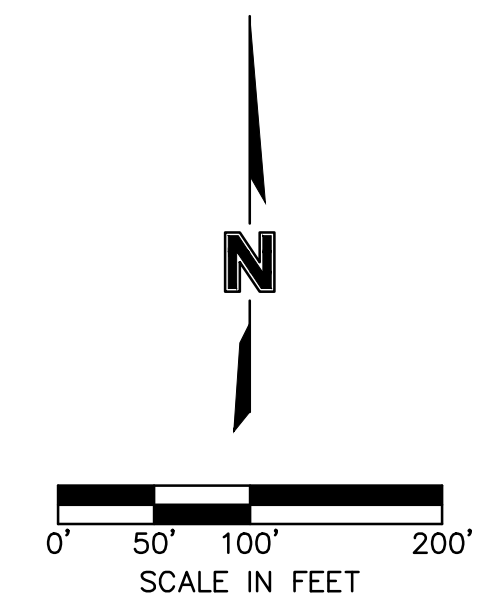
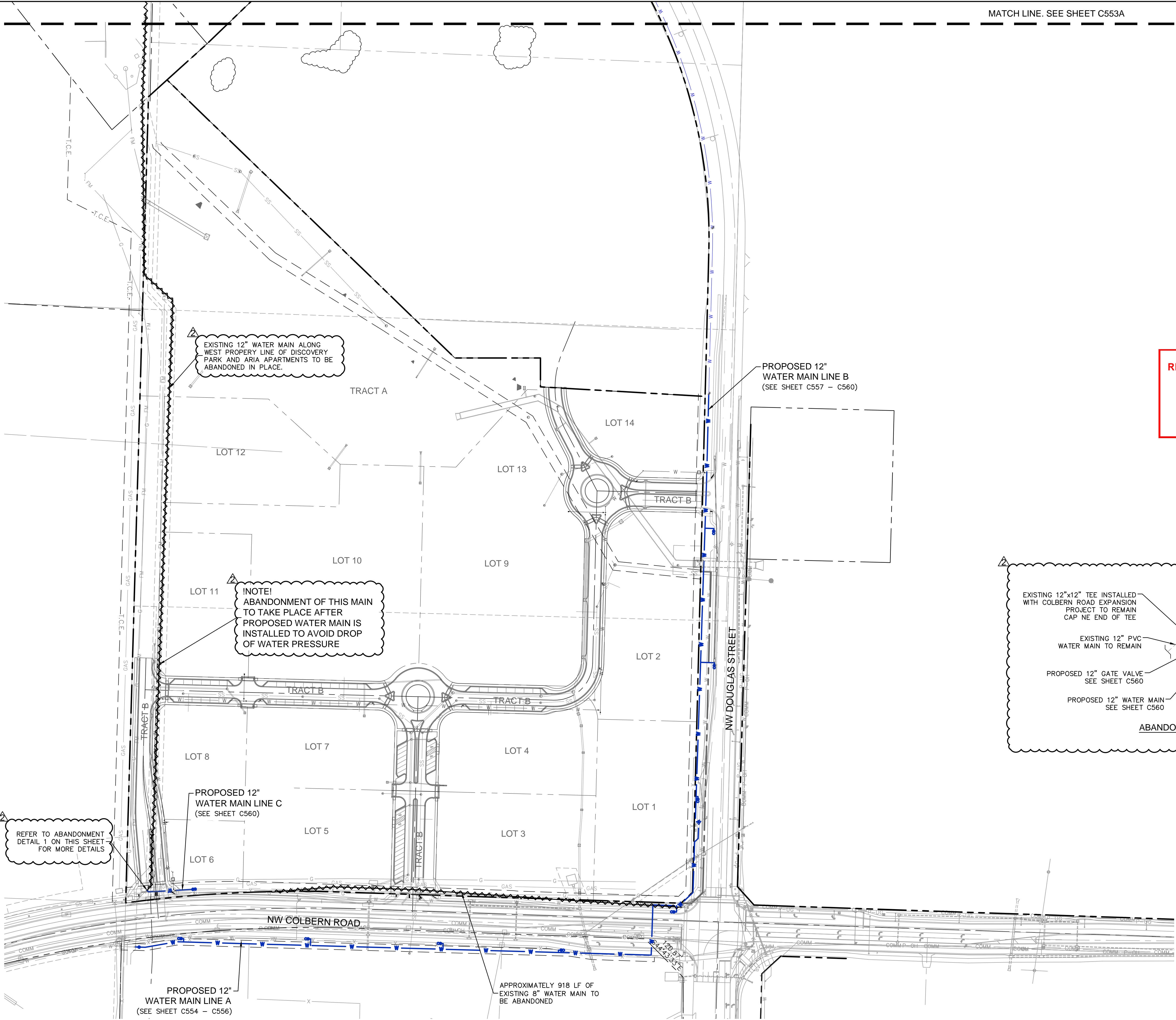
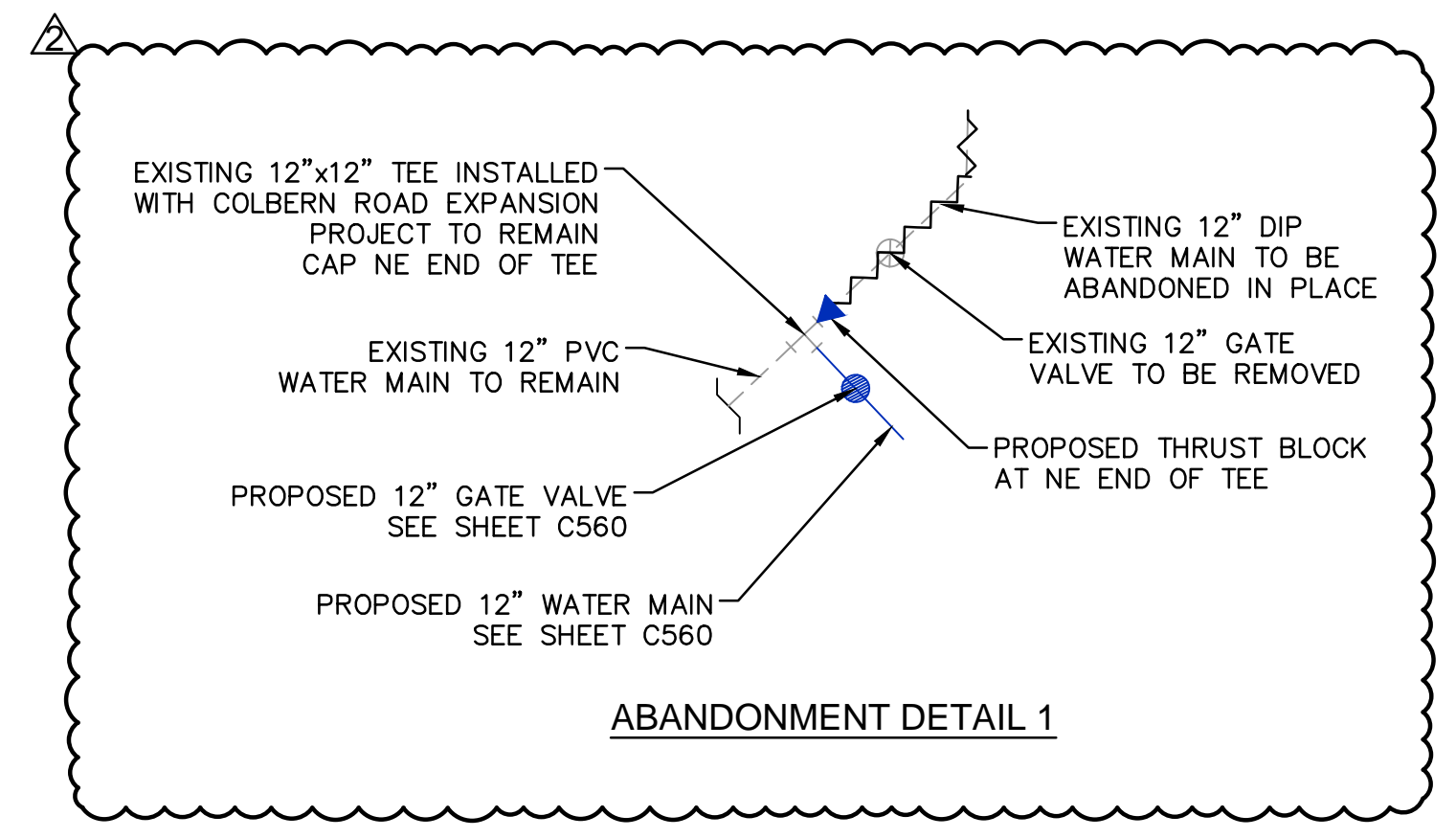
- PROPERTY LINE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED PRIVATE WATER MAIN (PER SEPARATE PLAN SET)
- FIRE HYDRANTS ASSEMBLY
- GATE VALVE
- WATER MAIN DEMOLITION

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Lee's Summit, Missouri

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1	10/07/2023	REVISED PER CITY COMMENTS	
2	10/31/2023	REVISED PER CITY COMMENTS	

**WATER MAIN ABANDONMENT PLAN**  
**PUBLIC WATER MAIN EXTENSION PLANS**  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NW DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

2023

drawn by: GS/SUN  
 checked by: AR/JN  
 approved by: DE  
 QA/QC by: JS/NH  
 project no.: D21-04643  
 drawing no.: C\_GEN01\_D2104643  
 date: 11.09.2023

**SHEET C553**

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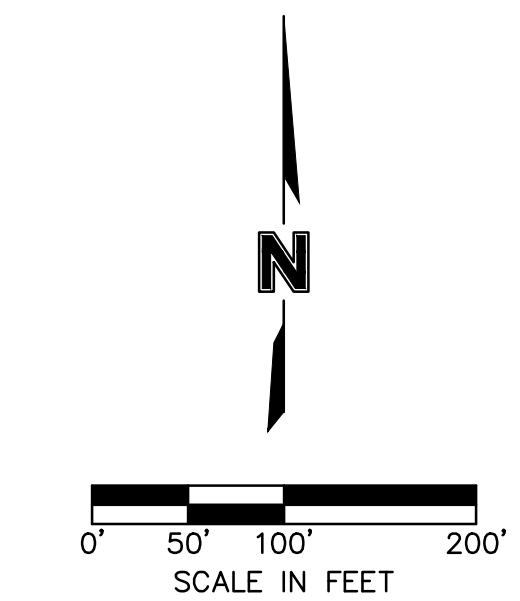
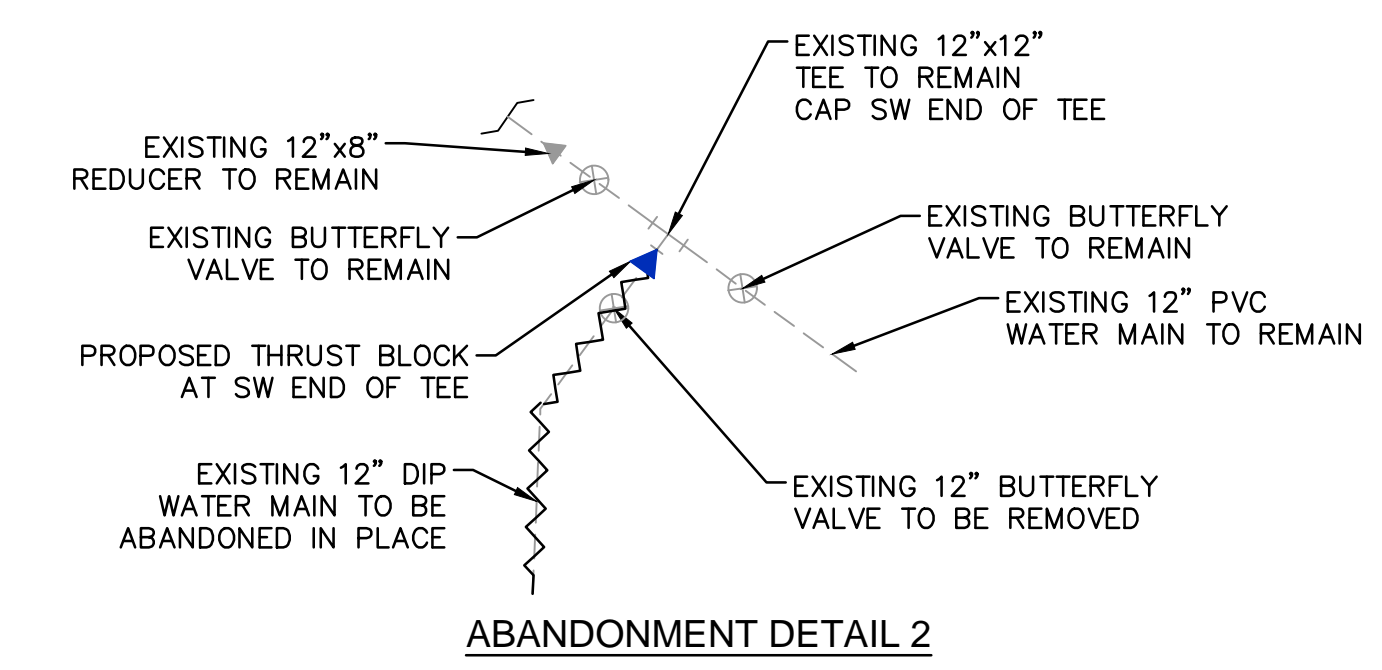
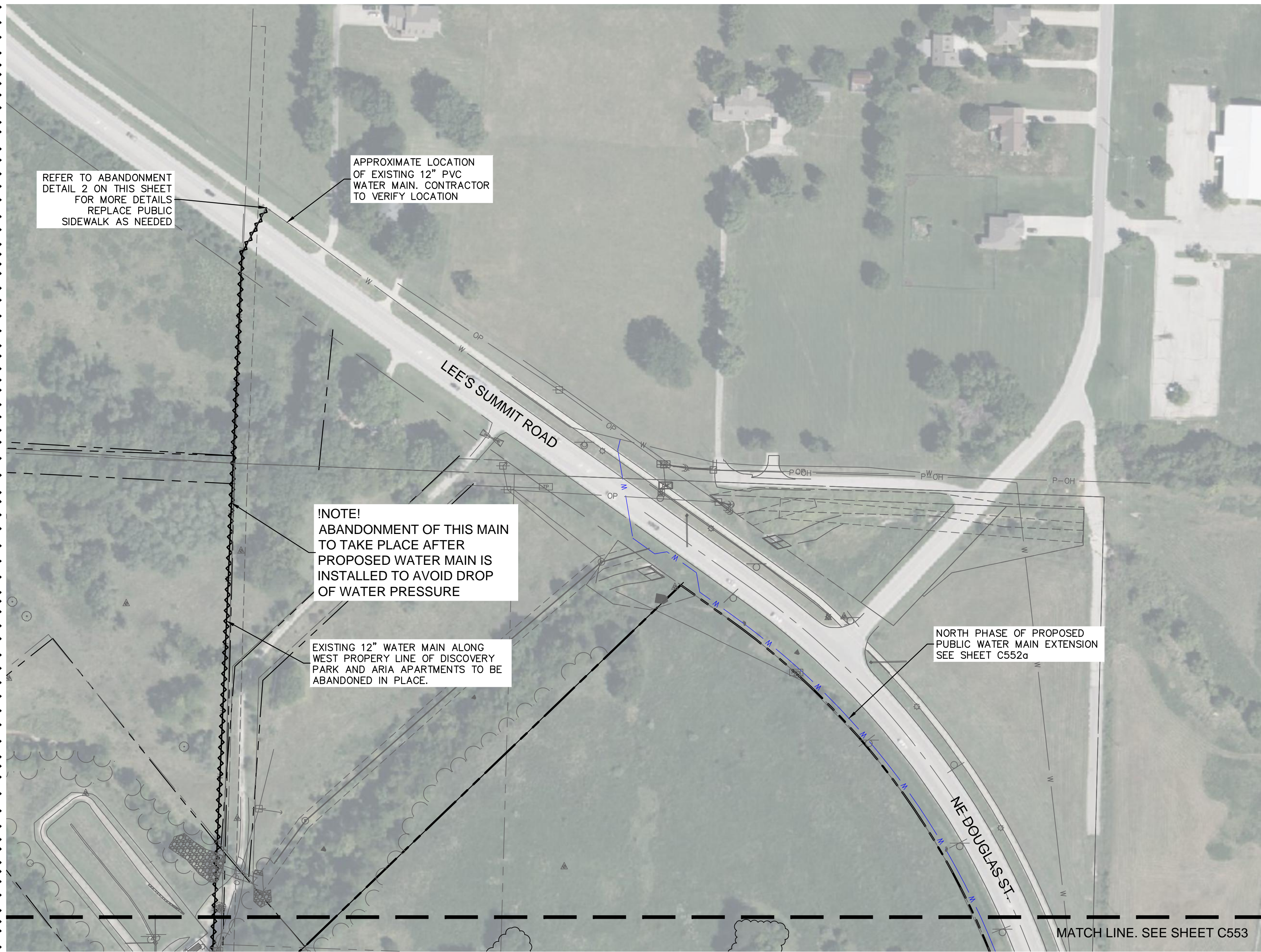
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**GENERAL NOTES**

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**WATER LEGEND**

- PROPERTY LINE
- EXISTING WATER MAIN
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- PROPOSED PRIVATE WATER MAIN (PER SEPARATE PLAN SET)
- FIRE HYDRANTS ASSEMBLY
- GATE VALVE
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STATE OF MISSOURI  
**DAVID L. EICKMAN**  
 NUMBER  
 PE-2009015436  
 11/14/23  
 PROFESSIONAL ENGINEER  
 DAVID EICKMAN, P.E.  
 MO# 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION REVISED PER CITY COMMENTS
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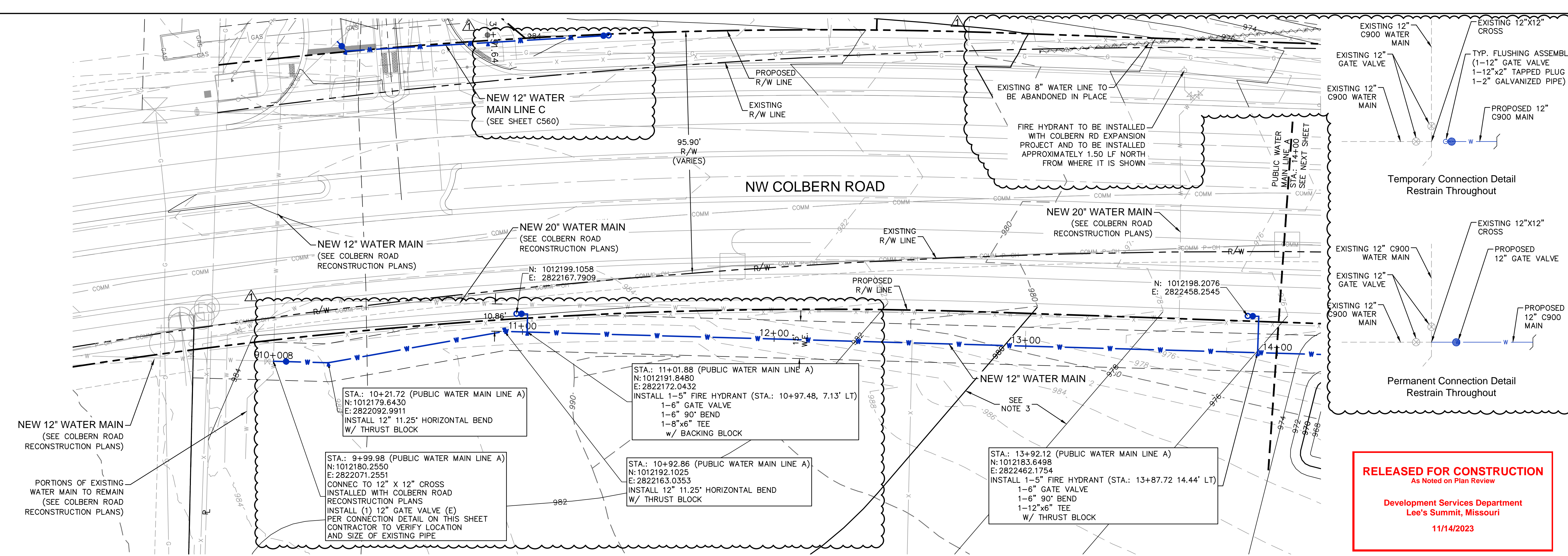
WATER MAIN ABANDONMENT PLAN  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBURN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

drawn by: GS/SJSIN  
 checked by: AR/JIN  
 approved by: DE  
 QA/QC by: JS/NH  
 project no.: D21-04643  
 drawing no.: C\_GEN02\_D2104643  
 date: 11.09.2023

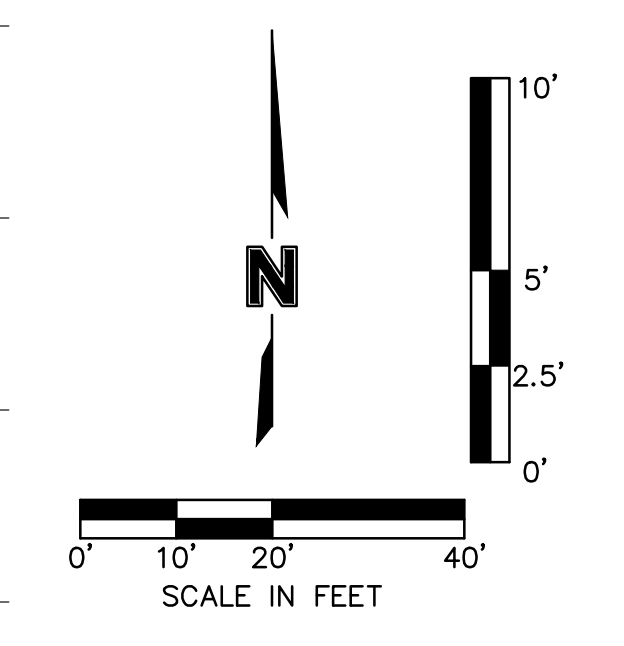
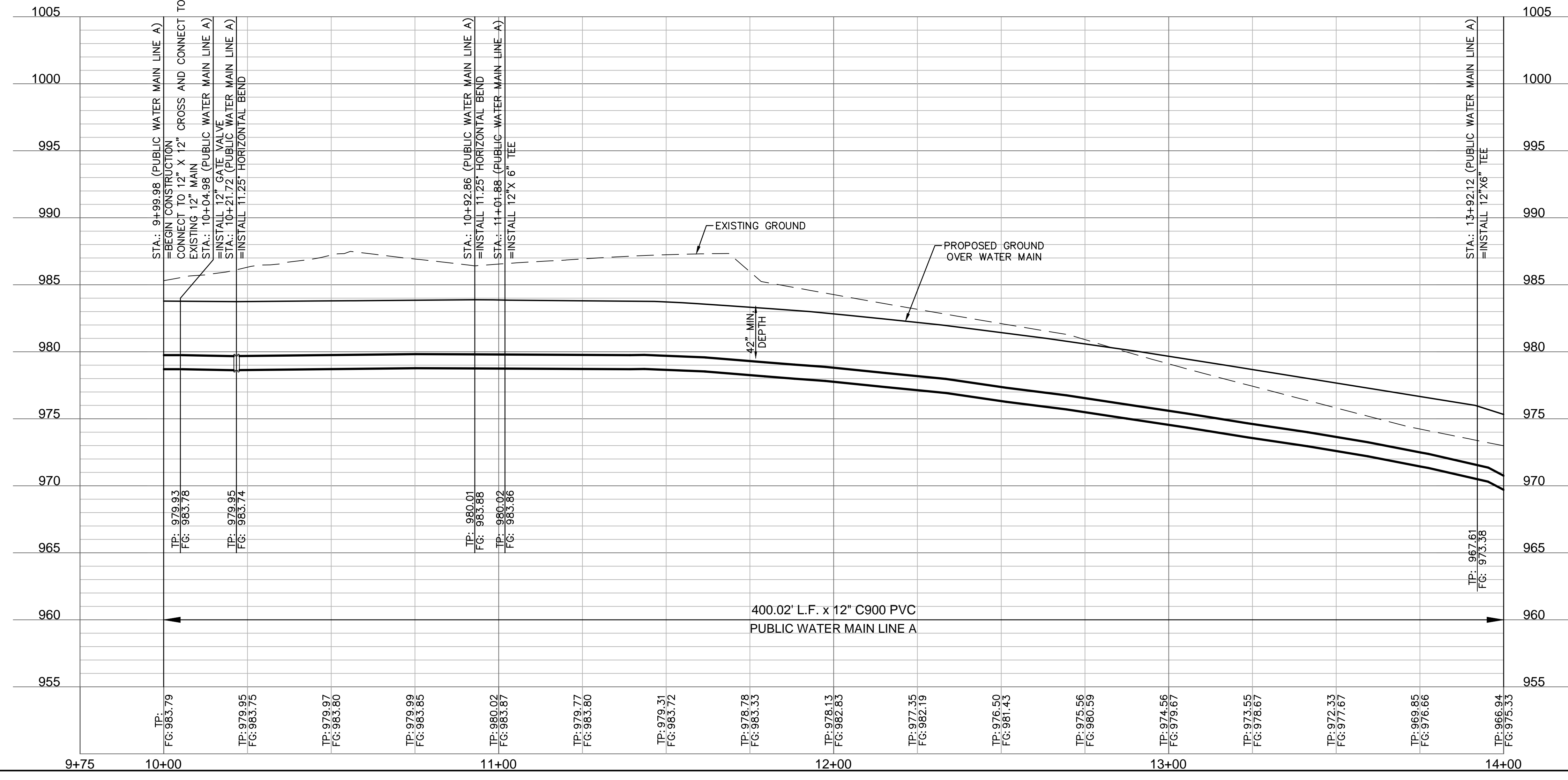
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 TITLE: C\_XALTA\_B2104643  
 SUBJECT: C\_PBNDY\_D2104643  
 DRAWING: C\_PSSWR\_D2104643

- NOTES:**
- CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.
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  - PROPOSED SURFACE SHOWN SOUTH OF NW COLBERN ROAD DEPICTS FINAL CONDITION OF DISCOVERY PARK ZONE 2 MASS GRADING PLANS.

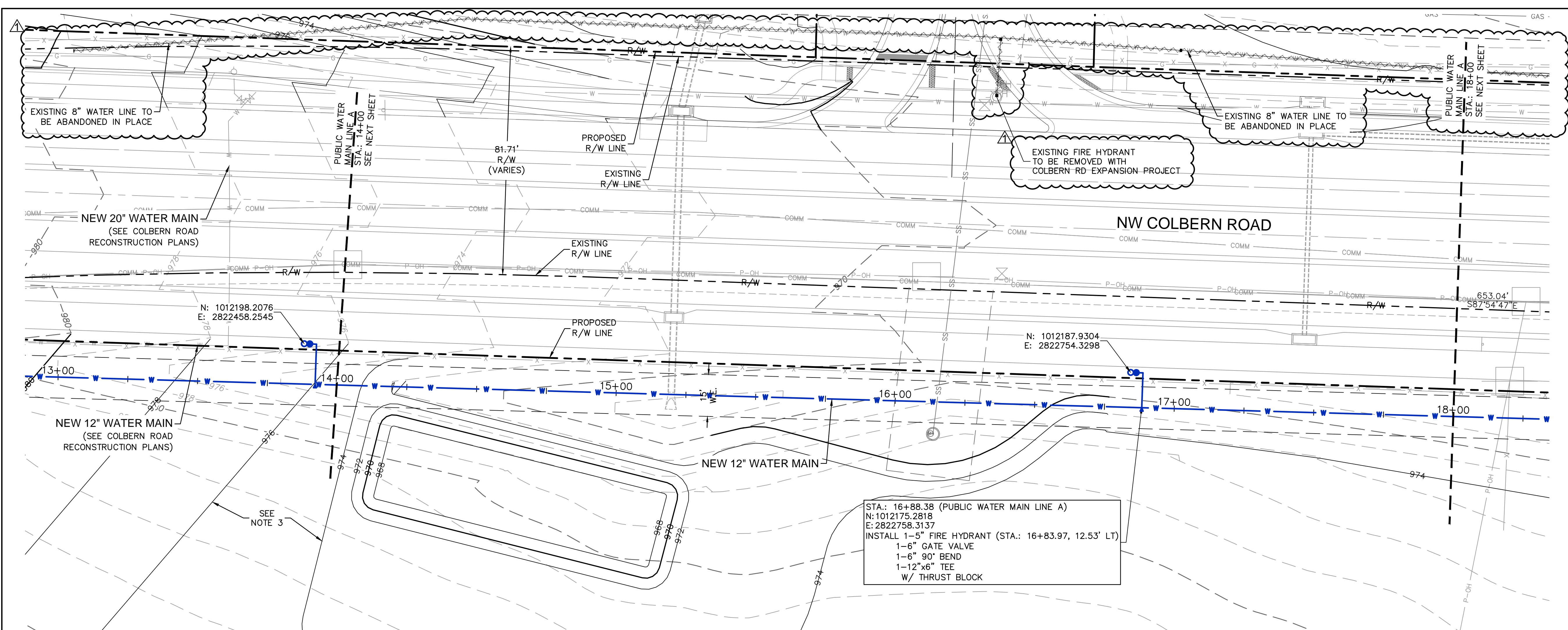


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 11/14/2023

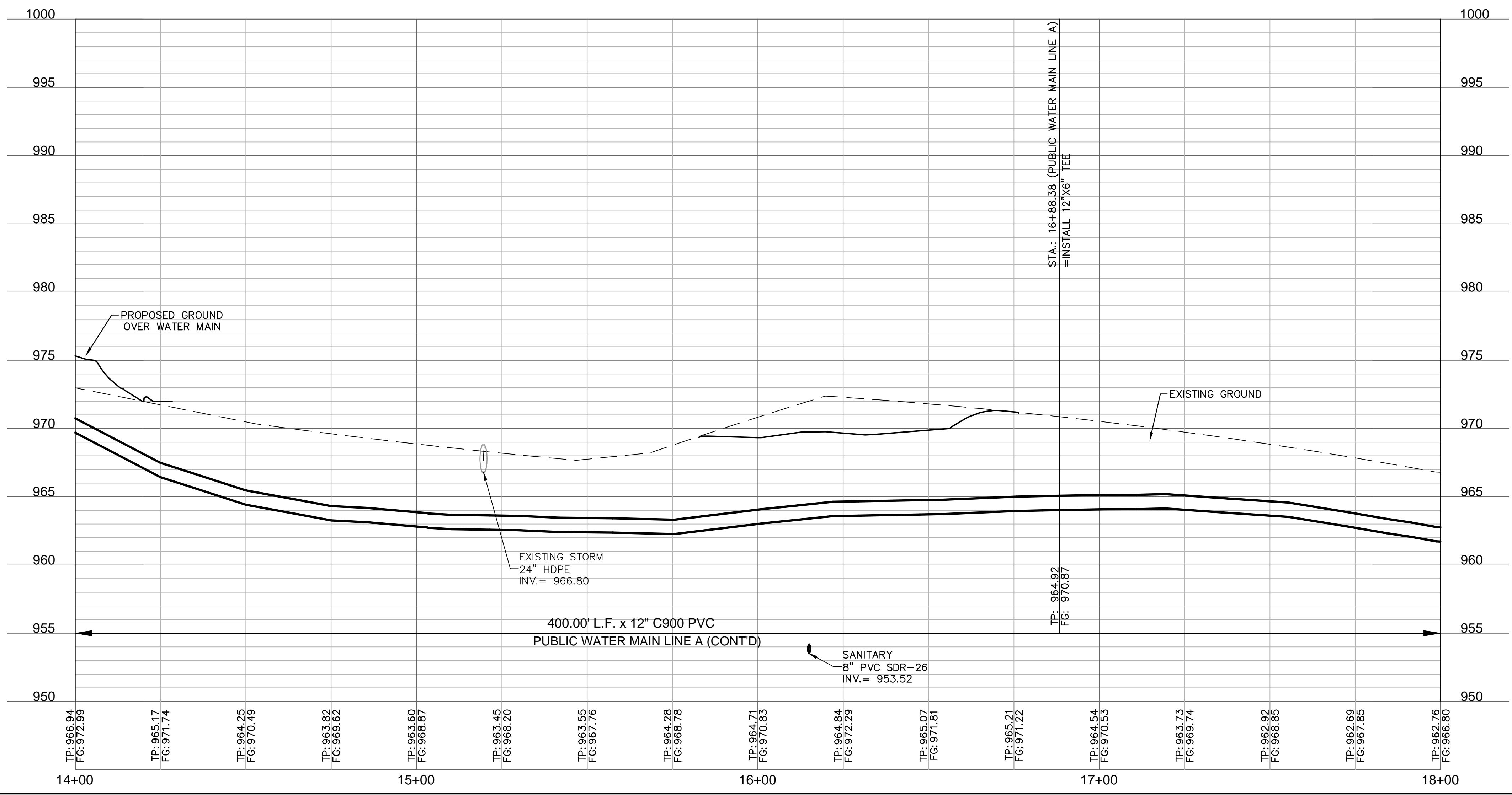


<b>olsson</b>		Olsson - Civil Engineering Missouri Certification of Authority #001932 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 www.ollson.com	
		DAVID L. EICKMAN, P.E. No. 2009015436 Missouri	
BY		REVISIONS DESCRIPTION	DATE
		REVISED PER CITY COMMENTS	10/07/2023
SOUTH PH WATER PLAN & PROFILE (LINE A) PUBLIC WATER MAIN EXTENSION PLANS THE VILLAGE AT DISCOVERY PARK ZONE 1 NW COLBERN RD & NE DOUGLAS ST LEE'S SUMMIT, MISSOURI		2023	
drawn by:	GS/SOS/JN	checked by:	AR/JN
approved by:		approved by:	DE
QA/QC by:	JSNH		
project no.:	D21-04643		
drawing no.:	C_WAT01_D2104643		
date:	11.09.2023		
SHEET C554			

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 C:\FRAD\_D2104643  
 C:\FUTL\_D2104643



- NOTES:
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DAVID L. EICKMAN, P.E.  
 No. 2009015436

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SOUTH PH WATER PLAN & PROFILE (LINE A CONT'D)  
 PUBLIC WATER MAIN EXTENSION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

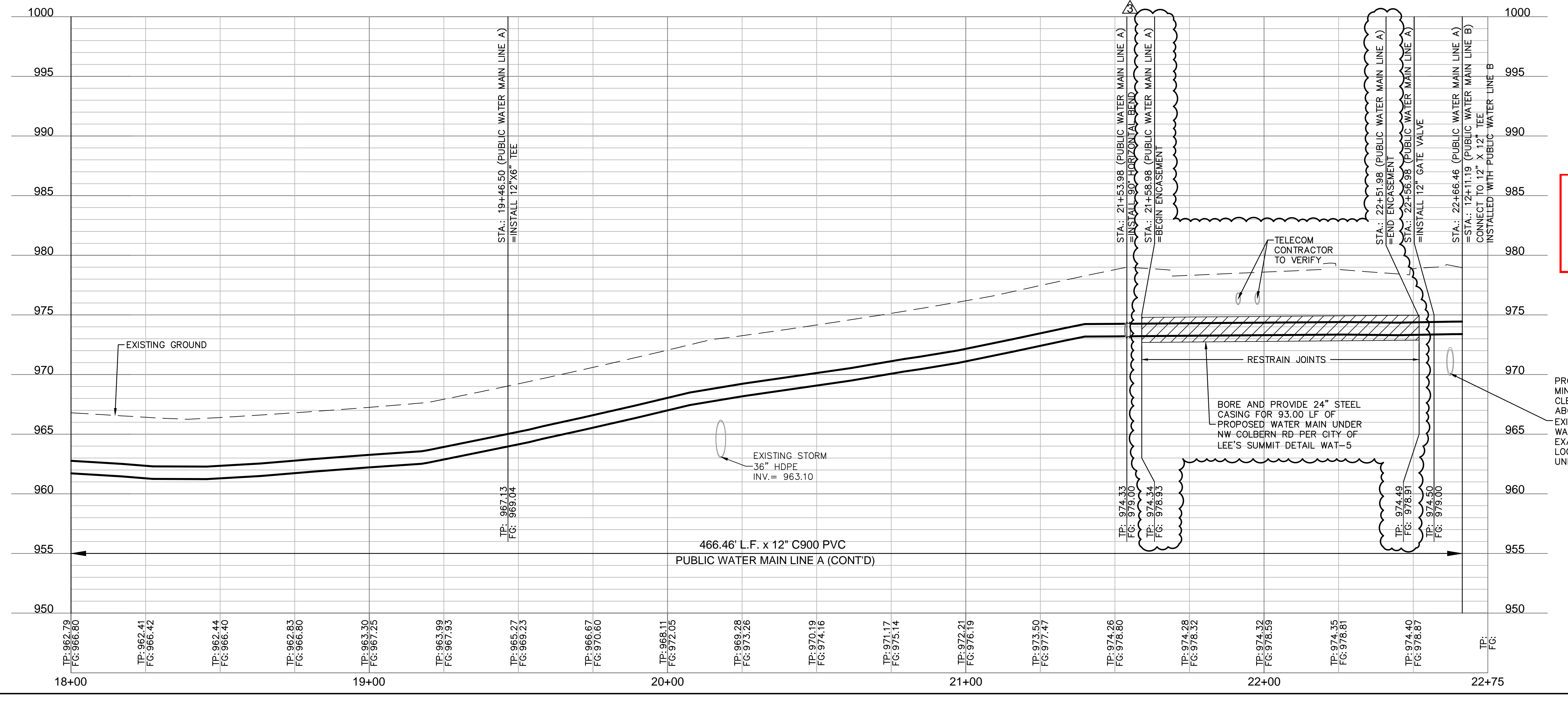
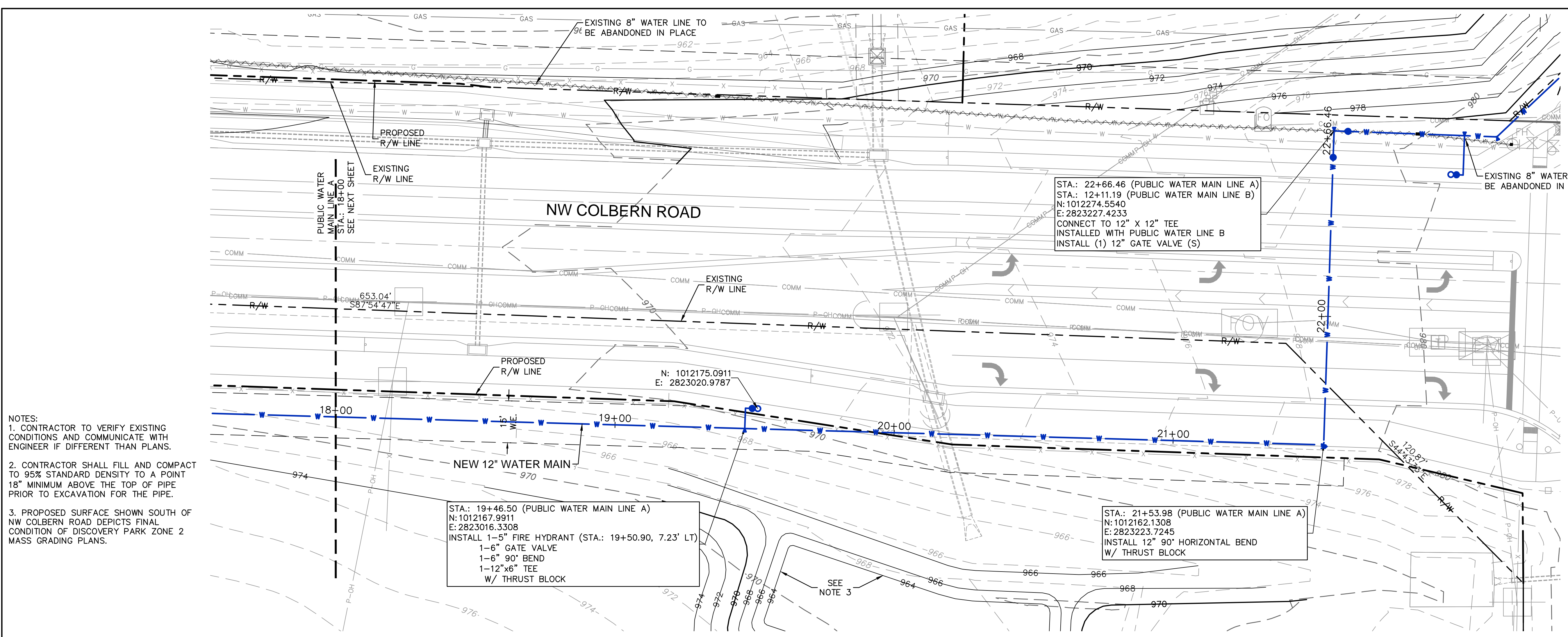
drawn by: GS/SJSJN  
 checked by: AR/JUN  
 approved by: DE  
 QA/QC by: JS/NH  
 project no.: D21-04643  
 drawing no.: C\_W101\_D2104643  
 date: 11.09.2023

**SHEET**  
C555

2023

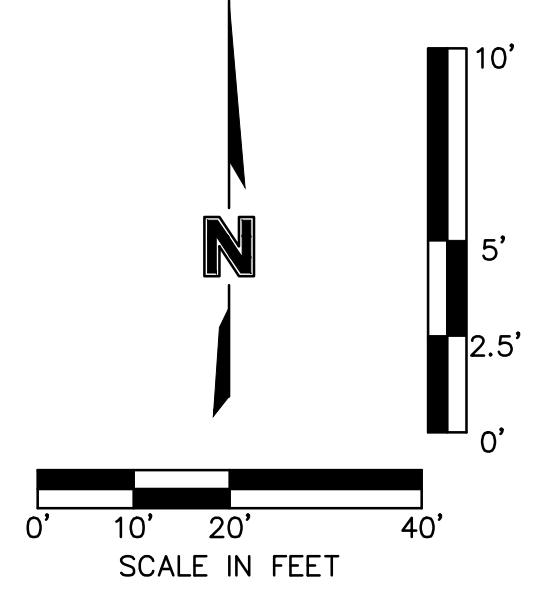


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STATE OF MISSOURI  
**DAVID L. EICKMAN**  
 NUMBER  
 PE-2009015436  
 11/14/23  
 PROFESSIONAL ENGINEER

DAVID EICKMAN, P.E.  
 MOr 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/07/2023	REVISED PER CITY COMMENTS	
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3	11/09/2023	REVISED PER CITY COMMENTS	

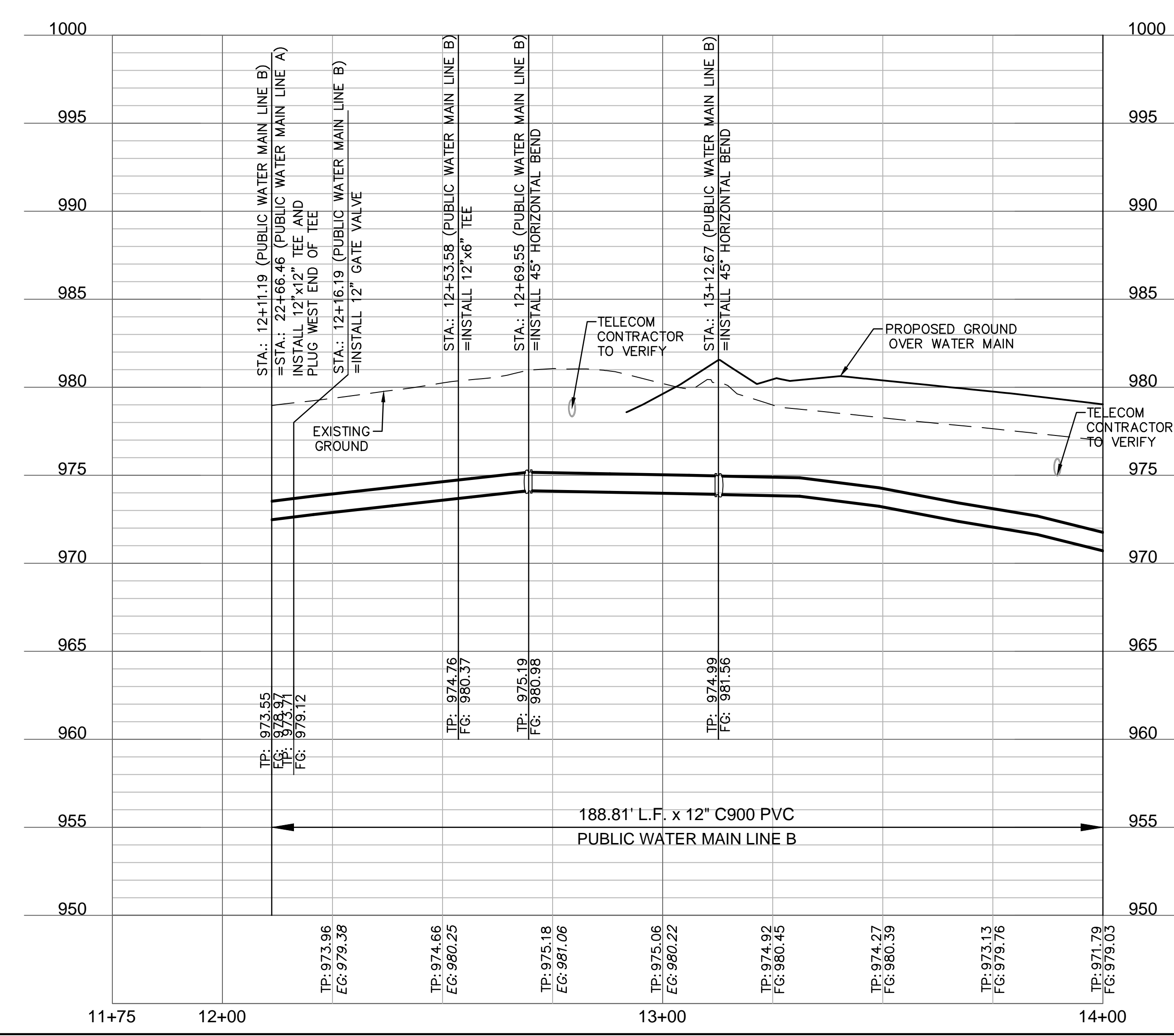
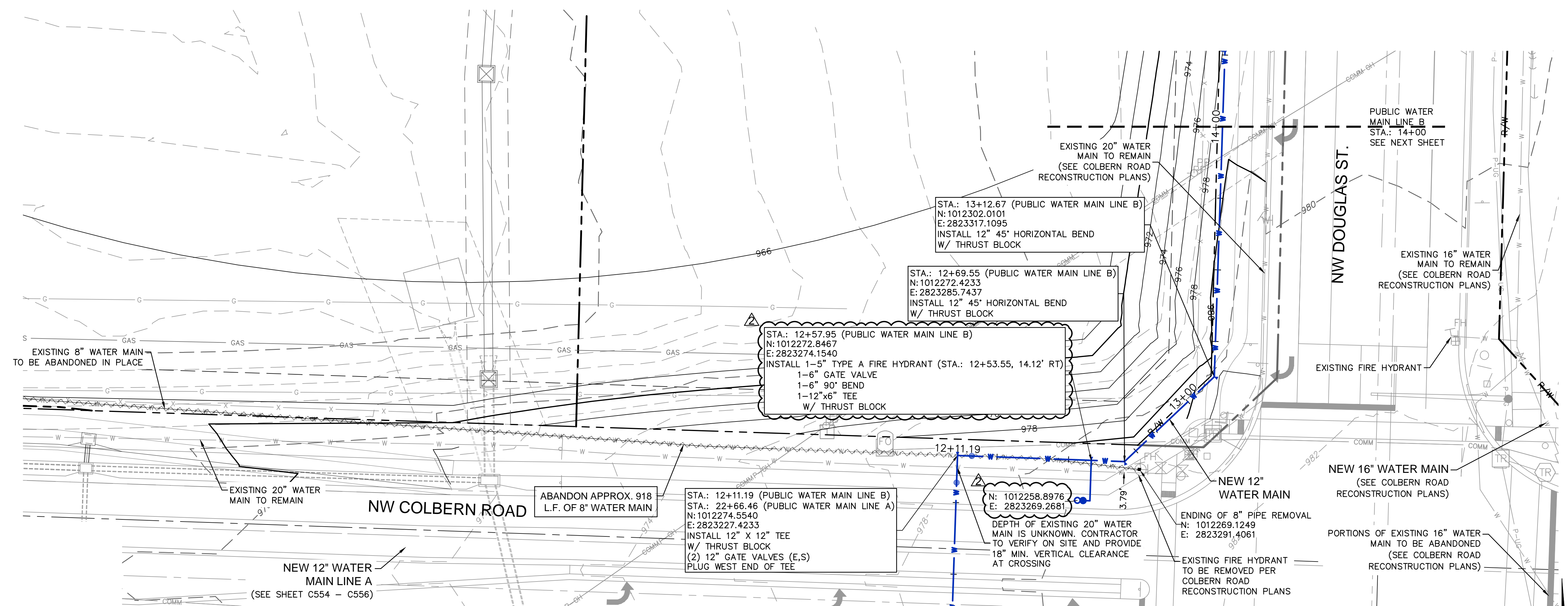
SOUTH PH WATER PLAN & PROFILE (LINE A CONT'D)  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

2023

drawn by: GSCOSIN  
 checked by: ARJUN  
 approved by: DE  
 QA/QC by: JSNH  
 project no.: D21-04643  
 drawing no.: C\_WAT01\_D2104643  
 date: 11.09.2023

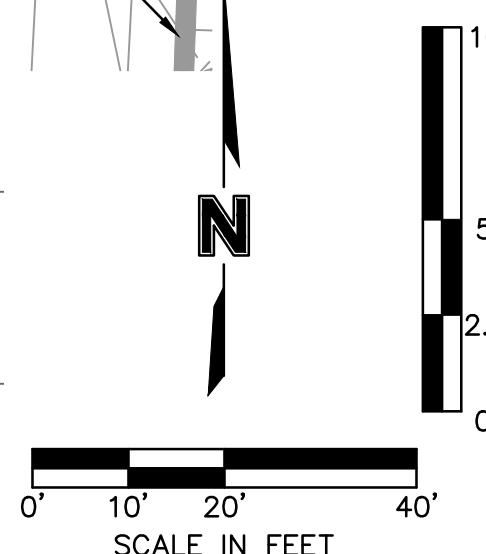
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NOTES:  
 1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.  
 2\*. CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE.



drawn by: GSOSUN  
checked by: ARJUN  
approved by: DE  
QA/QC by: JSNH  
project no.: D21-04643  
drawing no.: C\_WAT02\_D2104643  
date: 11.09.2023

DATE: 11/09/2023  
REVISED PER CITY COMMENTS  
REVISED PER CITY COMMENTS

SOUTH PH WATER PLAN & PROFILE (LINE B)  
PUBLIC WATER MAIN EXTENSION PLANS

THE VILLAGE AT DISCOVERY PARK ZONE 1  
NW COLBERN RD & NE DOUGLAS ST

2023

REVISIONS DESCRIPTION

BY

DAVID L. EICKMAN, P.E.  
MOR 2009015436

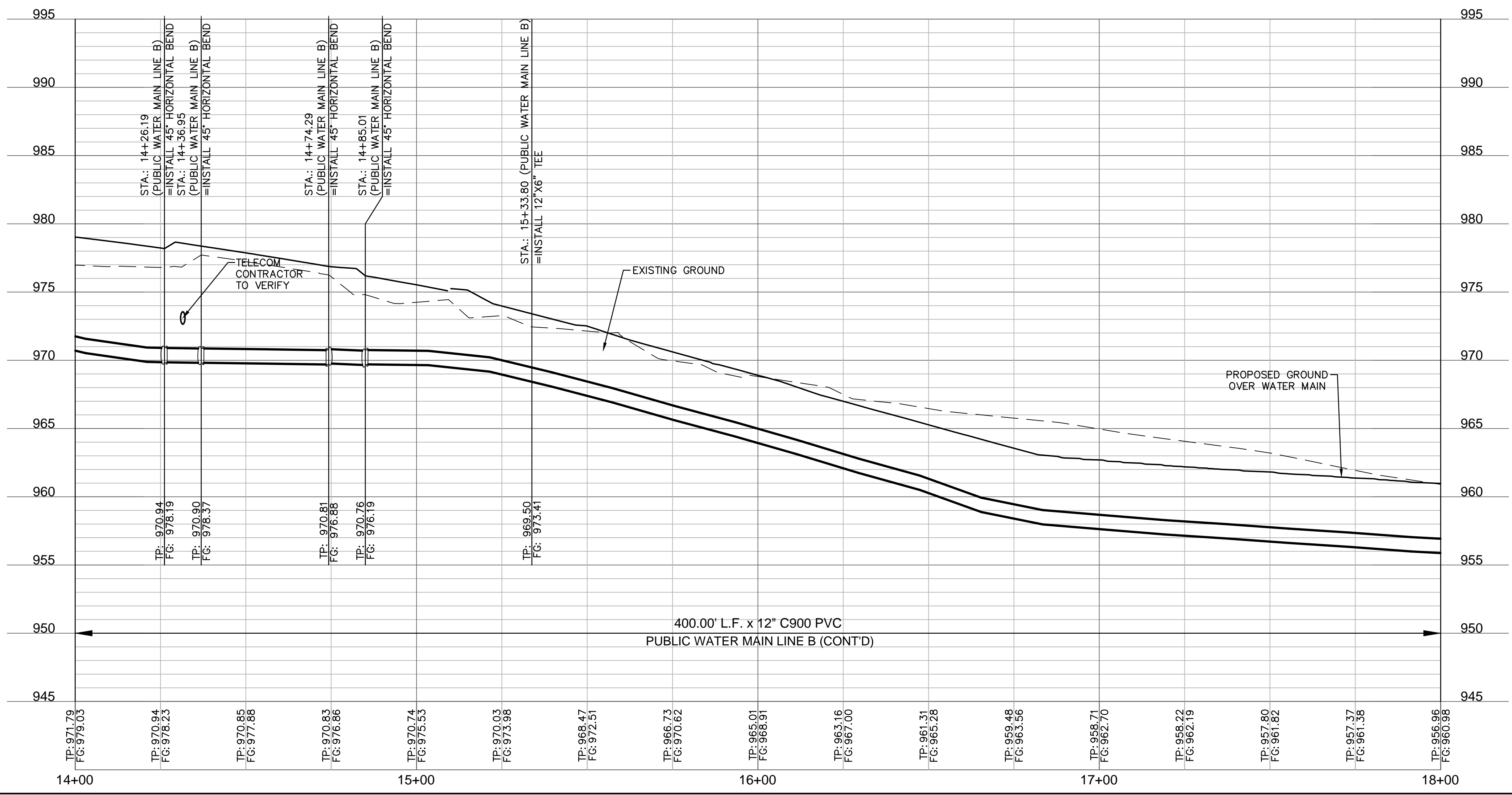
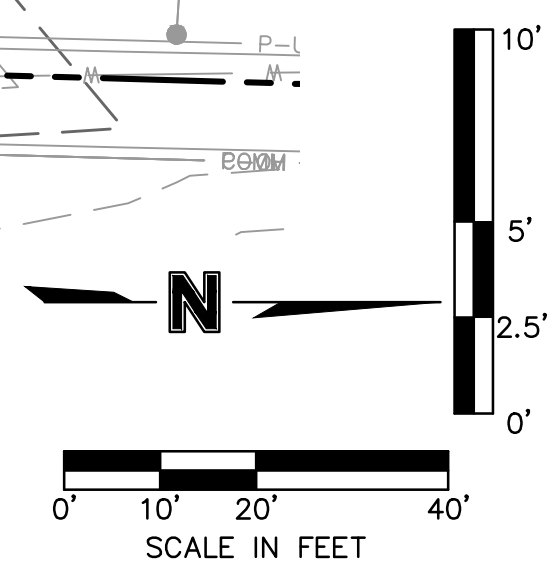
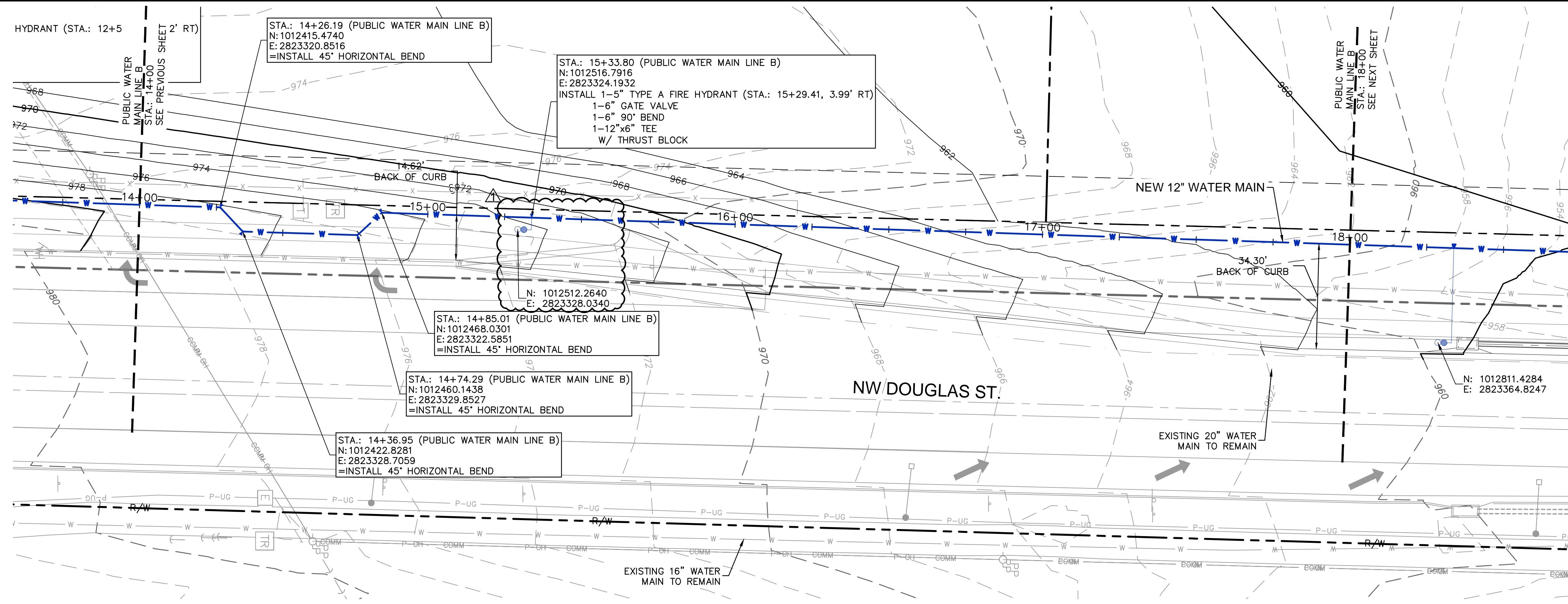
DAVID L. EICKMAN  
PROFESSIONAL ENGINEER  
NUMBER  
PE-2009015436  
11/12/23

STATE OF MISSOURI

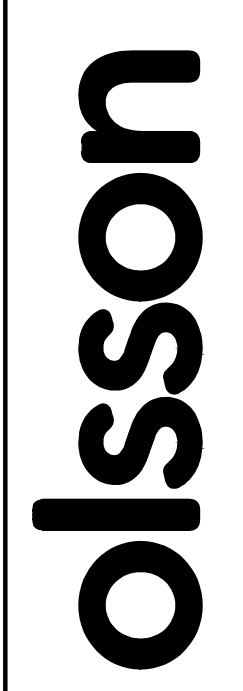
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North Kansas City, MO 64116  
TEL 816.361.1177  
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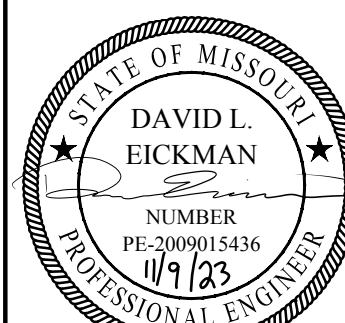


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DAVID L. EICKMAN, P.E.  
 Missouri Professional Engineer  
 NUMBER PE-0099015436  
 11/14/23

---

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SOUTH PH WATER PLAN & PROFILE (LINE B CONT'D)  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBURN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

2023

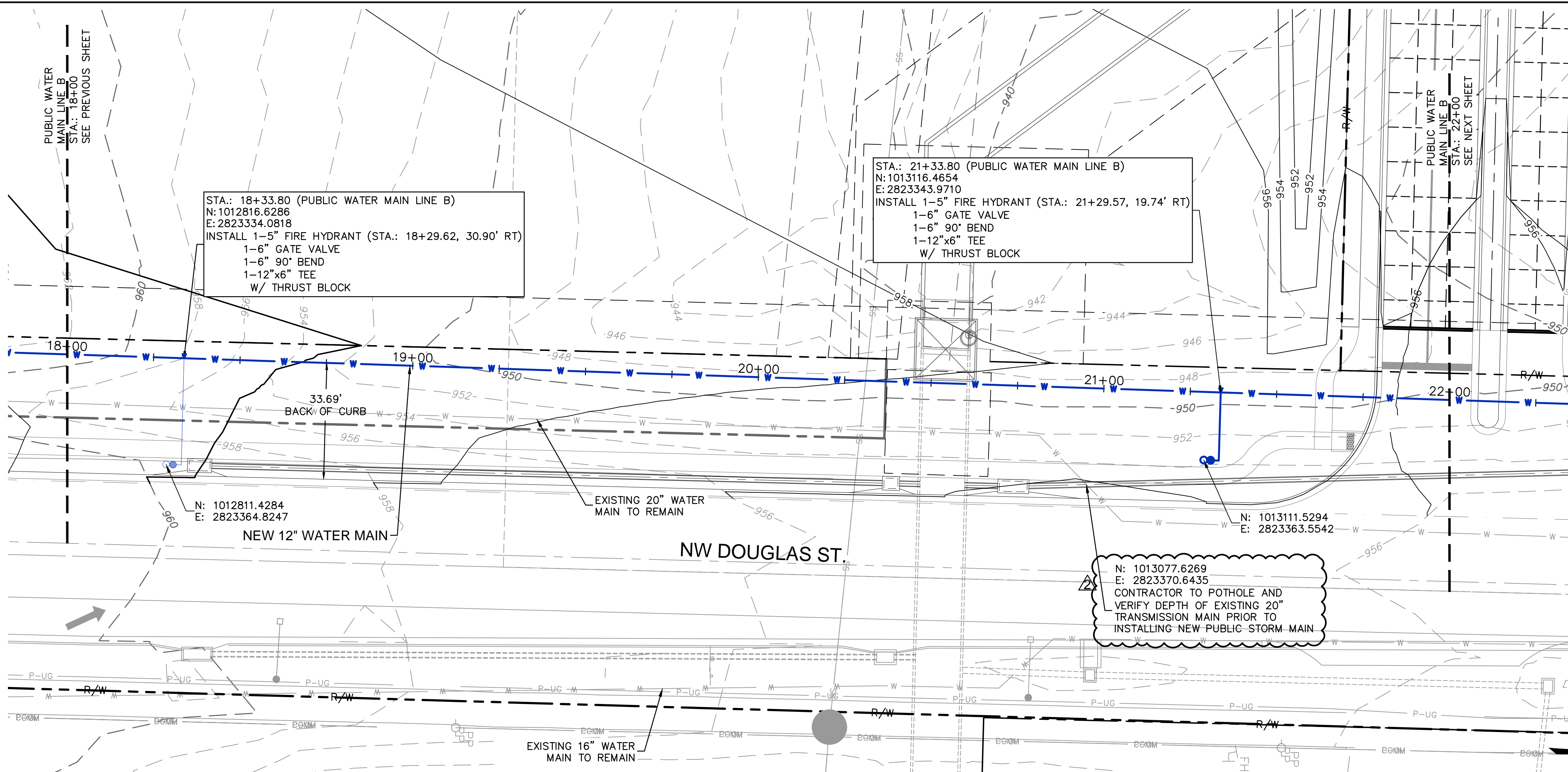
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drawn by: GSOSUN  
 checked by: ARJIN  
 approved by: DE  
 QA/QC by: JSNH  
 project no.: D21-04643  
 drawing no.: C\_WATR\_D2104643  
 date: 11.09.2023

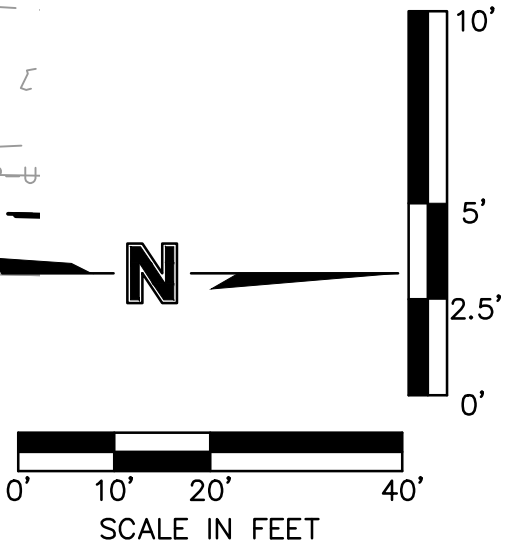
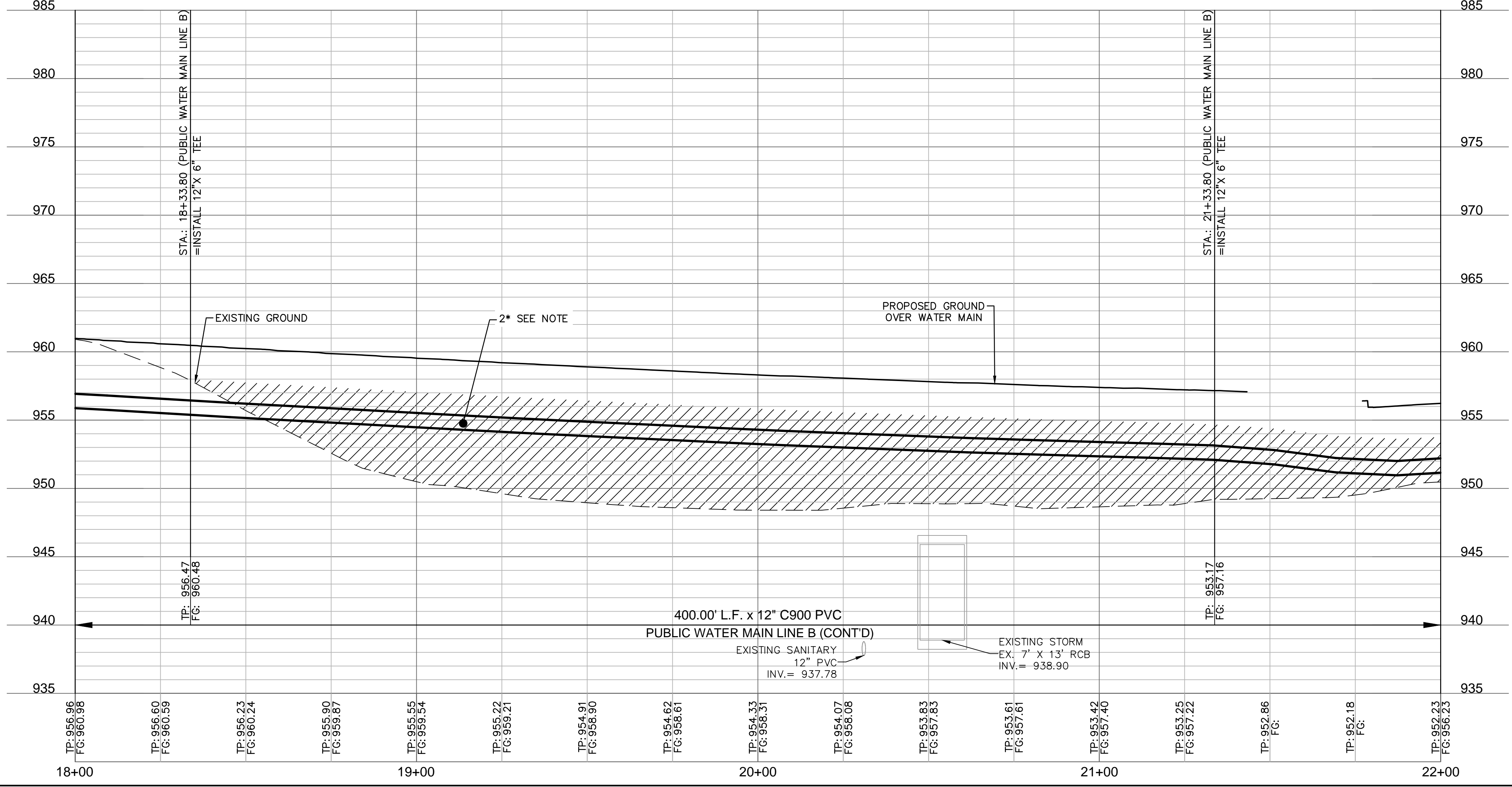
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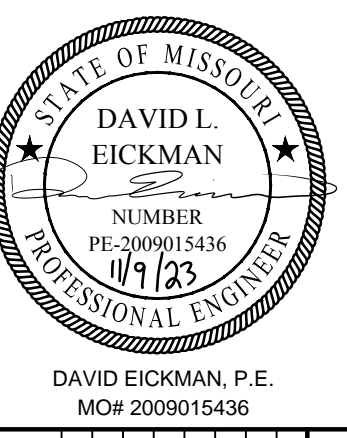
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2	10/31/2023	REVISED PER CITY COMMENTS	

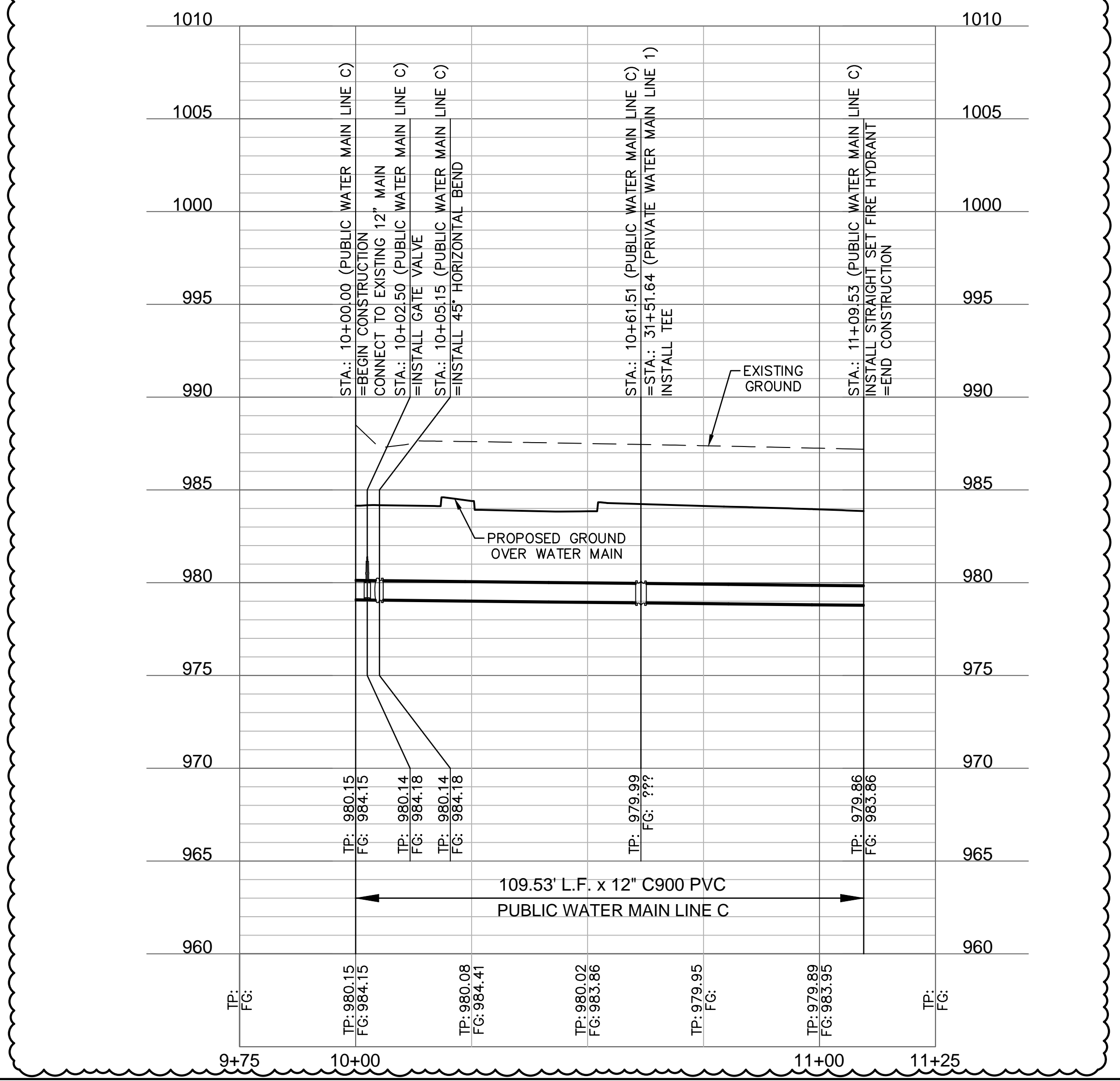
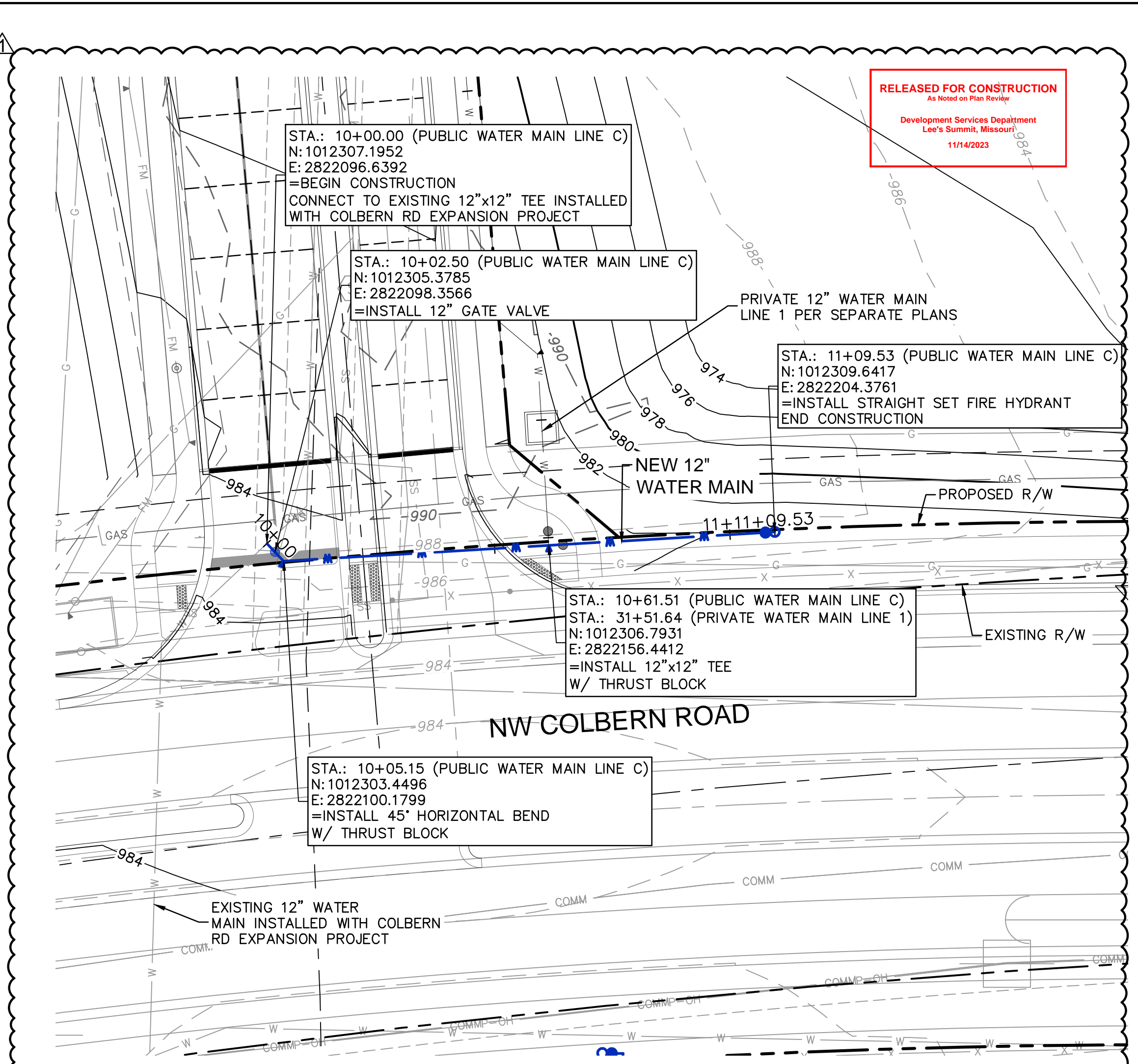
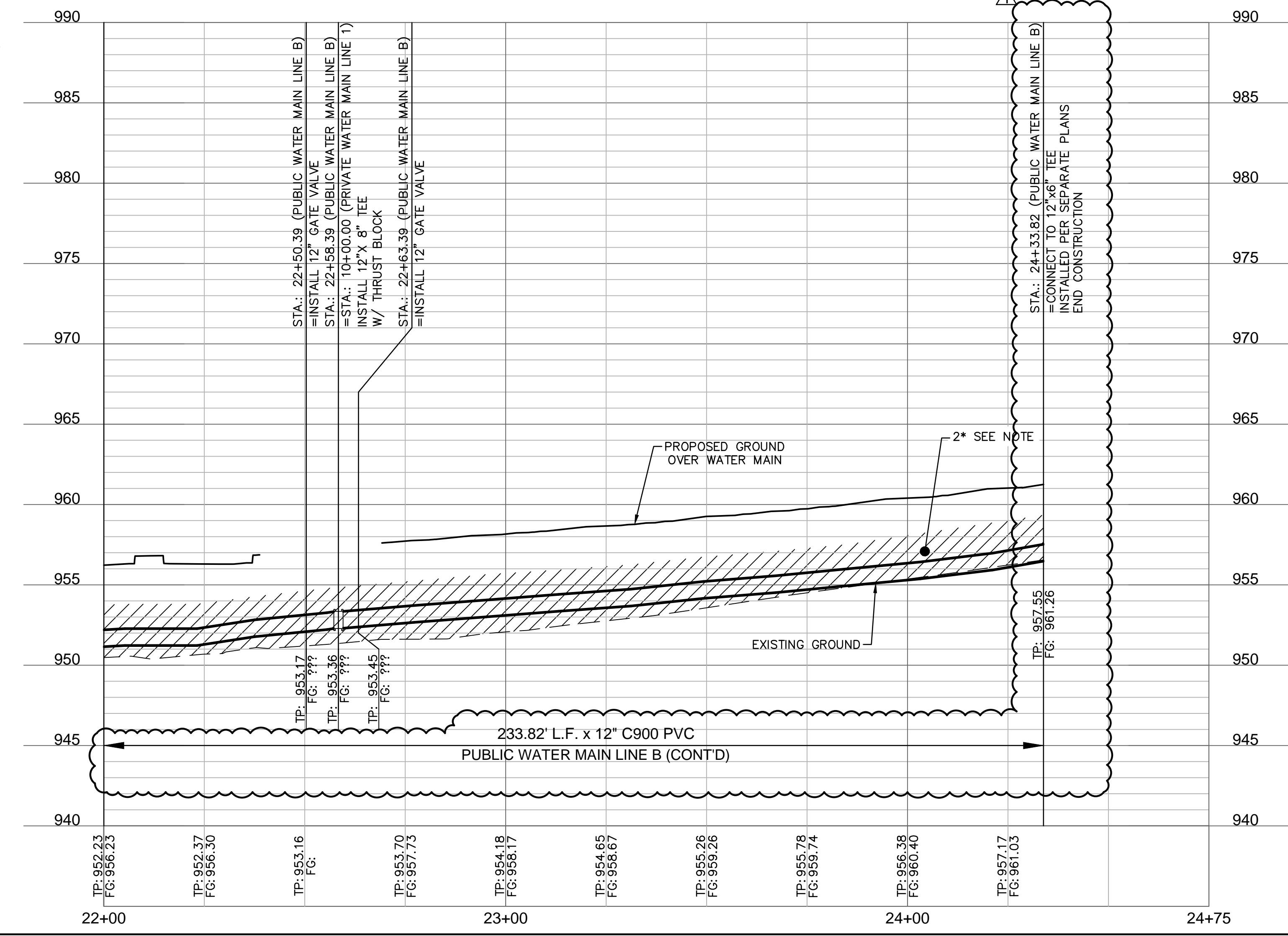
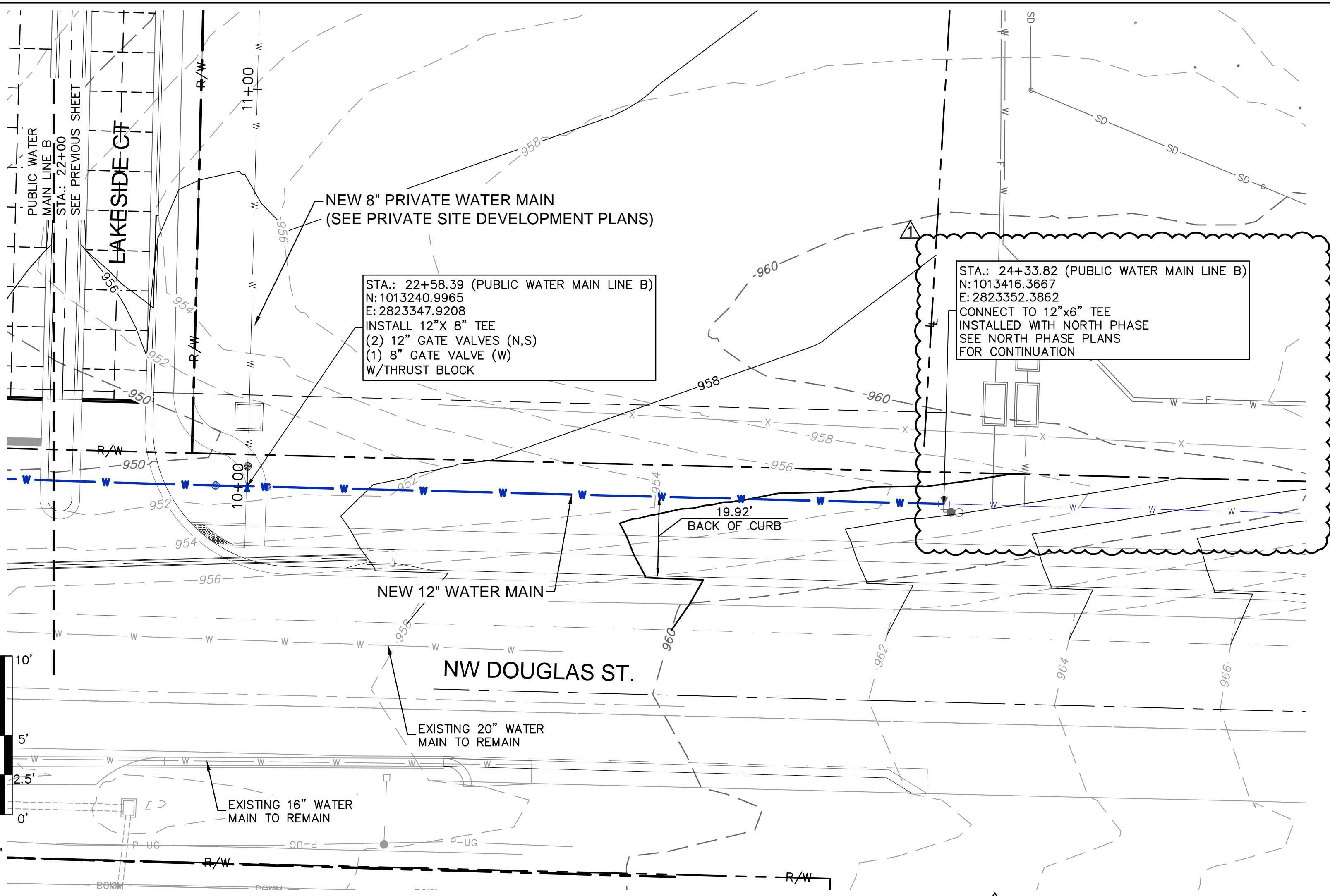
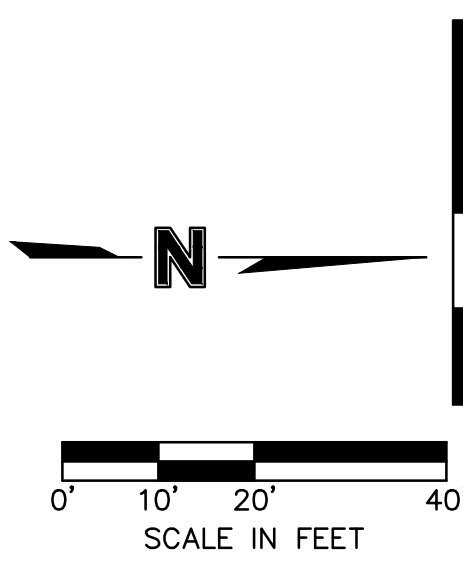
SOUTH PH WATER PLAN & PROFILE (LINE B CONT'D)  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBURN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI  
 2023

drawn by: GS/SJUN  
 checked by: AR/JN  
 approved by: DE  
 QA/QC by: JS/NH  
 project no.: D21-04643  
 drawing no.: C\_WAT02\_D2104643  
 date: 11.09.2023

SHEET  
 C559

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 DATE: Nov 09, 2023 10:08am XREFS: C\_PTBK\_D2104643 C\_PUTIL\_D2104643

NOTES:  
 1. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND COMMUNICATE WITH ENGINEER IF DIFFERENT THAN PLANS.  
 2\*. 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.



RELEASED FOR CONSTRUCTION  
 As Noted on Plan Review  
 Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023

**olsson**

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 Missouri Certification of Authority #001692  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
 www.olsosn.com

STATE OF MISSOURI  
**DAVID L. EICKMAN**  
 PROFESSIONAL ENGINEER  
 NUMBER: PE-0099015436  
 EXPIRES: 11/1/23

DAVID EICKMAN, P.E.  
 M0R 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION
1	10/07/2023	REVISED PER CITY COMMENTS

**SOUTH PH WATER PLAN & PROFILE (LINE B CONT'D & LINE C)**  
**PUBLIC WATER MAIN EXTENSION PLANS**  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST

BY: \_\_\_\_\_

REVISIONS PER CITY COMMENTS

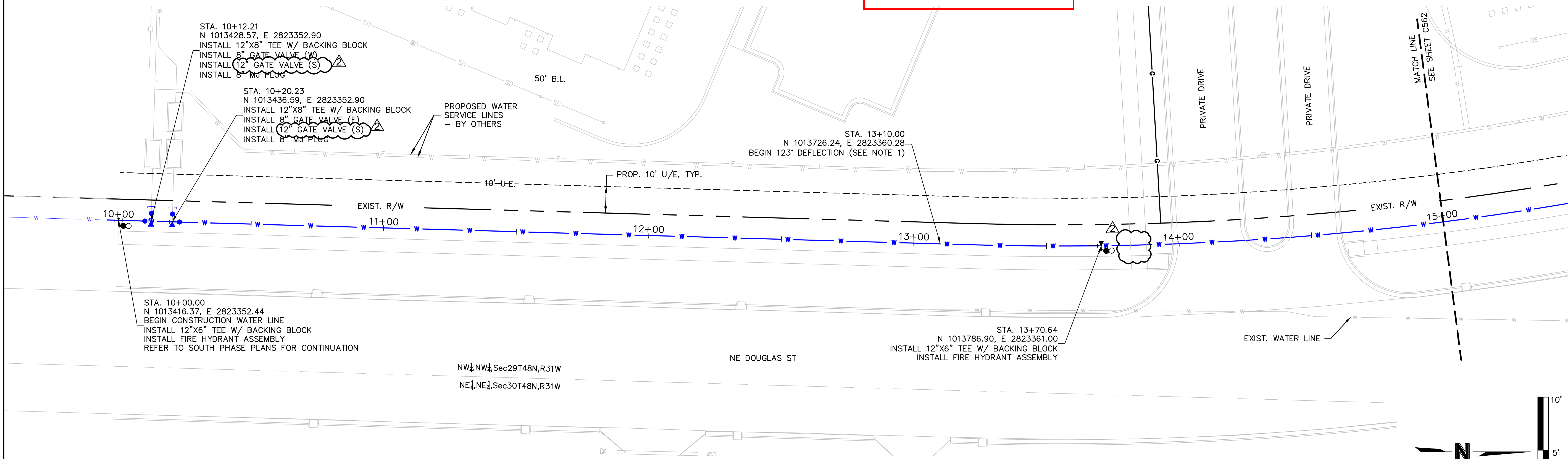
2023

drawn by: GSOSUN  
 checked by: ARJN  
 approved by: DE  
 QA/QC by: JSNH  
 project no.: D21-04643  
 drawing no.: C\_WAT02\_D2104643  
 date: 11.09.2023

SHEET  
C560

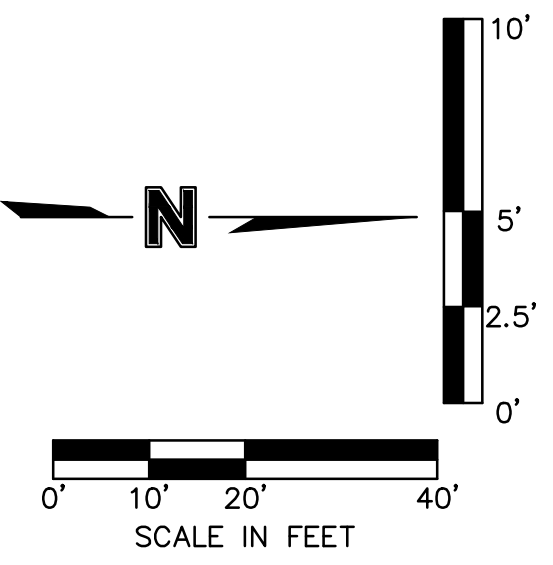
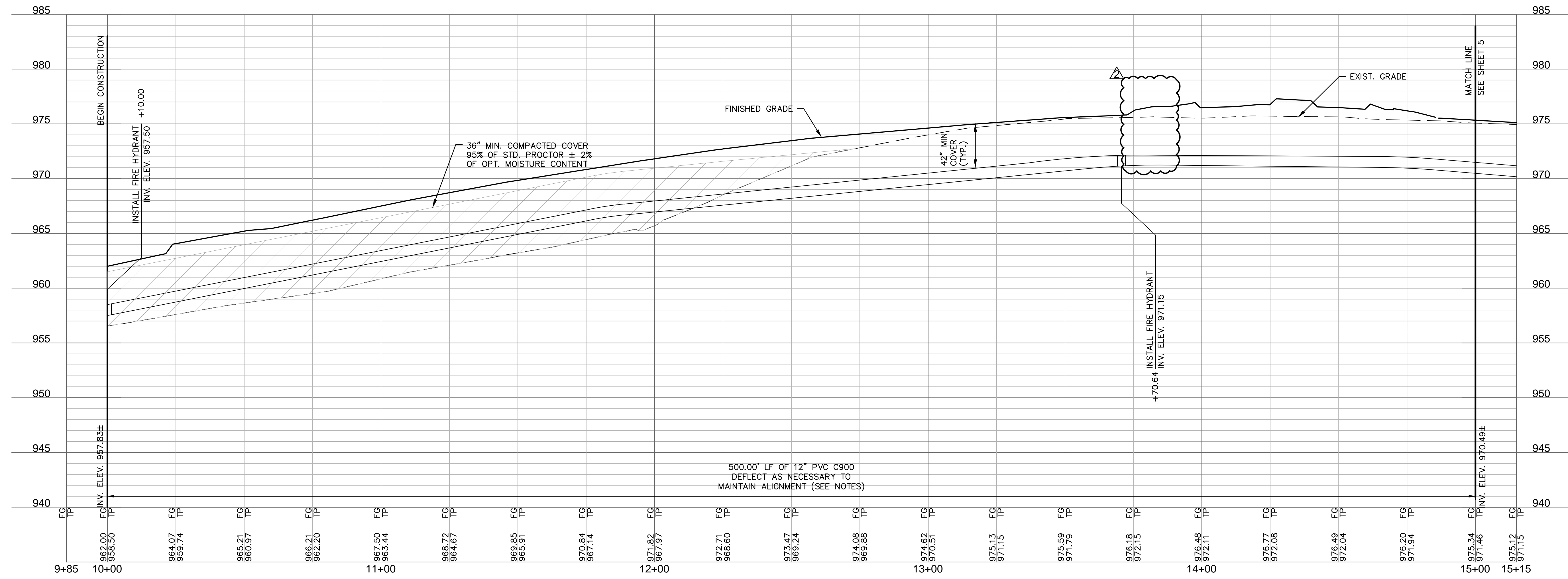
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 C\_PUTIL\_B190012  
 C\_PUTIL\_D2104643

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 Lee's Summit, Missouri  
 11/14/2023



**NOTES**

1. PIPE DEFLECTION AT EACH JOINT SHALL NOT EXCEED 1".
2. ALL PIPE DEFLECTIONS ARE AT PIPE JOINTS ONLY.
3. POLYWRAP SHALL BE PROVIDED & INSTALLED AT ALL MECHANICAL CONNECTIONS, MECHANICAL JOINTS, VALVES, BENDS, TEES & FIRE HYDRANT ASSEMBLIES.



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STATE OF MISSOURI  
 DAVID L. EICKMAN  
 NUMBER PE-2009015436  
 10/19/23  
 PROFESSIONAL ENGINEER

DAVID EICKMAN, P.E.  
 MOr 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/07/2023	REVISED PER CITY COMMENTS	
2	10/31/2023	REVISED PER CITY COMMENTS	

REVISIONS

2023

**NORTH PH WATER PLAN & PROFILE**  
**PUBLIC WATER MAIN EXTENSION PLANS**  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBORN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

drawn by: GS/SOSJN  
 checked by: AR/JN  
 approved by: DE  
 QA/QC by: JS/NH  
 project no.: D21-04643  
 drawing no.: B190012 - D214643  
 date: 11.09.2023

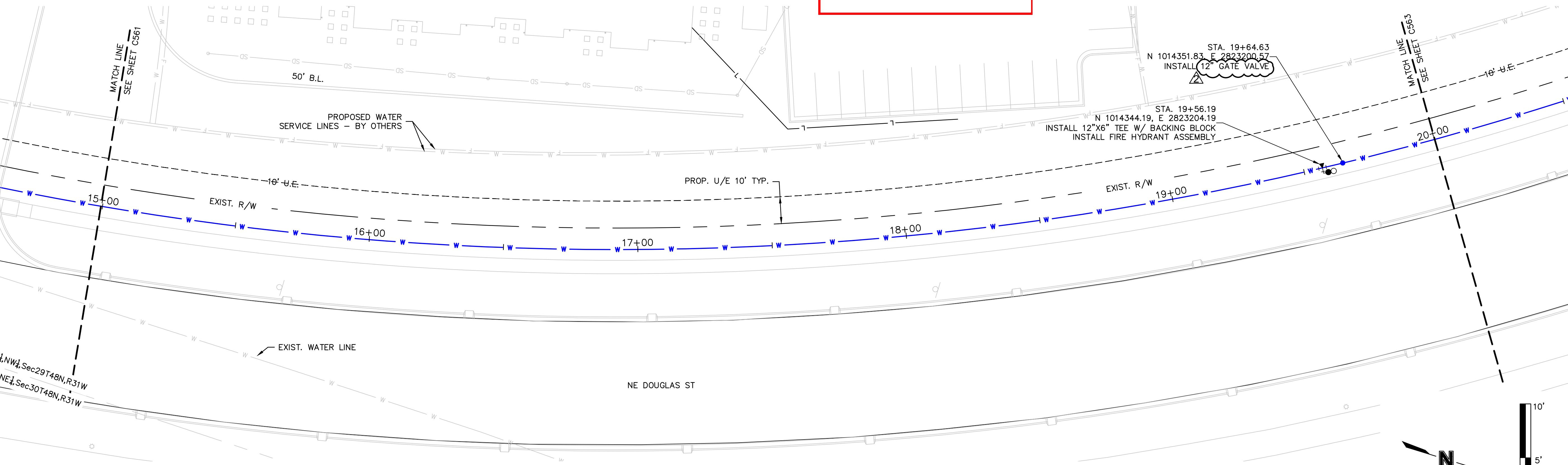
**SHEET**  
**C561**

**RELEASED FOR CONSTRUCTION**  
As Noted on Plan Review

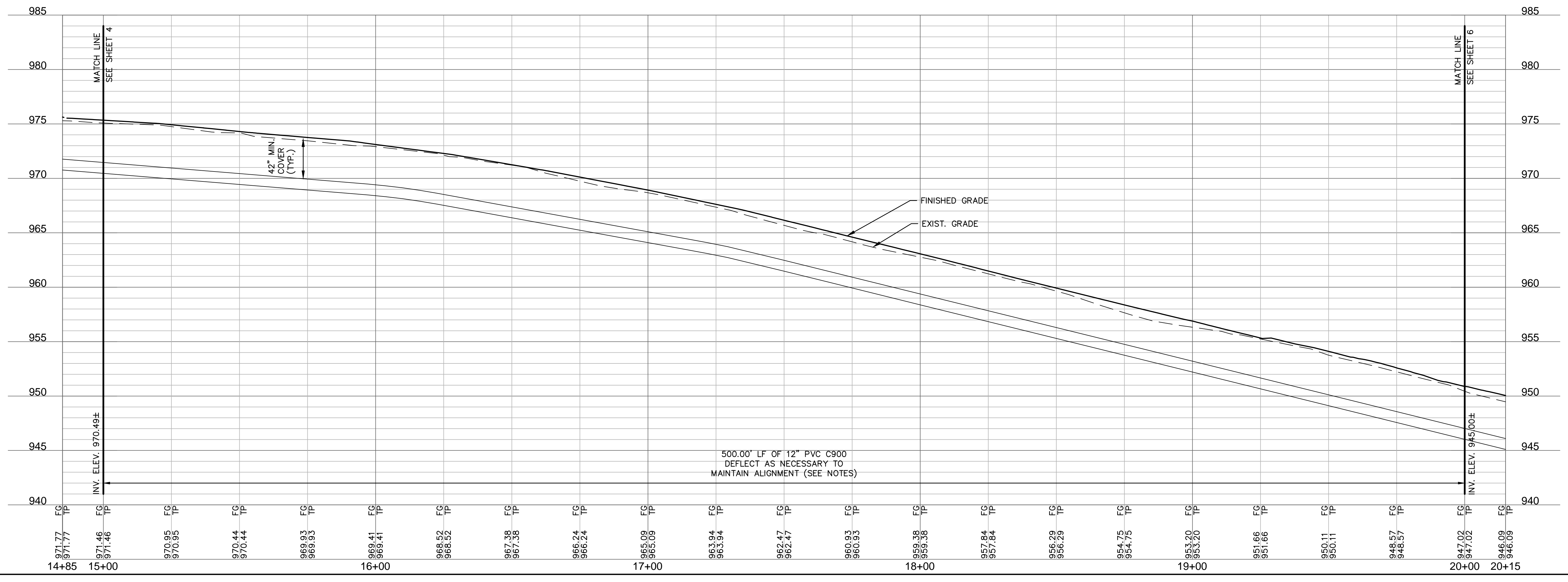
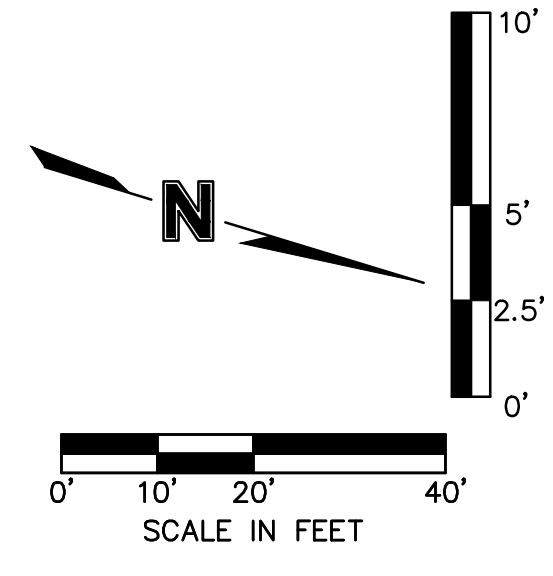
Development Services Department  
Lee's Summit, Missouri

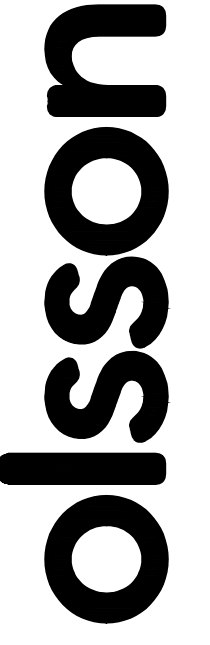
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- NOTES**
- PIPE DEFLECTION AT EACH JOINT SHALL NOT EXCEED 1".
  - ALL PIPE DEFLECTIONS ARE AT PIPE JOINTS ONLY.
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North Kansas City, MO 64116  
TEL 816.361.1177  
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DAVID L. EICKMAN, P.E.  
MOR 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/07/2023	REVISED PER CITY COMMENTS	
2	10/31/2023	REVISED PER CITY COMMENTS	

**REVISIONS**

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**PROJECT INFORMATION**

NORTH PH WATER PLAN & PROFILE  
PUBLIC WATER MAIN EXTENSION PLANS  
THE VILLAGE AT DISCOVERY PARK ZONE 1  
NW COLBERN RD & NE DOUGLAS ST  
LEE'S SUMMIT, MISSOURI

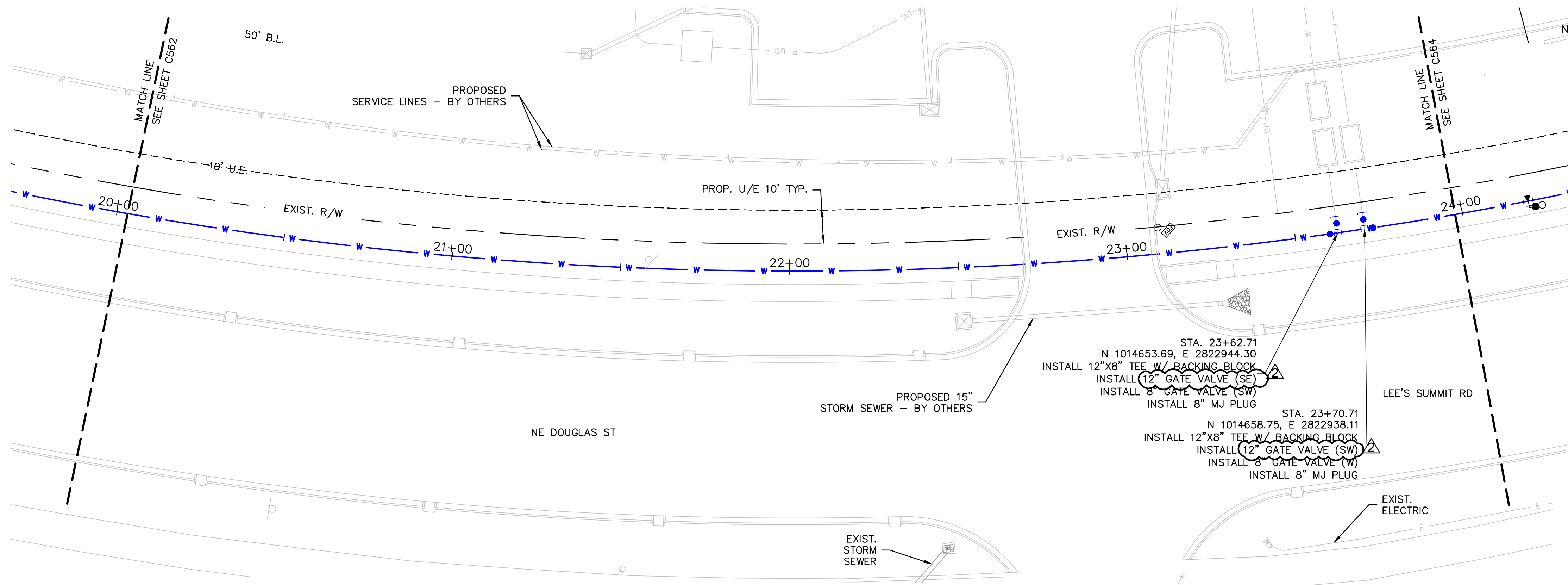
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checked by: ARJUN  
approved by: DE  
QA/QC by: JSNH  
project no.: D21-04643  
drawing no.: B190012 - D214643  
date: 11.09.2023

**SHEET C562**

2023

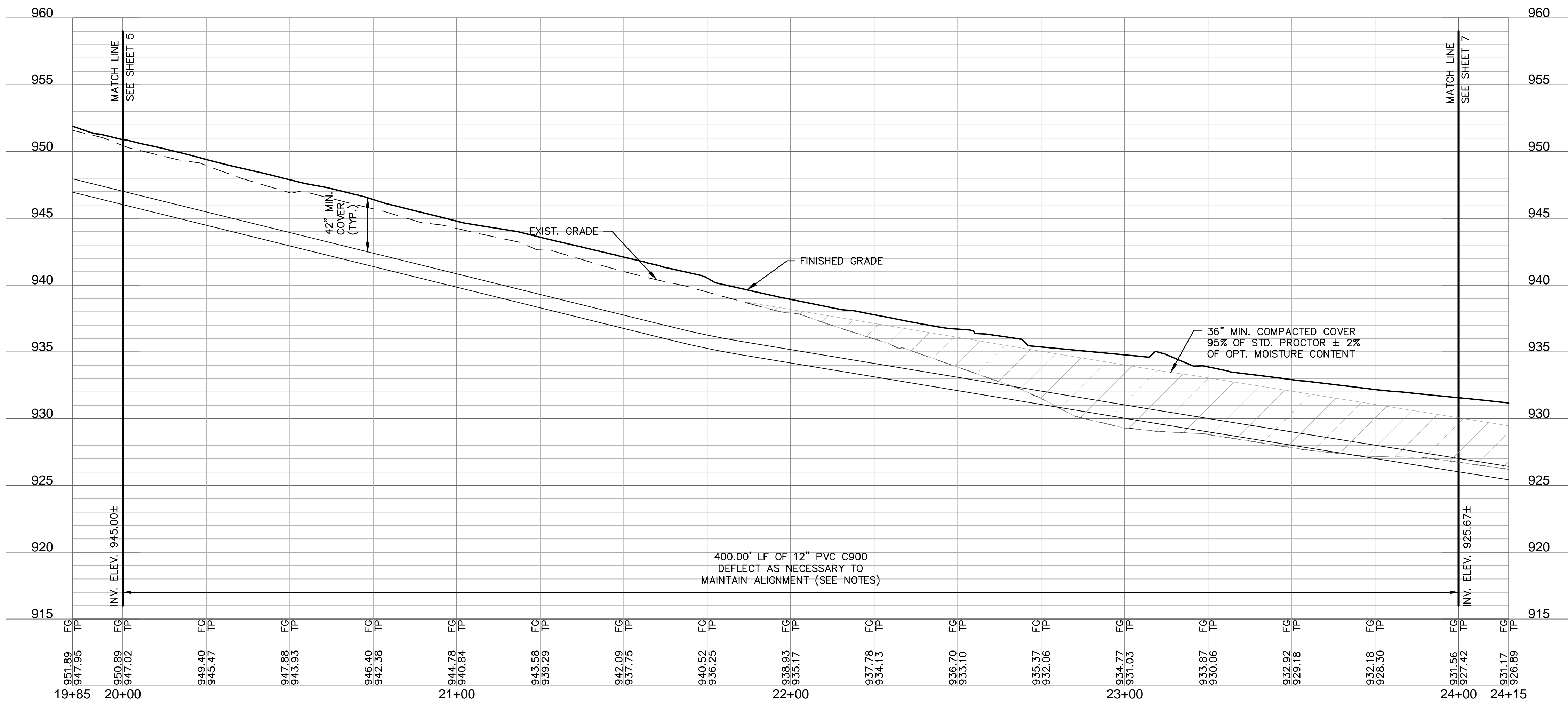
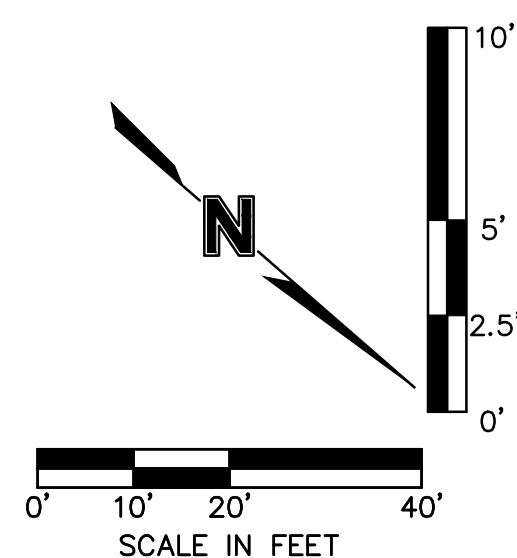
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 Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023



**NOTES**

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DAVID L. EICKMAN, P.E.  
MOR 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	10/07/2023	REVISED PER CITY COMMENTS	
2	10/31/2023	REVISED PER CITY COMMENTS	

**REVISIONS**

**2023**

NORTH PH WATER PLAN & PROFILE  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

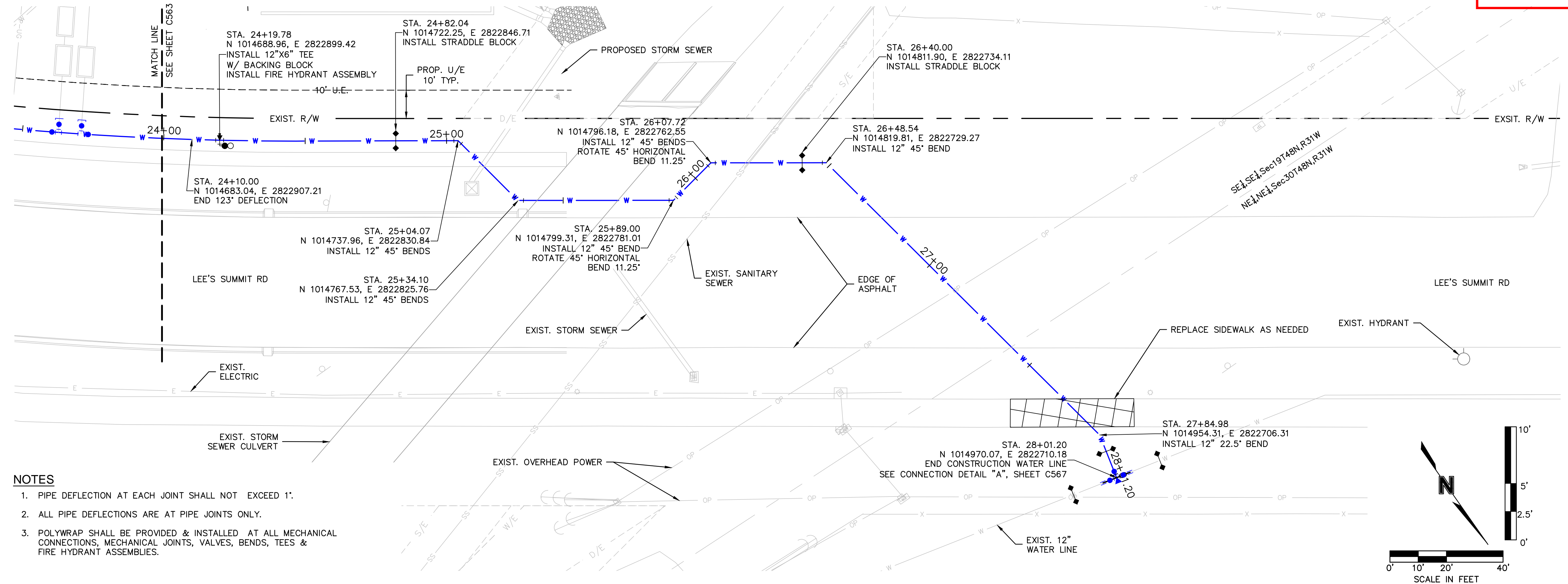
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 checked by: ARJN  
 approved by: DE  
 QA/QC by: JSNH  
 project no.: D21-04643  
 drawing no.: B190012 - D214643  
 date: 11.09.2023

**SHEET**  
C563

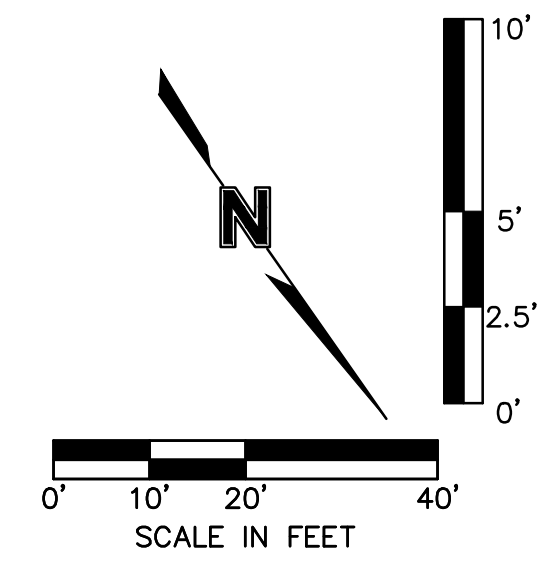


**RELEASED FOR CONSTRUCTION**  
 As Noted on Plan Review

Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023

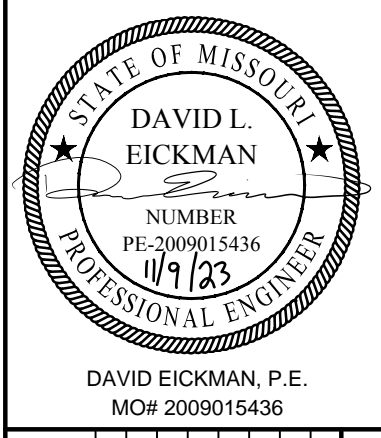


- NOTES**
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  - POLYWRAP SHALL BE PROVIDED & INSTALLED AT ALL MECHANICAL CONNECTIONS, MECHANICAL JOINTS, VALVES, BENDS, TEES & FIRE HYDRANT ASSEMBLIES.



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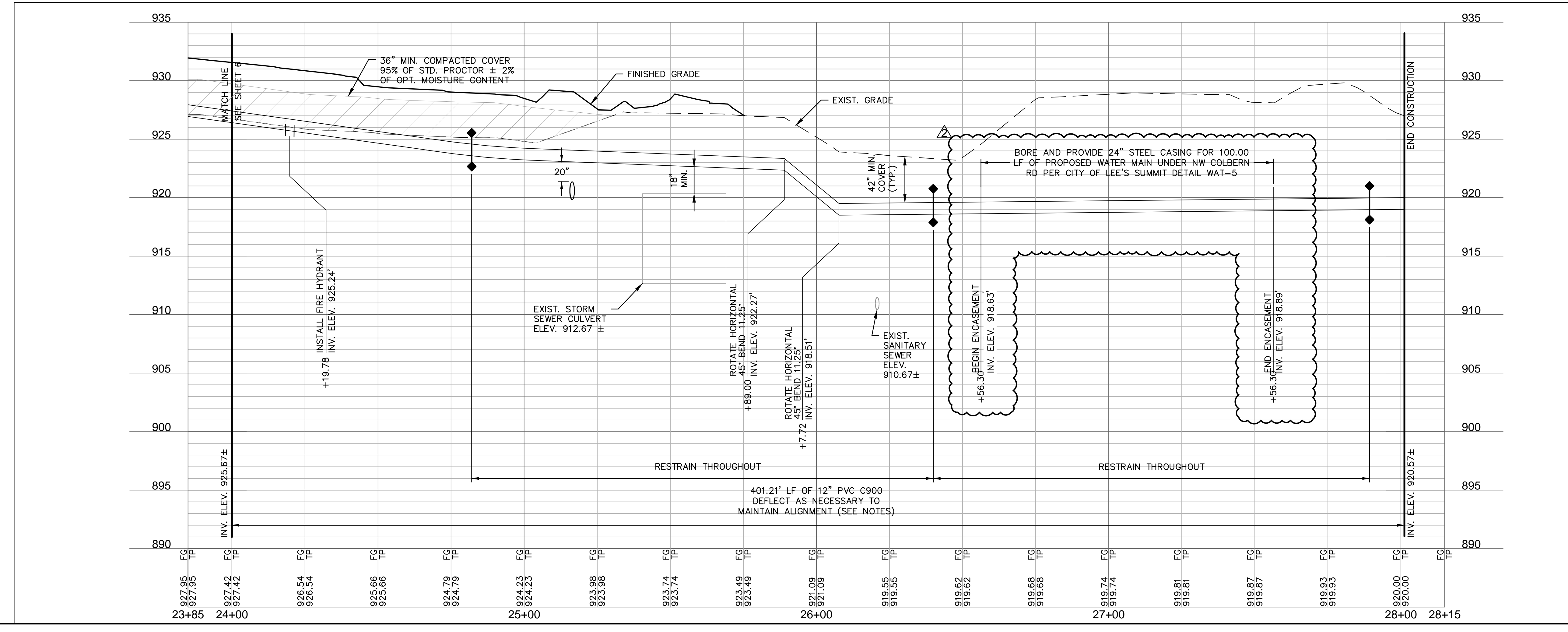


BY

REV. NO.	DATE	REVISIONS DESCRIPTION
1	10/07/2023	REVISED PER CITY COMMENTS
2	11/08/2023	REVISED PER CITY COMMENTS

NORTH PH WATER PLAN & PROFILE  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

drawn by: GS/SJS/IN  
 checked by: AR/JN  
 approved by: DE  
 QA/QC by: JSN/H  
 project no.: D21-04643  
 drawing no.: B1900012 - D214643  
 date: 11.09.2023



**REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)**

NOM. DIA. (INCHES)	TEE, PLUG	BEND	BEND	BEND	11.25
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.9	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.6	26.2	14.4	7.4	4.0
14	25.7	36.5	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	58.2	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

**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

**REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)**

NOM. DIA. (INCHES)	TEE, PLUG	BEND	BEND	BEND	11.25
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.	215.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	172.3	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

**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

**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

**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

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 Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023

DAVID L. EICKMAN, P.E.  
 Missouri Professional Engineer  
 No. 009015436  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
 www.olsson.com

---

STATE OF MISSOURI  
 DAVID L. EICKMAN  
 NUMBER  
 PE-009015436  
 11/13  
 PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION

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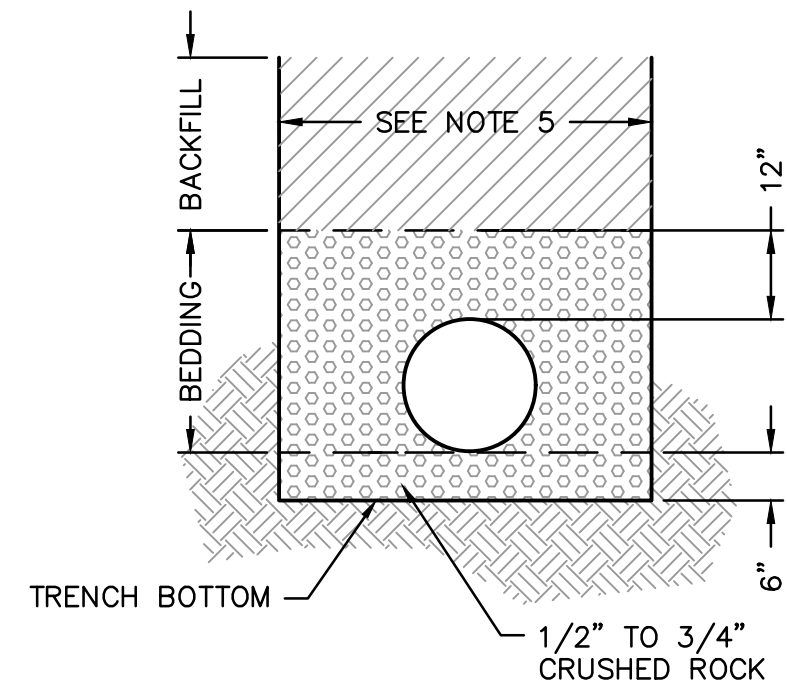
SOUTH PH DETAIL SHEET  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBERN RD & NE DOUGLAS ST

LEE'S SUMMIT, MISSOURI

---

drawn by: BM/GS/SJ/TW  
 checked by: JN/AR  
 approved by: DE  
 QA/QC by: DE  
 project no.: D21-04643  
 drawing no.: 01\_D2104643.DWG  
 date: 11.09.2023

SHEET  
 C565

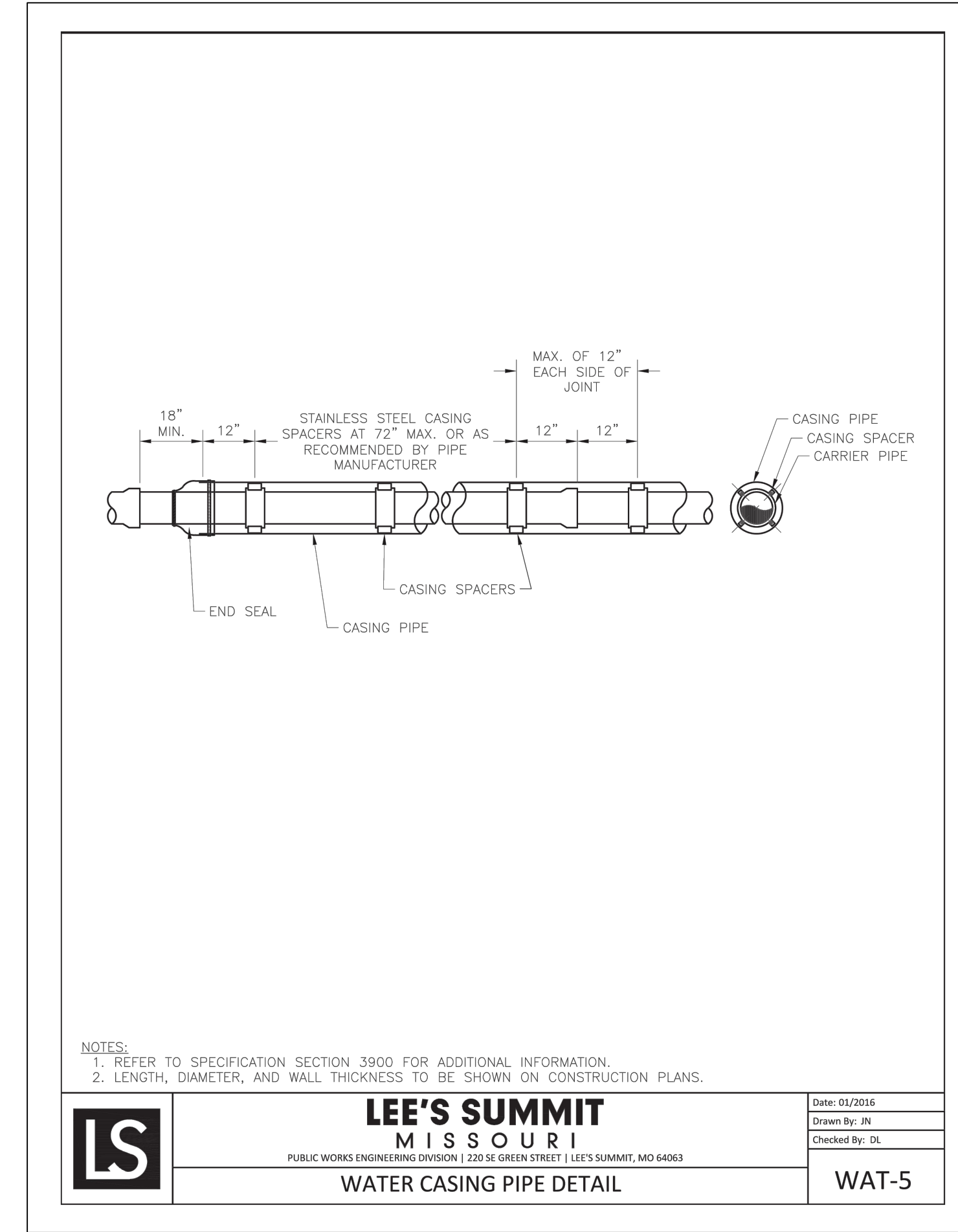
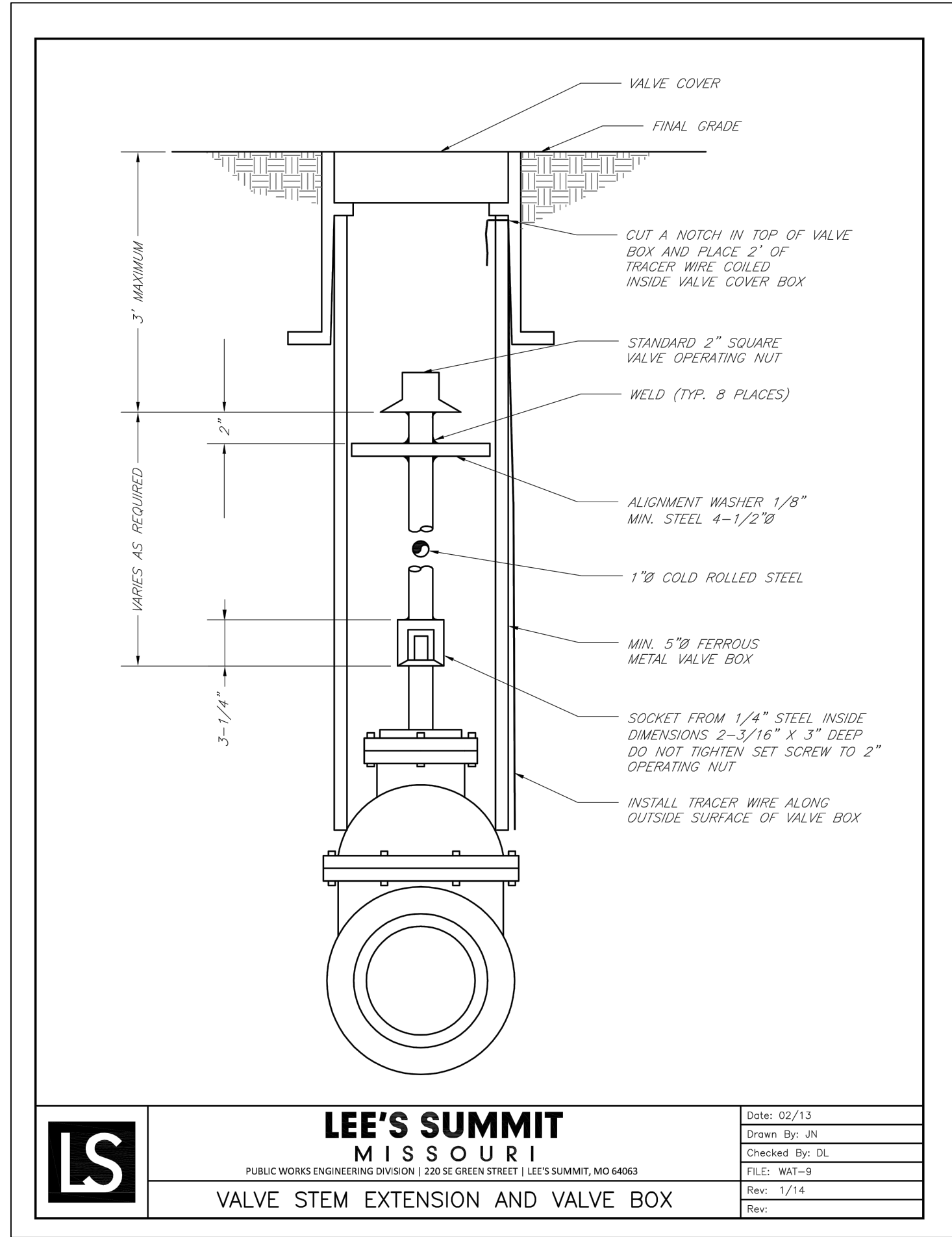


**TYPICAL TRENCH SECTION**

**NOTES:**

- BELL HOLES SHALL BE DUG SO THAT NO PART OF THE BELL SHALL BE IN CONTACT WITH THE TRENCH BOTTOM.
- BEDDING AGGREGATE MATERIAL SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL. BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL 12 INCHES ABOVE THE TOP OF THE PIPE AS SHOWN ABOVE.
- BACKFILL MATERIAL AND PLACEMENT SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL.
- TRENCHING SHALL BE IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
- MINIMUM AND MAXIMUM TRENCH WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

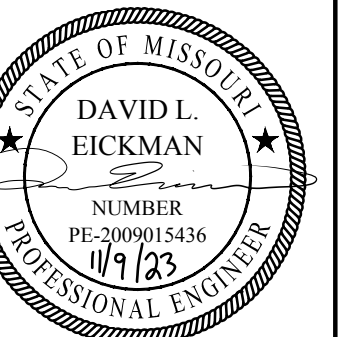
**UNDERGROUND PIPE INSTALLATION FOR WATER PIPING**  
 NOT TO SCALE



**RELEASED FOR CONSTRUCTION**  
 As Noted on Plan Review  
 Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023

**olsson**

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 TEL 816.361.1177  
 www.olsosn.com



DAVID EICKMAN, P.E.  
 MO# 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

**REVISIONS**

SOUTH PH DETAIL SHEET (CONTD)  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBURN RD & NE DOUGLAS ST  
 LEE'S SUMMIT, MISSOURI

drawn by: BM/GS/OS/TW  
 checked by: JN/AR  
 approved by: DE  
 QA/QC by: DE  
 project no.: D21-04643  
 drawing no.: DTL01\_D2104643.DWG  
 date: 11.09.2023

**SHEET**  
 C566

**RELEASED FOR CONSTRUCTION**  
As Noted on Plan Review

Development Services Department  
Lee's Summit, Missouri

11/14/2023

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STATE OF MISSOURI  
**DAVID L. EICKMAN**  
PROFESSIONAL ENGINEER  
NUMBER PE-2009015436  
11/14/23

DAVID EICKMAN, P.E.  
MOR 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION
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BY

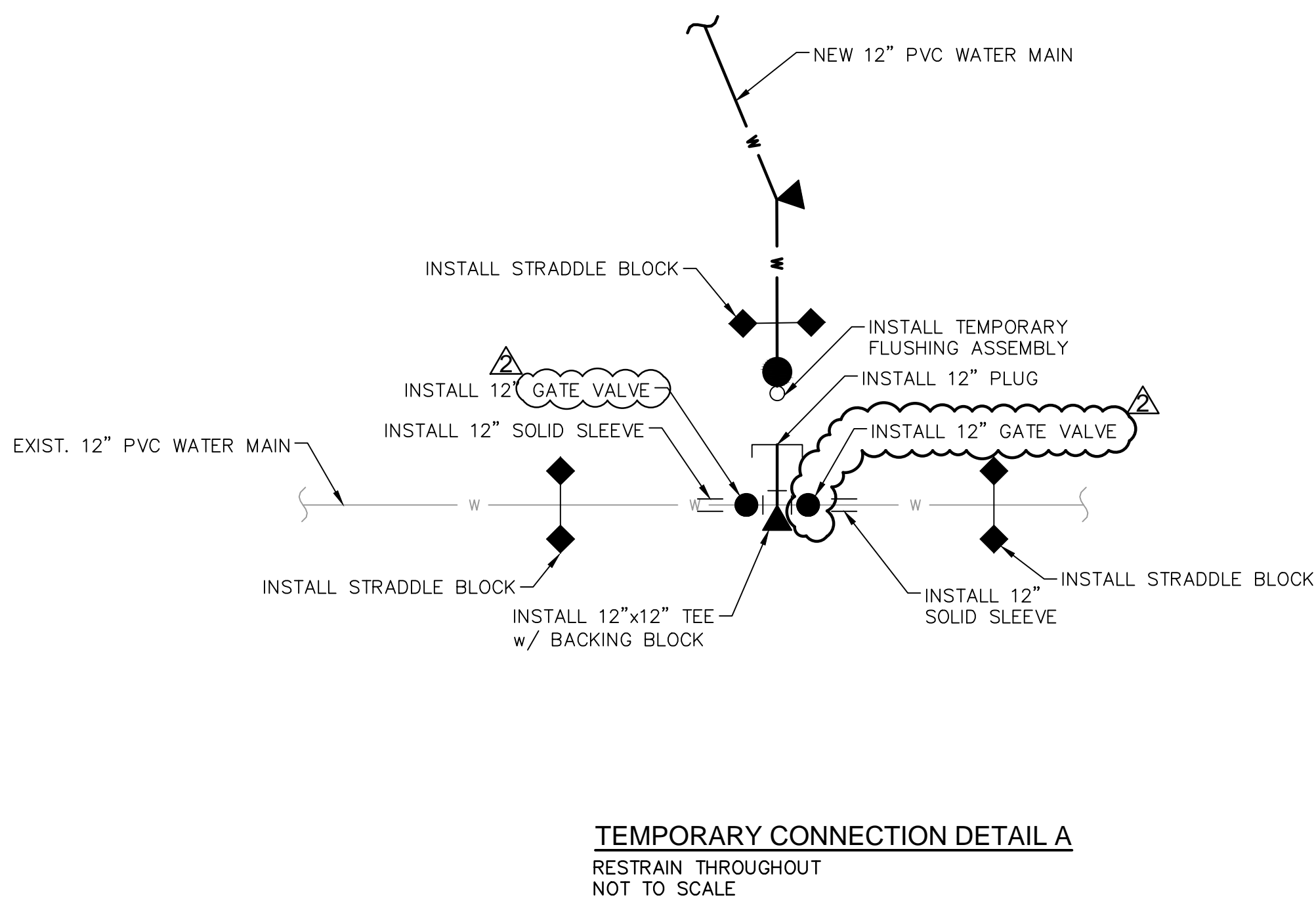
REVISIONS

2023

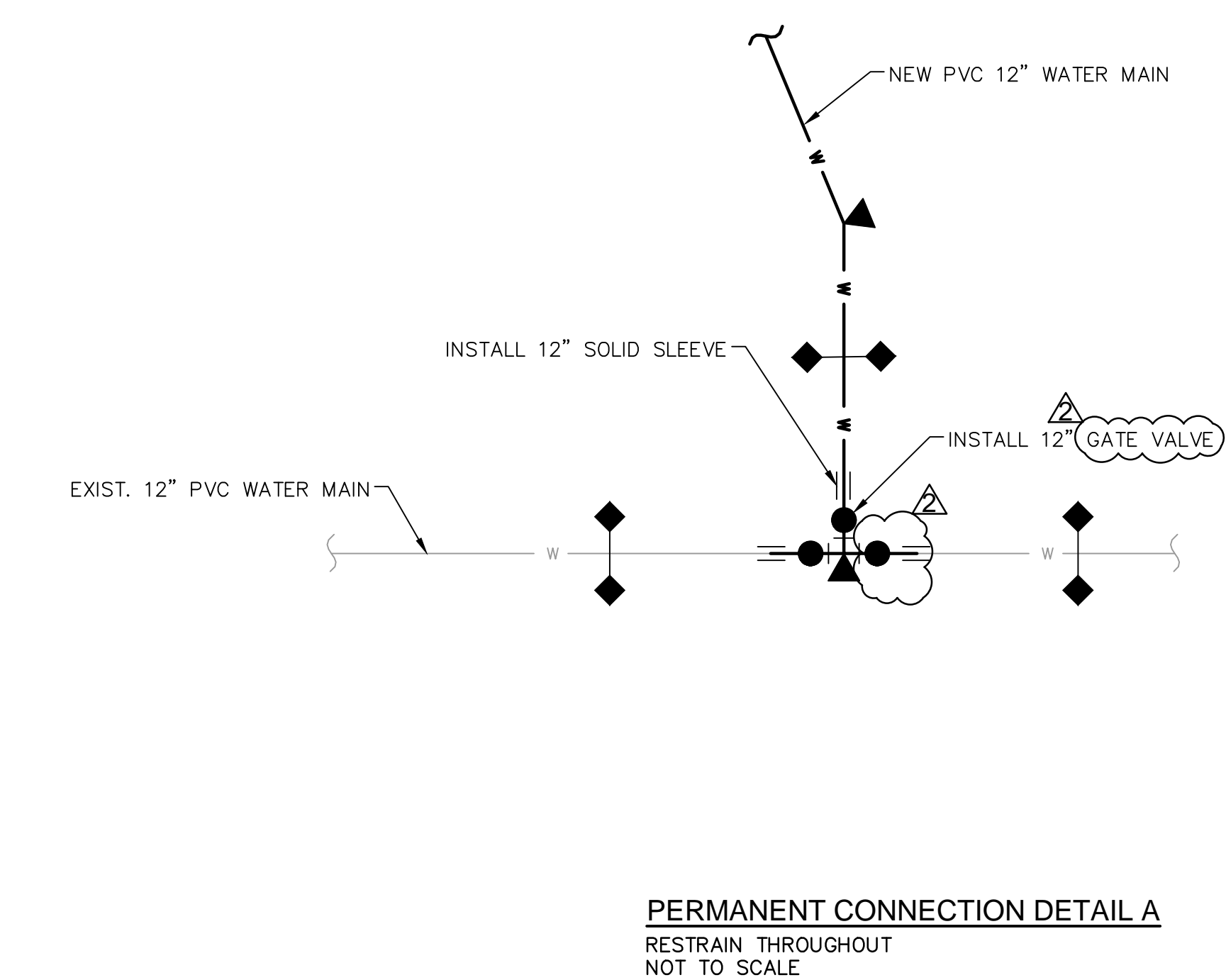
NORTH PH DETAIL SHEET  
PUBLIC WATER MAIN EXTENSION PLANS  
THE VILLAGE AT DISCOVERY PARK ZONE 1  
NW COLBERN RD & NE DOUGLAS ST  
LEE'S SUMMIT, MISSOURI

SHEET  
C567

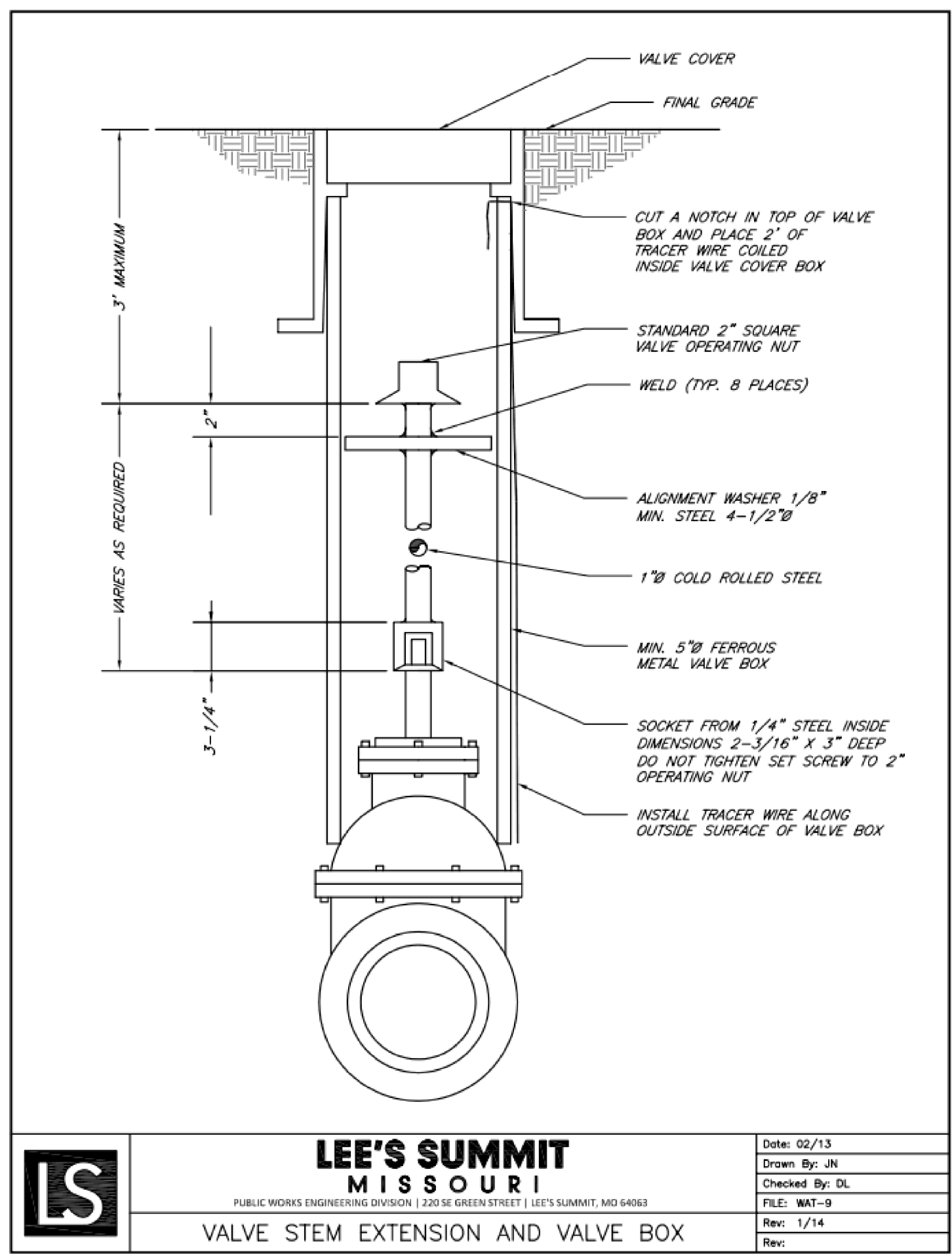
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DATE: Nov 09, 2023 10:12am  
USER: aramanov  
XREFS: C:\TBLK-D214643



**TEMPORARY CONNECTION DETAIL A**  
RESTRAIN THROUGHOUT  
NOT TO SCALE



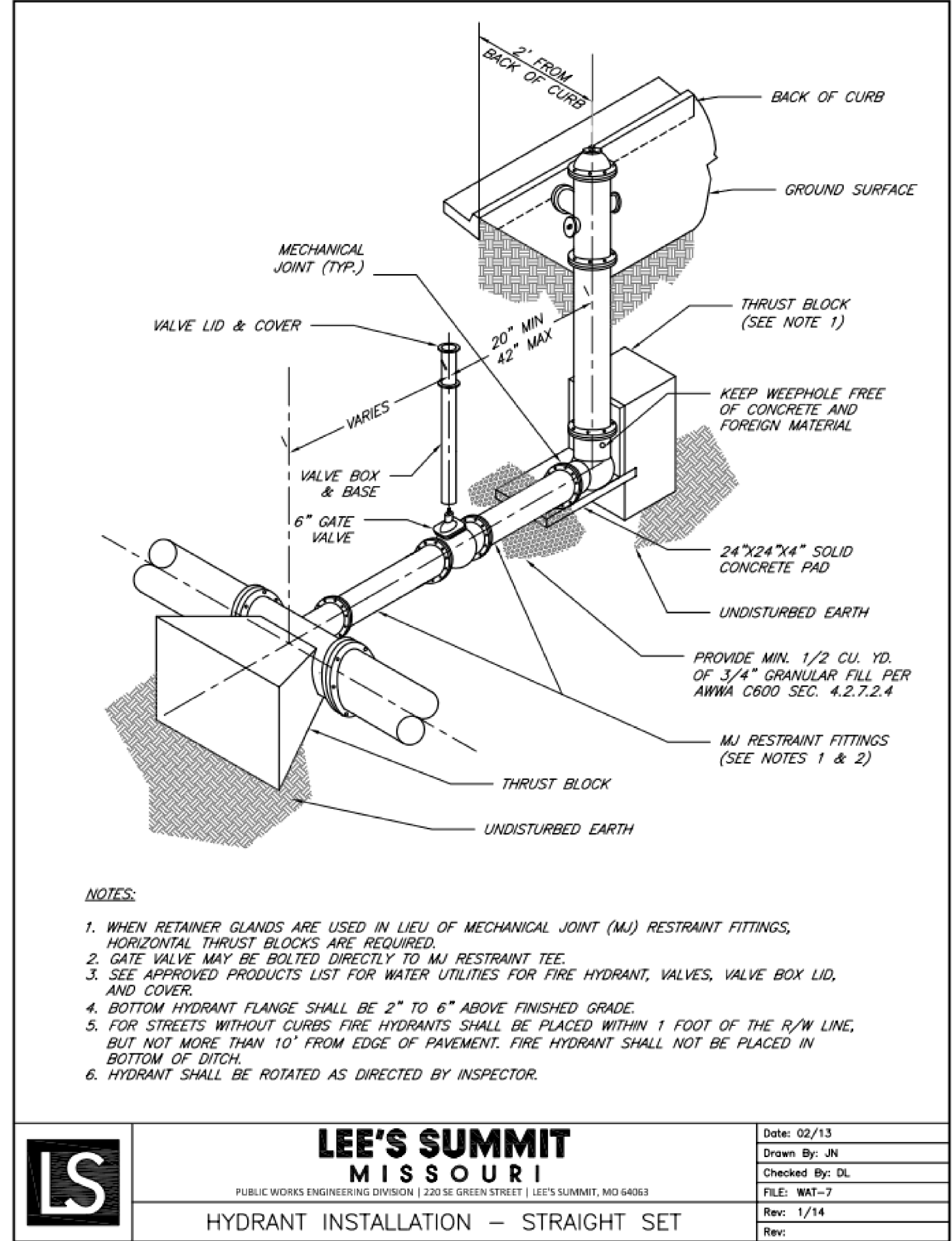
**PERMANENT CONNECTION DETAIL A**  
RESTRAIN THROUGHOUT  
NOT TO SCALE



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

**VALVE STEM EXTENSION AND VALVE BOX**

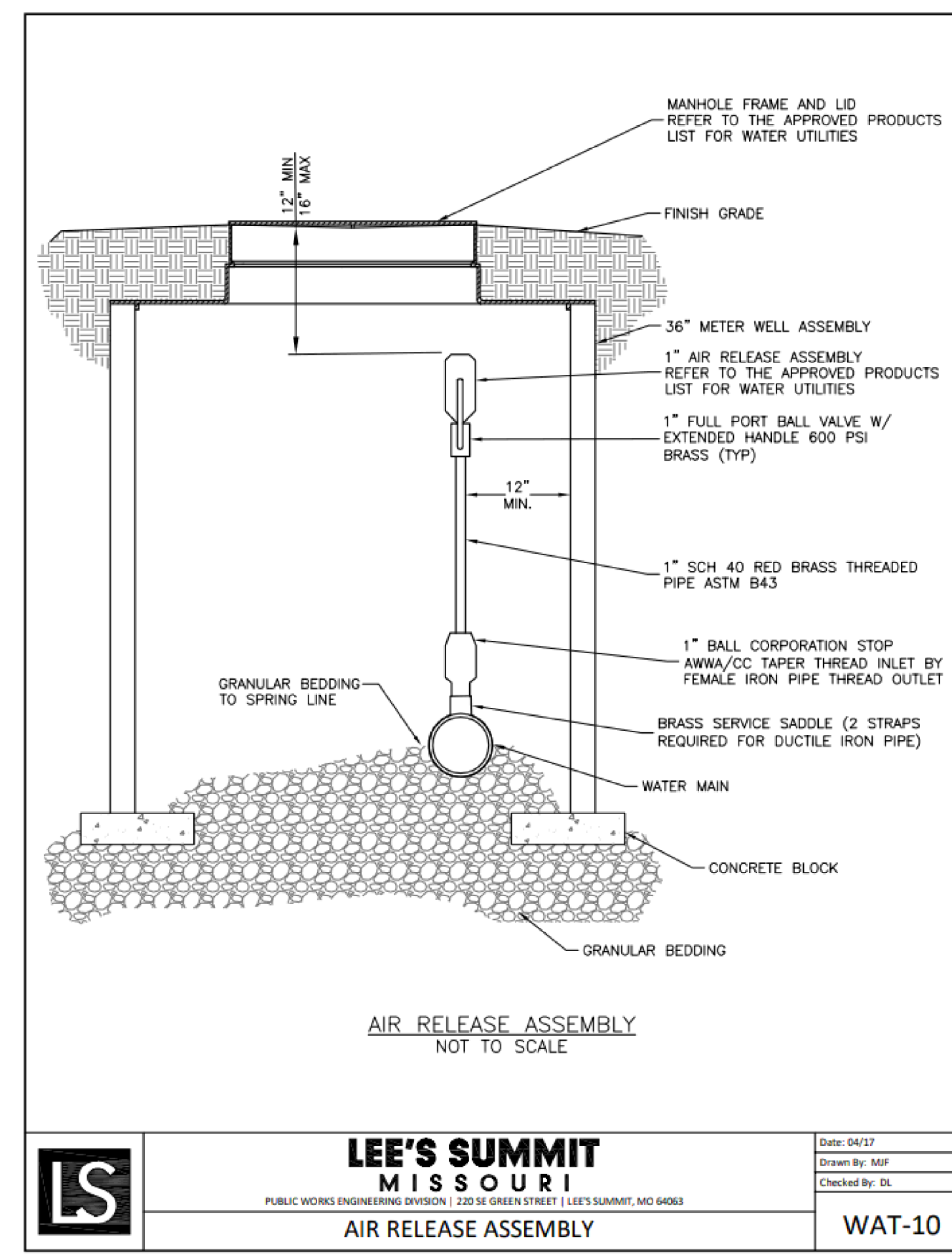
Date: 02/13  
Drawn By: JN  
Checked By: DL  
FILE: WAT-9  
Rev: 1/14



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**HYDRANT INSTALLATION - STRAIGHT SET**

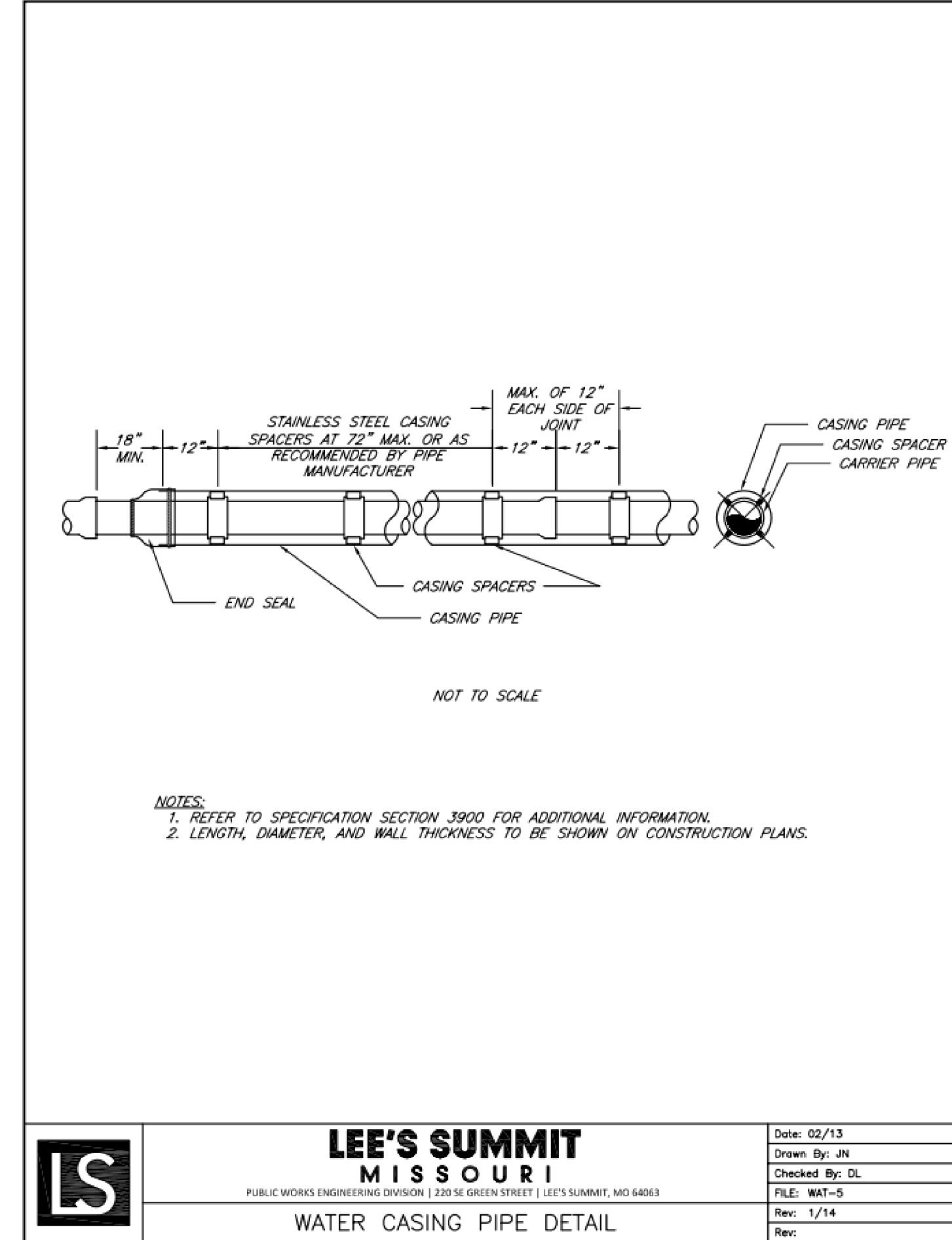
Date: 02/13  
Drawn By: JN  
Checked By: DL  
FILE: WAT-7  
Rev: 1/14



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**AIR RELEASE ASSEMBLY**

Date: 04/27  
Drawn By: MP  
Checked By: DL  
Rev: 1/14



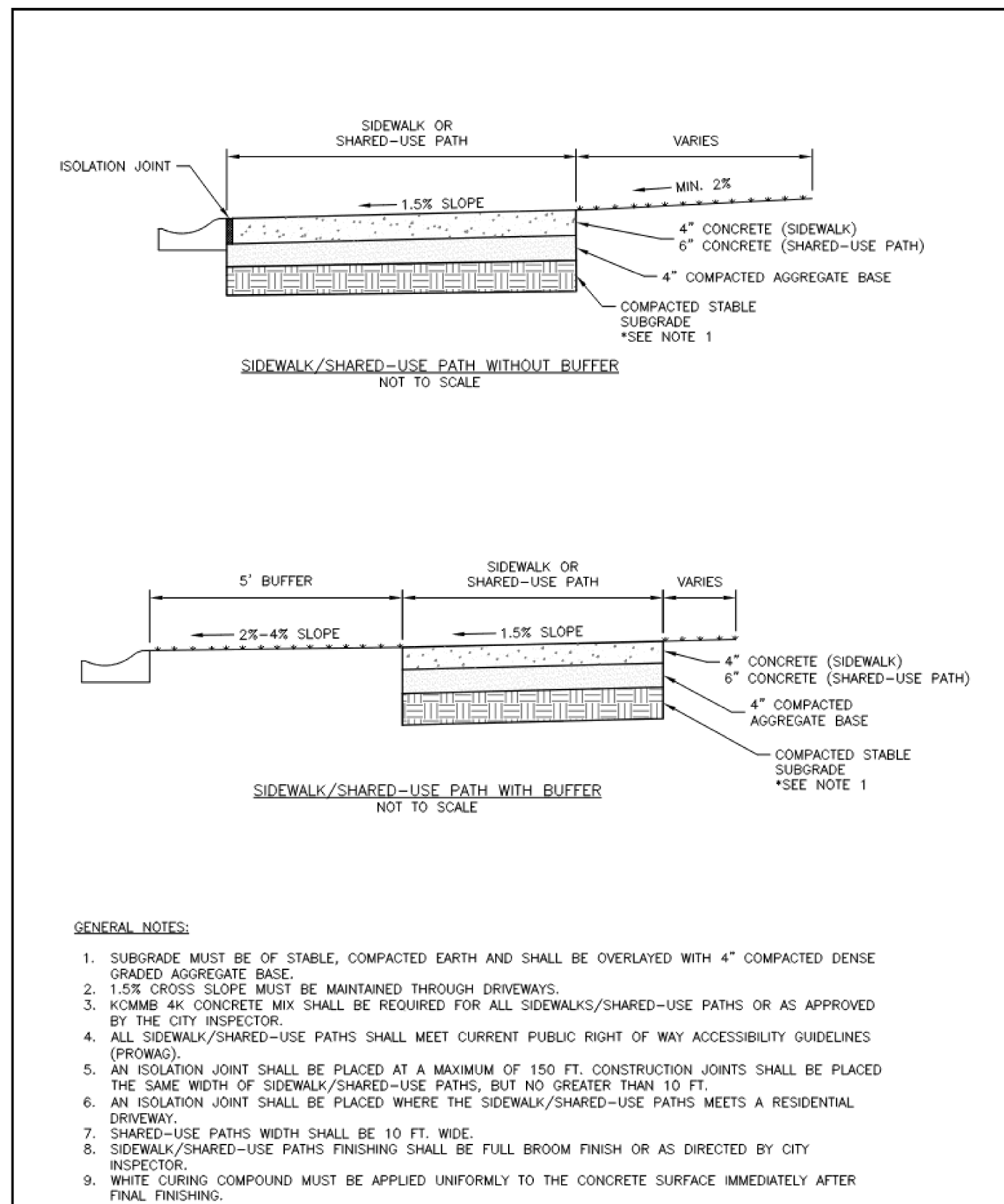
**LEE'S SUMMIT MISSOURI**  
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**WATER CASING PIPE DETAIL**

Date: 02/13  
Drawn By: JN  
Checked By: DL  
FILE: WAT-5  
Rev: 1/14

**NOTES:**  
1. REFER TO SPECIFICATION SECTION 3900 FOR ADDITIONAL INFORMATION.  
2. LENGTH, DIAMETER, AND WALL THICKNESS TO BE SHOWN ON CONSTRUCTION PLANS.

DWG: F:\2019\0001-0500\019-0012-B\A\0-Design\AutoCAD\Final Plans\Sheets\VTWMP\_P\_DTL01\_B190012 - D214643.dwg  
 DATE: Nov 09, 2023 10:12am  
 USER: aramanov



- GENERAL NOTES:**
- SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4\"/>

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**SIDEWALK/SHARED-USE PATH DETAIL**      GEN-2

Date: 04/27  
 Drawn By: MIF  
 Checked By: DL

**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	107.1	54.9	27.5
12	202.0	292.0	154.6	78.8	38.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4

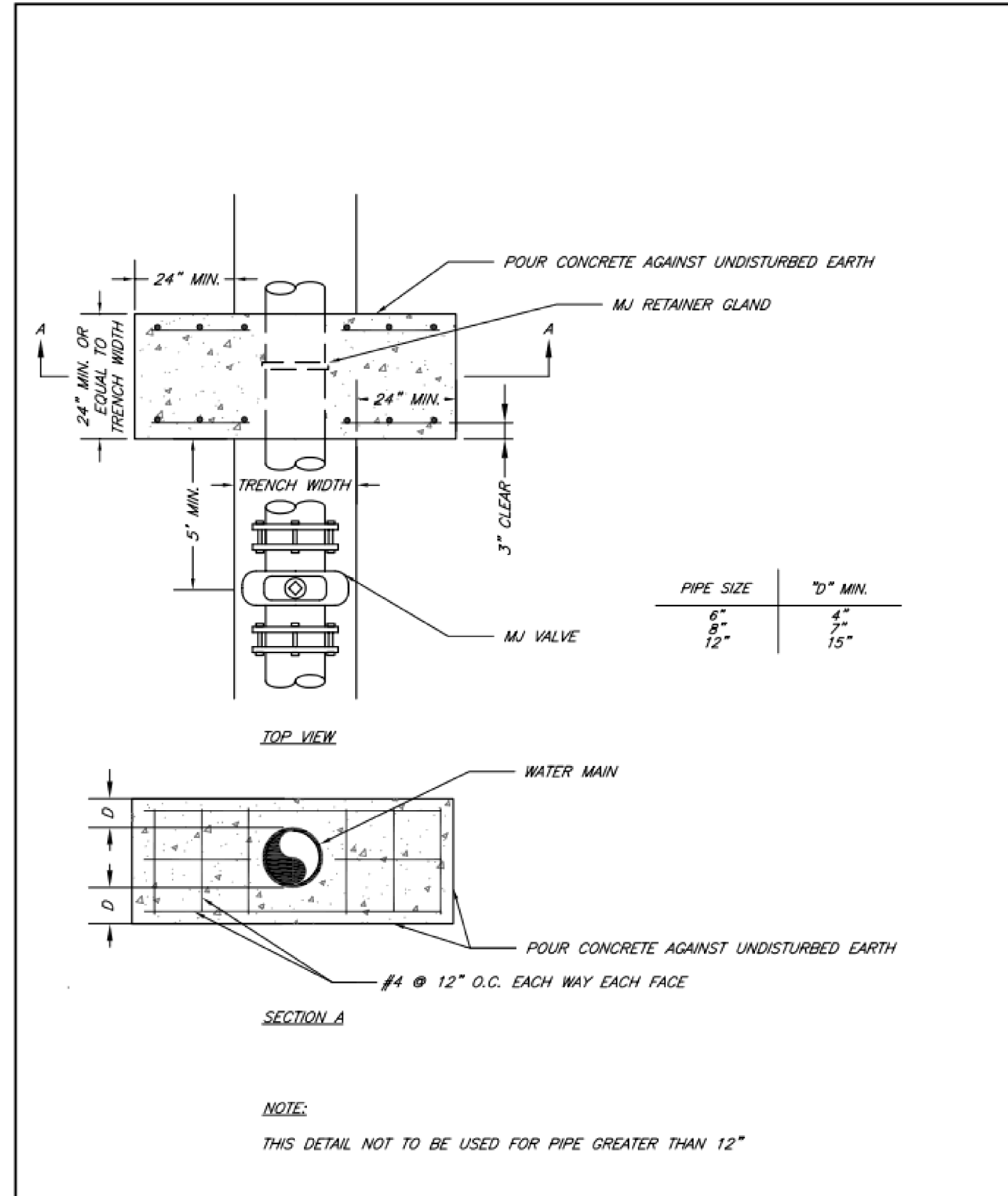
**NOTES:**

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

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

Date: 02/13  
 Drawn By: JH  
 Checked By: DL  
 FILE: WAT-2  
 Rev: 1/14



**LEE'S SUMMIT MISSOURI**  
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**STRADDLE BLOCK**

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

**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	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

**NOTES:**

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

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**HORIZONTAL THRUST BLOCKS**

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

**RELEASED FOR CONSTRUCTION**  
 As Noted on Plan Review  
  
 Development Services Department  
 Lee's Summit, Missouri  
 11/14/2023

**olsson**  
 Olsson - Civil Engineering  
 Missouri Certificate of Authority #001592  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
 www.olsson.com

STATE OF MISSOURI  
**DAVID L. EICKMAN**  
 NUMBER PE-2009015436  
 11/14/23  
 PROFESSIONAL ENGINEER

DAVID EICKMAN, P.E.  
 MO# 2009015436

REV. NO.	DATE	REVISIONS DESCRIPTION
1	10/07/2023	REVISED PER CITY COMMENTS

**REVISIONS**

BY

DATE

REVISIONS DESCRIPTION

REVISED PER CITY COMMENTS

2023

**LEE'S SUMMIT, MISSOURI**

NORTH PH DETAIL SHEET (CONTD)  
 PUBLIC WATER MAIN EXTENSION PLANS  
 THE VILLAGE AT DISCOVERY PARK ZONE 1  
 NW COLBURN RD & NE DOUGLAS ST

drawn by: GS/SOS/JN  
 checked by: AR/JN  
 approved by: DE  
 QA/QC by: JSH/NH  
 project no.: D21-04643  
 drawing no.: B1900012 - D214643  
 date: 11.09.2023