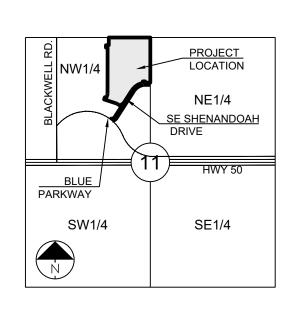
LEGENI	D:	
A/E -	ACCESS EASEMENT	
BC -	BACK OF CURB	
B/B -	BACK TO BACK	
BM -	BENCHMARK	
BL or B.L	BUILDING LINE	
CO -	CLEANOUT	
TJB -	TELEPHONE JUNCTION BOX	
C&G -	CURB AND GUTTER	
D/E -	DRAINAGE EASEMENT	
E/E -	ELECTRICAL EASEMENT	
EL -	ELEVATION	
FL -	FLOW LINE	
G/E -		
HDPE - L/E -	HIGH-DENSITY POLYETHYLENE	
L/E -	MINIMUM SERVICEABLE FLOOR	
MSFE -	ELEVATION	
PVC -	POLYVINYL CHLORIDE	
P/L -	PROPERTY LINE	
PUB/E -	PUBLIC EASEMENT	
RCP -	REINFORCED CONCRETE PIPE	
ROW or R/W -	RIGHT-OF-WAY	
S/E -	SANITARY SEWER EASEMENT	
SL -	SERVICE LINE	
S/W -	SIDEWALK	U.
TE -	TOP ELEVATION	<u>U</u>
U/E -		М
WSE - W/E -	WATER SURFACE ELEVATION WATERLINE EASEMENT	TF
VV/E -		Ste
	ASPHALT PAVEMENT - EXISTING	60
	ASPHALT PAVEMENT - PROPOSED	Le (81
	CONCRETE PAVEMENT - EXISTING	SI
	ASPHALT PAVEMENT - EXISTING	Bre 30
	CONCRETE SIDEWALK - EXISTING	Le (81
	CONCRETE SIDEWALK - PROPOSED	E\ Ph
		130 Lee
	CURB & GUTTER - EXISTING	Of
$\frown$		phi
	EXISTING LOT AND R/W LINES	C
	EXISTING PLAT LINES	De
	PROPERTY LINES	22
ROW	RIGHT-OF-WAY SANITARY SEWER MAIN	Le (81
		(0)
	STORM SEWER	A
	STORM SEWER - EXISTING	Ma
	CABLE TV - EXISTING	50 Ka
	FIBER OPTIC CABLE - EXISTING	(81
TT	TELEPHONE LINE - EXIST.	,
—— E <sub>x</sub> ——	ELECTRIC LINE - EXISTING	C
~	OVERHEAD POWER LINE - EXIST.	Jol 47
	UNDERGROUND ELECTRIC - EX.	47 Ind
	GAS LINE - EXISTING	(81
	WATERLINE - EXISTING	_
秉	LIGHT - EXISTING EXISTING MANHOLE	C
		Ma 120
$\stackrel{\textcircled{0}}{\bigcirc}$	CLEANOUT EXISTING SANITARY MANHOLE	Le
$\bullet$	PROPOSED SANITARY MANHOLE	(81
A	EXISTING AREA INLET	
	EXISTING ANEA INLET	
GI	EXISTING GRATE INLET	
JB	EXISTING JUNCTION BOX	
$\bigcirc$	EXISTING STORM MANHOLE	



# **SECTION 11-47-31**

LOCATION MAP SCALE 1" = 2000'

# JTILITY CONTACTS:

MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT) Steve Holloway 600 NE Colbern Road Lee's Summit, MO 64086 (816) 607-2186
SPIRE Brent Jones 3025 SE Clover Drive Lee's Summit, MO 64082 (816) 399-0663brent.jones@spireenergy.com
EVERGY Philip Ingram 1300 SE Hamblin Road Lee's Summit, MO 64081 Office: (816) 347-347-4339 philip.inghram@evergy.com
CITY OF LEES SUMMIT PUBLIC WORKS Dena Mezger 220 SE Green Street Lee's Summit, MO 64063 (816) 969-1800
AT&T Mark Manion or Marty Loper 500 E. 8th Street, Room 370 Kansas City, MO 64106 (816) 275-2341 or (816) 275-1550
COMCAST CABLE John Meadows 4700 Little Blue Parkway Independence, MO 64057 (816) 795-2257

CITY OF LEE'S SUMMIT WATER UTILITIES lark Schaufler 200 SE Hamblen Road ee's Summit, MO 64081 816) 969-1900



811 or 1-800-344-7483 mo1call.com

# GENERAL NOTES:

- ADOPTED BY ORDINANCE 5813.
- ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
- NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES
- WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. AFTER APPROVAL OF THE SHOP DRAWINGS, A COPY OF THE APPROVED AND SIGNED SHOP DRAWINGS SHALL BE PROVIDED TO THE CITY INSPECTOR UPON REQUEST.
- THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED
- BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES. 10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE
- CONTRACTOR, OR AS DIRECTED BY THE OWNER. 11. ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
- 12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASED OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
- AS REQUIRED. 14. THE CONTRACTOR SHALL CONTACT DEVELOPMENT SERVICES INSPECTIONS AT: 816-969-1200 TO OBTAIN A DEVELOPMENT SERVICES CONSTRUCTION PERMIT. A MINIMUM 48 HOUR NOTICE SHALL BE GIVEN PRIOR TO
- PERMIT ISSUANCE THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT OF WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT. 16. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO
- THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).

# **PUBLIC WATER MAIN PLANS** FOR **BLACKWELL RESERVE**

# IN THE CITY OF LEE'S SUMMIT JACKSON COUNTY, MO

ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS

13. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE

## **EARTHWORK**:

- It is recommended that a Geotechnical Engineer observe and document all earthwork activities. 2. Contours have been shown at 1-foot or 2-foot intervals, as indicated. Grading shall consist of completing the earthwork required to bring the physical ground elevations of the existing site to the finished grade (or sub-grade) elevations provided on the plans as spot grades, contours or others means as indicated on the plans.
- The existing site topography depicted on the plans by contouring has been established by aerial photography and field 3. verified by g.p.s. observation near 11/11/2021 .The contour elevations provided may not be exact ground elevations, but rather interpretations of such. Accuracy shall be considered to be such that not more than 10 percent of spot elevation checks shall be in error by more than one-half the contour interval provided, as defined by the National Map Accuracy Standards. Any quantities provided for earthwork volumes are established using this topography contour accuracy, and therefore the inherent accuracy of any earthwork quantity is assumed from the topography accuracy. Proposed contours are to approximate finished grade. 4.
- 5. Unless otherwise noted, payment for earthwork shall include backfilling of the curb and gutter, sidewalk and further manipulation of utility trench spoils. The site shall be left in a mowable condition and positive drainage maintained throughout.
- Unless otherwise noted, all earthwork is considered Unclassified. No additional compensation will be provided for rock or 6. shale excavation, unless specifically stated otherwise.
- 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. 8. All topsoil shall be stripped from all areas to be graded and stockpiled adjacent to the site at an area specified by the
- project owner or his appointed representative. Vegetation, trash, trees, brush, tree roots and limbs, rock fragments greater then 6-inches and other deleterious materials shall be removed and properly disposed of offsite or as directed by the owner or his appointed representative.
- Unless otherwise specified in the Geotechnical Report, all fills shall be placed in maximum 6-inch lifts and compacted to 9. 95-percent of maximum density as defined using a standard proctor test (AASHTO T99/ASTM 698). 10. Subgrade for pavements shall be proof-rolled prior to paving operations utilizing a fully loaded tandem axle dump truck. All
- areas exhibiting excessive pumping and heaving shall be removed, filled and compacted with suitable materials and retested until acceptable results are achieved and final approval has been obtained from the Geotechnical Engineer. 11. Subgrade for building pad shall include a minimum of 18-inches of Low Volume Change (LVC) material, or as identified in
- the site specific Geotechnical Report. 12. Fill materials shall be per Geotechnical Report and shall not include organic matter, debris or topsoil. All fills placed on slopes greater than 6:1 shall be benched.
- 13. 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
- 14. 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
- b. Paved Areas 1.2% Minimum, 5% Maximum 15. A.D.A. parking stalls shall not be sloped greater then 2% in any direction and constructed per A.D.A. requirements. 16. All disturbed areas shall be fertilized, seeded and mulched immediately after earthwork 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 earthwork and grading activities.
- 17. All disturbed areas in the right-of-way shall be sodded.
- 18. Underdrains are recommended for all paved areas adjacent to irrigated turf and landscaped beds. 19. 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. 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. Contractor shall verify flow-lines and structure tops prior to construction, and shall notify Engineer of any discrepancies. 3. Provide shop drawings for all precast and manufactured utility structures for review by the Engineer prior to construction of the structures.
- Utility Separation: Waterlines shall have a minimum of 10 feet horizontal and 2 feet vertical separation from all sanitary 4. sewer lines, manholes, and sanitary sewer service laterals, as measured from edge to edge. If minimum separations can not be obtained, concrete encasement of the sanitary line shall be required 10 feet in each direction of the conflict. 5. Payment for trenching, backfilling, pipe embedment, flowable fill, backfill materials, clean up, seeding, sodding and any
- other items necessary for the construction of the utility line shall be included in the contract price for the utility installation. The Contractor shall be responsible for contacting respective utility companies 48-hours in advance for the inspection of 6 any proposed utility main extension or service line or service connection to any existing main.
- Trench spoils shall be neatly placed onsite adjacent to the trench, and compacted to prevent saturation and excess sediment runoff. Unsuitable materials, excess 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.
- All excavation is considered unclassified, unless noted otherwise. Unclassified excavation for utility trenching is 8. subsidiary to the unit price provided for the pipe. Any quantity provided for rock excavation is estimated based on the best information provided to the Project Engineer. The Engineer has the authority to identify and define the physical characteristics to determine the classification. Unit price quantities for rock excavation will be paid at a trench width of the nominal pipe diameter of the installed main plus 18 inches. Contractor is required to dispose of excess rock from their trenches by disposing it in areas as specified by the Project Engineer.

# SUMMARY OF QUANTITIES

ITEM	QUANTITY	UNITS
ISTING WATER LINE	2	EA
C WATER MAIN	1560	LF
RUST BLOCK	4	EA
D W/ THRUST BLOCK	5	EA
N/ THRUST BLOCK	4	EA
	2	EA
SSEMBLY	4	EA
LINE TEMPORARY FIRE HYDRANT ASSEMBLY	2	EA
LINE TEMPORARY 8" X 6" REDUCER	2	EA
ENCASEMENT	22	LF
	1	LS
	1	LS

	Sheet List Table
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT
3	WATER LINE A - STA 0+00 TO 12+00
4	WATER LINE A - STA 12+00 TO 15+58.18
5	DETAILS
6	DETAILS

# APPROVED BY

# FOR REVIEW ONL

DATE

CITY ENGINEER APPROVED FOR ONE YEAR FROM THIS DATE

# OWNER/DEVELOPER:

**GRIFFIN RILEY PROPERTY GROUP** JAKE LOVELESS, VICE PRESIDENT 21 SE 29TH TERRACE LEE'S SUMMIT p 816-366-7900 JAKE@GRIFFINRILEY.COM

# MO GRS BENCHMARK:

**STATION NAME - JA-90** 

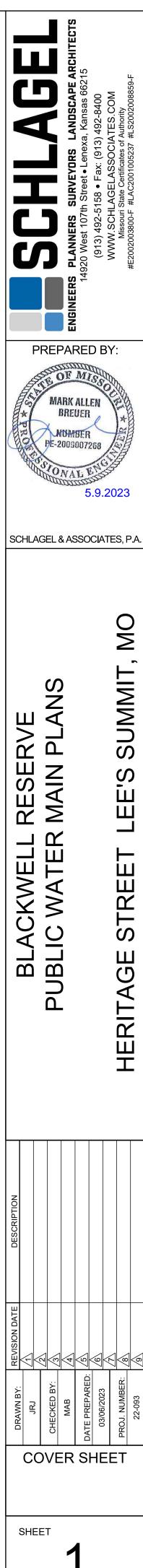
KC METRO ALUMINUM GRS DISK SET IN CONCRETE STAMPED "JA-90, 1988" LOCATED NEAR THE INTERSECTION OF LANGSFORD ROAD AND OLD LANGSFORD ROAD, 43 FEET SOUTHEAST OF THE CENTER OF LANGSFORD ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD. N:1001052.8503, E:2845604.8272

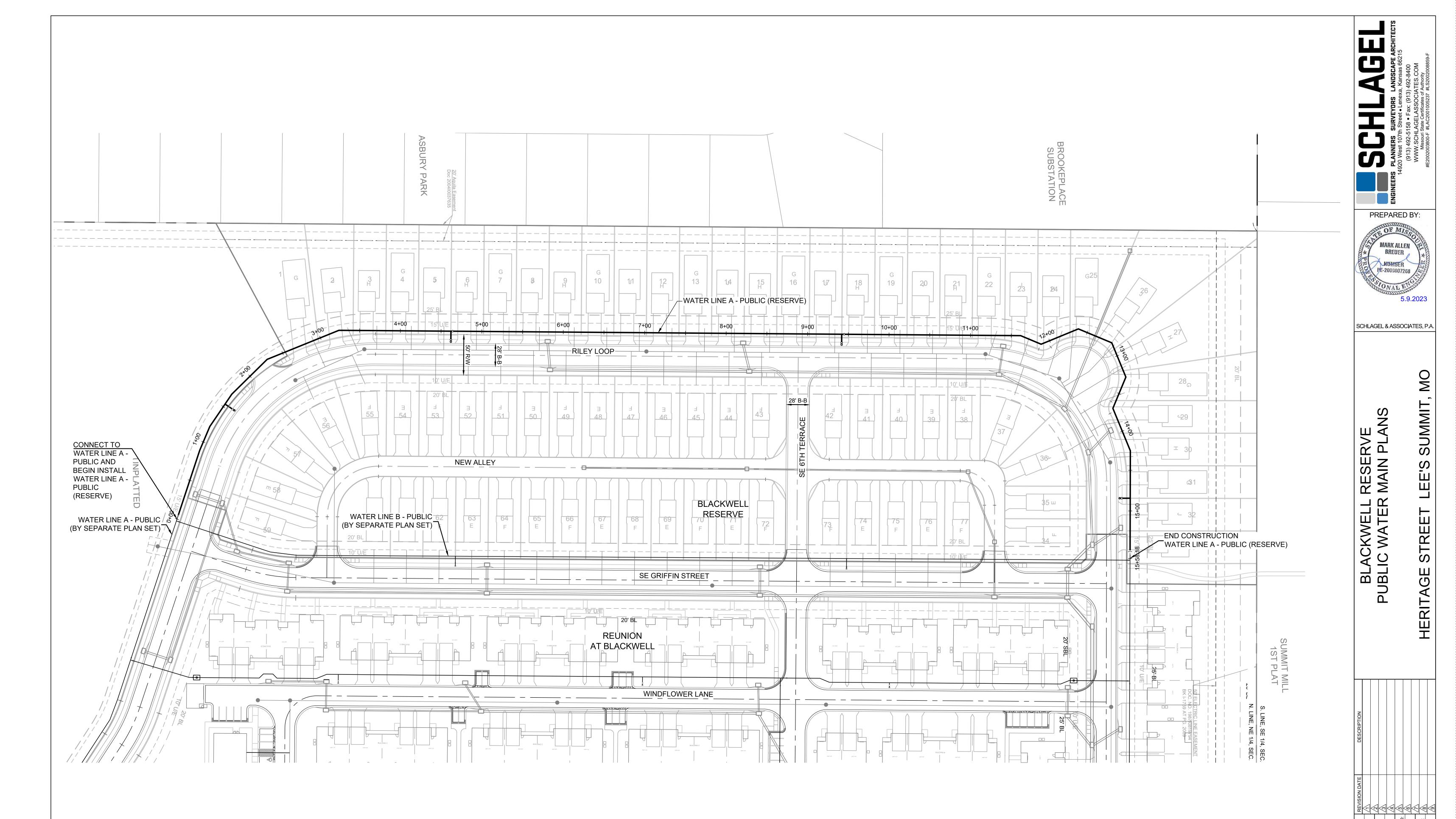
ELEV. 997.045

### **PROJECT BENCHMARK:**

"SQUARE" CUT IN TOP OF CONCRETE STORM MANHOLE STORM MANHOLE IS LOCATED APPROX. 130 FEET EAST OF THE INTERSECTION OF SE JOEL AVE & BLUE PARKWAY AND 26 FEET SOUTH OF THE CENTERLINE OF BLUE PARKWAY. N:996874.9690, E:2840937.1365

ELEV. 1005.719





PRIVATE ROAD NOTE: WILDFLOWER LANE, WILDFLOWER COURT & SE 6TH TERRACE ARE PRIVATE ROADS AND WILL BE CONSTRUCTED UNDER A SEPARATE PLAN SET.

SIDEWALK NOTE: SIDEWALKS AT BUILDINGS WILL BE INSTALLED AFTER BUILDING & DRIVEWAY CONSTRUCTION IS COMPLETE, UNLESS OTHERWISE NOTED.

# MO GRS BENCHMARK:

STATION NAME - JA-90

N:1001052.8503, E:2845604.8272

KC METRO ALUMINUM GRS DISK SET IN CONCRETE STAMPED "JA-90, 1988" LOCATED NEAR THE INTERSECTION OF LANGSFORD ROAD AND OLD LANGSFORD ROAD, 43 FEET SOUTHEAST OF THE CENTER OF LANGSFORD ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD.

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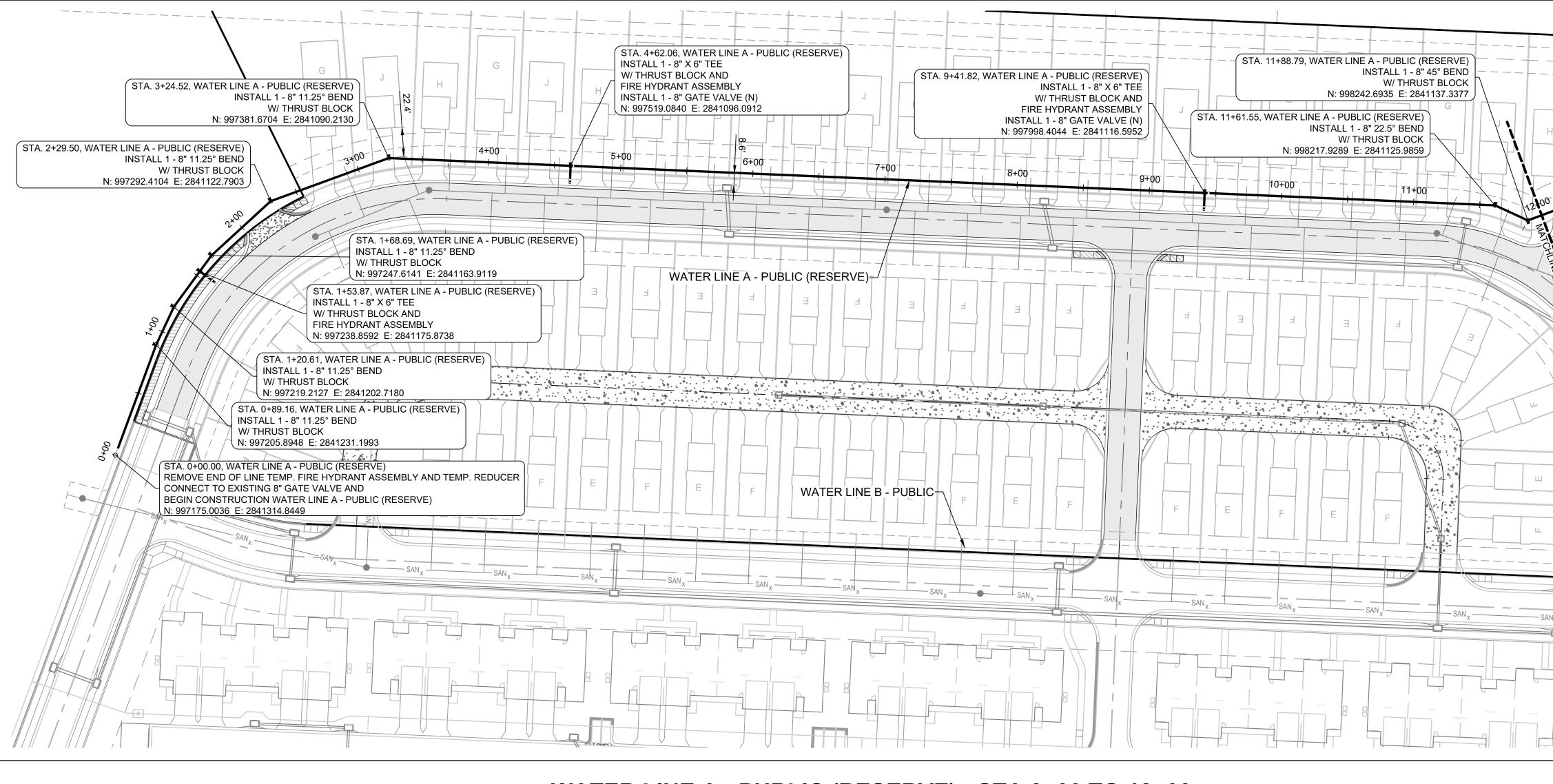
-0) SCALE: 1" = 50'

ELEV. 1005.719

SHEET 

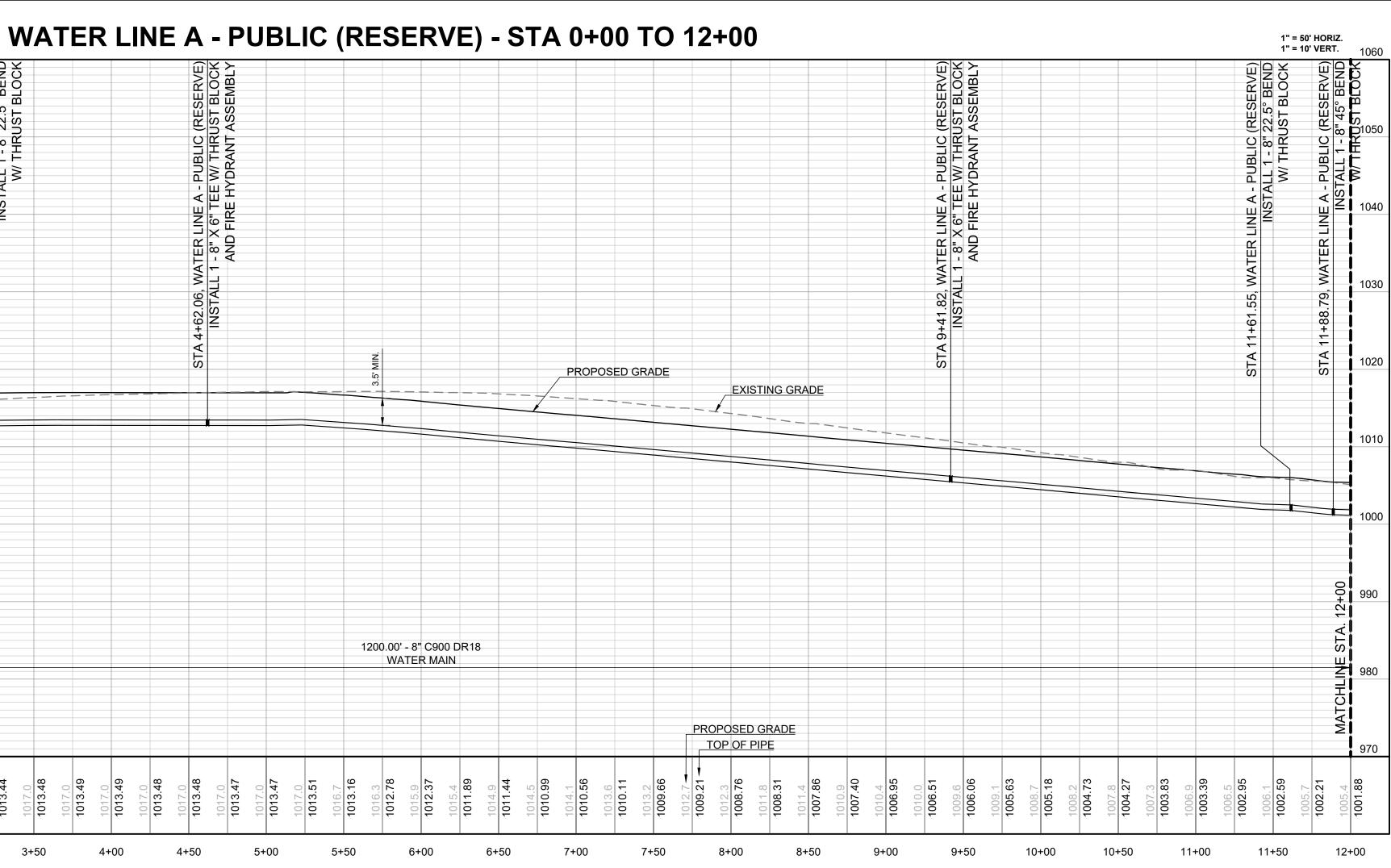
GENERAL

LAYOUT



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	980       -

1060





STATION NAME - JA-90

KC METRO ALUMINUM GRS DISK SET IN CONCRETE STAMPED "JA-90, 1988" LOCATED NEAR THE INTERSECTION OF LANGSFORD ROAD AND OLD LANGSFORD ROAD, 43 FEET SOUTHEAST OF THE CENTER OF LANGSFORD ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD. N:1001052.8503, E:2845604.8272

ELEV. 997.045

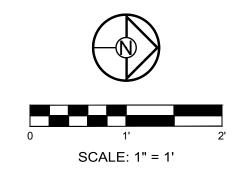
# **PROJECT BENCHMARK:**

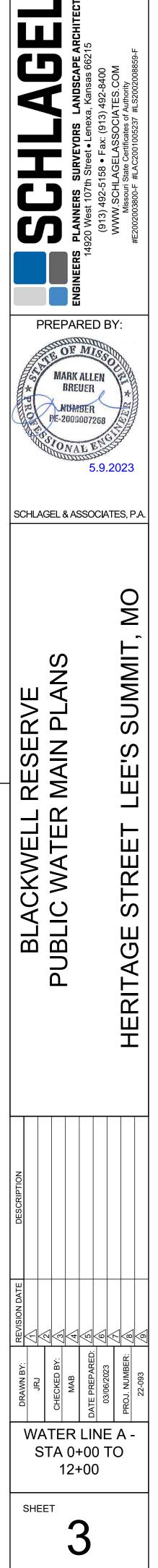
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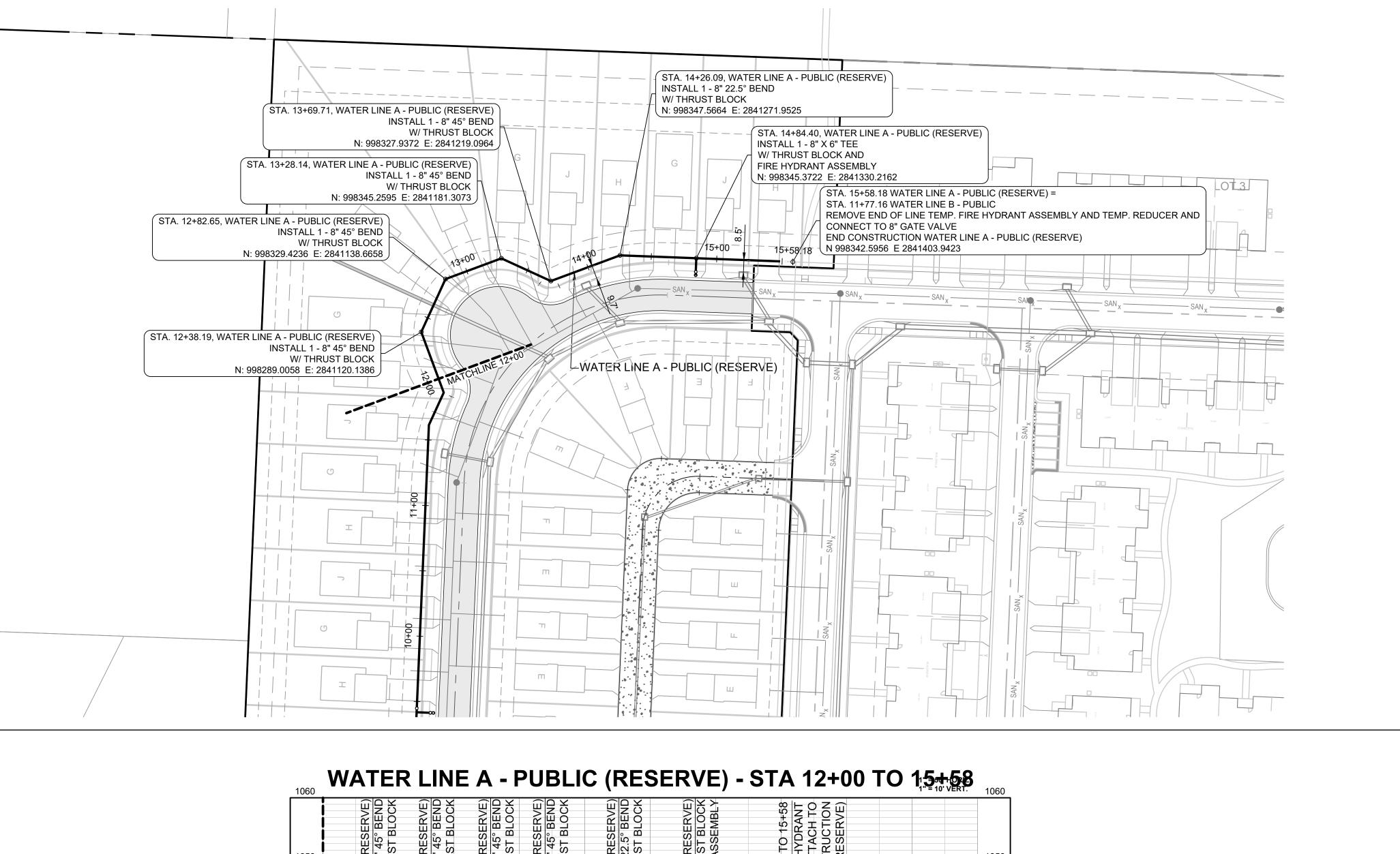
ELEV. 1005.719

NOTES:

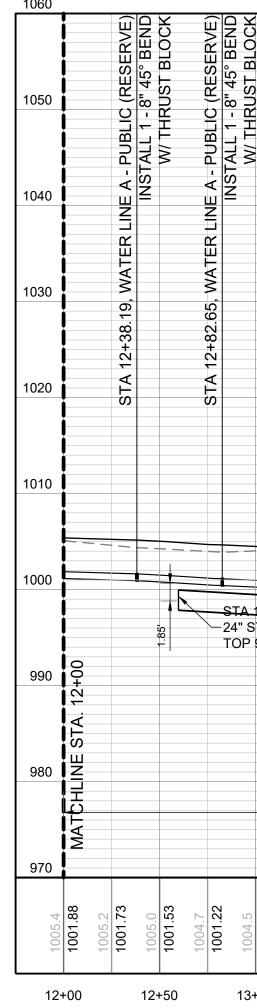
- 1. ALL CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEE'S SUMMIT TECHNICAL SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION.











3-	1004.5			S			W/ THRUST BLOCK
-00	1000.99			12+( TOF 997			
	1004.3			RM		STA 13+28 14	WATER LINE A - PLIBLIC (RESERVE)
	1000.75						
13 <sup>.</sup>	1004.0						W/ THRUST BLOCK
+50	1000.54					1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-
	1003.8					SIA 13+69./1	13+69.71, WATEK LINE A - PUBLIC (RESERVE)
	1000.24						
14	1003.5	00 DF MAIN					
+00	999.95	R18		3.51 9	3.5' MIN.		
	1003.3					STA 14+26.09,	WATER LINE A - PUBLIC (RESERVE)
	999.79						INSTA
14-	1002.9						W/ THRUST BLOCK
+50	999.37						
	1002.6						
	999.09					STA 14+84.40	
15	1002.3					INSTALL 1	LL 1 - 8" X 6" TEE W/ THRUST BLOCK
+00	998.81						ANU FIRE HYUKANI ASSEMBLY
	0 0001						
	998.51						
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50	998.26			Ż			
							REMOVE END OF LINE TEMP. FIRE HYDRANI
						ASSEMBLY,	AND TEMP. REDUCER. ATTACH TO
1						8" GATE	8" GATE VALVE AND END CONSTRUCTION
6+							VALER LINE A - PUBLIC (RESERVE)
00							
16							
6+5							
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17-							
+00		980 970	990	1000	101(	1020	1050 1040
				)	)	D	)

# **MO GRS BENCHMARK:**

STATION NAME - JA-90

PREPARED BY: SE OF MISS MARK ALLEN BREUER MOMBER 22X PE-2009007268 ONAL E' 5.9.2023 SCHLAGEL & ASSOCIATES, P.A. MO S Z Т Ч Ц RESER/ MAIN PI S EE'S BLACKWELL PUBLIC WATER HERITAGE STREET <u> 
</u>

WATER LINE A -STA 12+00 TO 15+58.18

4

SHEET

KC METRO ALUMINUM GRS DISK SET IN CONCRETE STAMPED "JA-90, 1988" LOCATED NEAR THE INTERSECTION OF LANGSFORD ROAD AND OLD LANGSFORD ROAD, 43 FEET SOUTHEAST OF THE CENTER OF LANGSFORD ROAD AND 32 FEET NORTH OF THE CENTER OF OLD LANGSFORD ROAD. N:1001052.8503, E:2845604.8272

ELEV. 997.045

ELEV. 1005.719

NOTES:

# **PROJECT BENCHMARK:**

N:996874.9690, E:2840937.1365

OF THE CENTERLINE OF BLUE PARKWAY.

1. ALL CONSTRUCTION ON THIS PROJECT

SHALL CONFORM TO THE CITY OF LEE'S

VERIFYING ALL EXISTING UTILITY LOCATIONS

SUMMIT TECHNICAL SPECIFICATIONS.

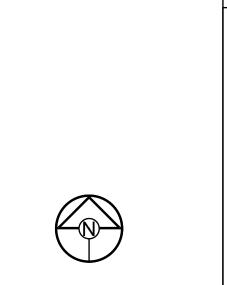
2. THE CONTRACTOR IS RESPONSIBLE FOR

PRIOR TO EXCAVATION.

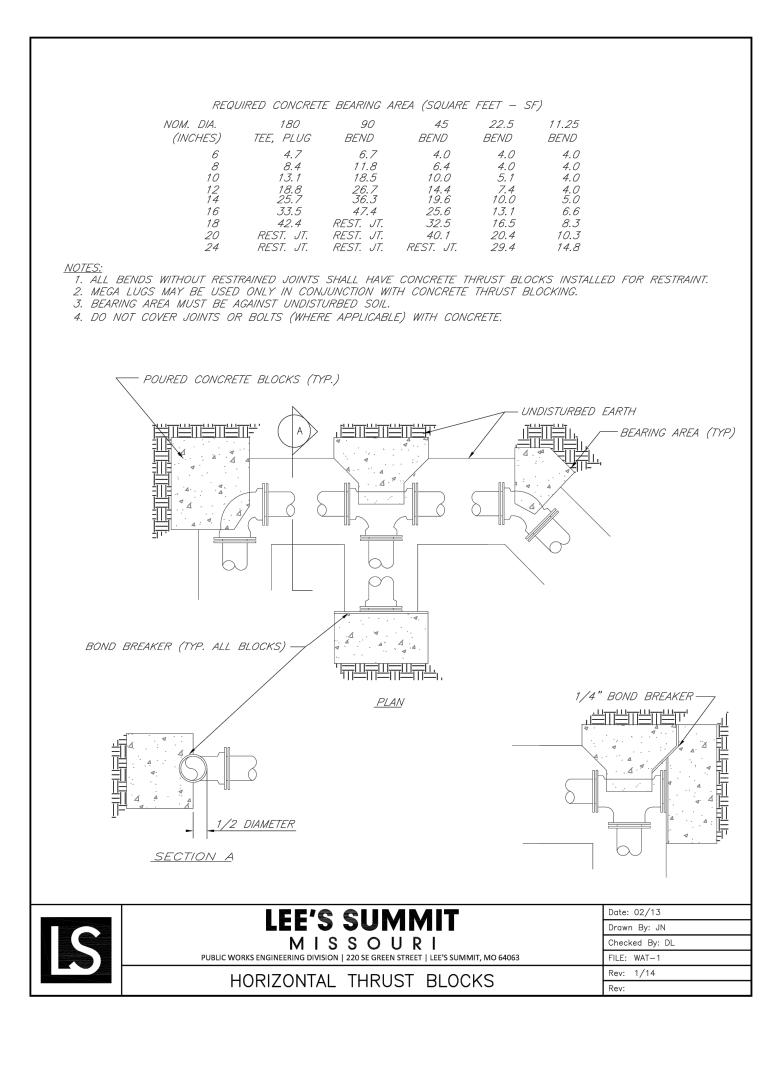
"SQUARE" CUT IN TOP OF CONCRETE STORM MANHOLE

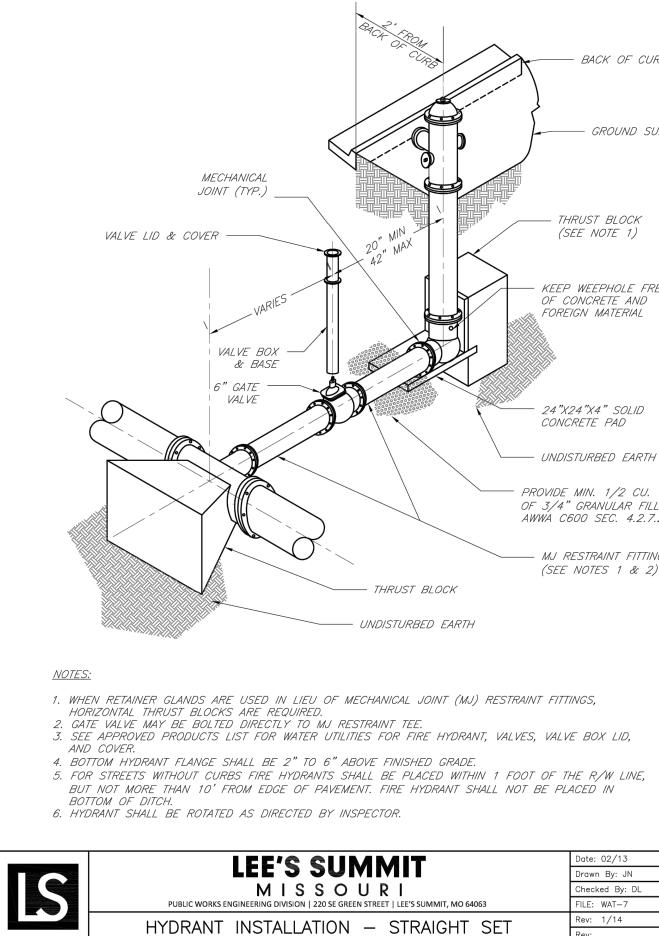
STORM MANHOLE IS LOCATED APPROX. 130 FEET EAST OF THE

INTERSECTION OF SE JOEL AVE & BLUE PARKWAY AND 26 FEET SOUTH



SCALE: 1" = 1'

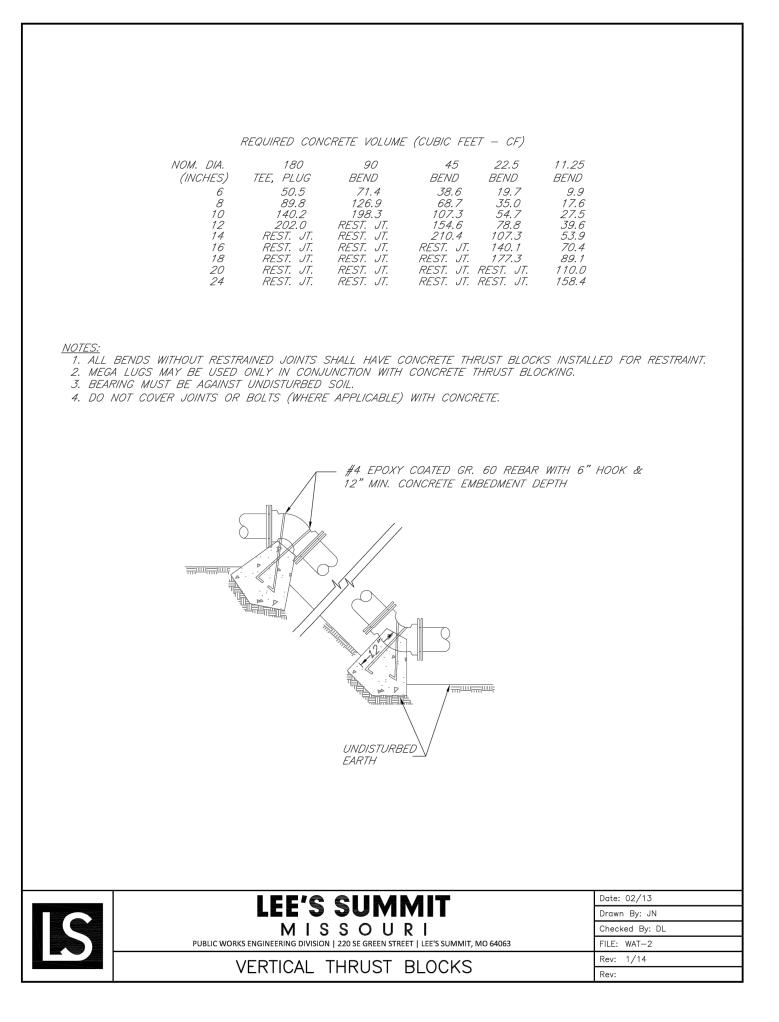


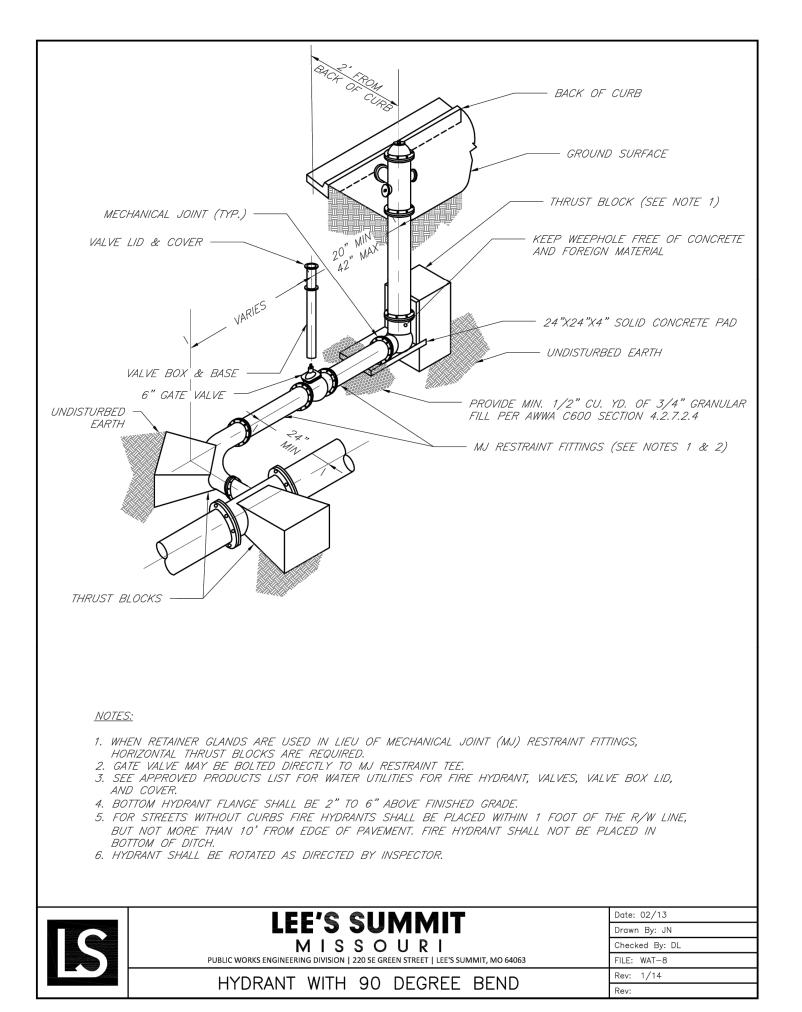


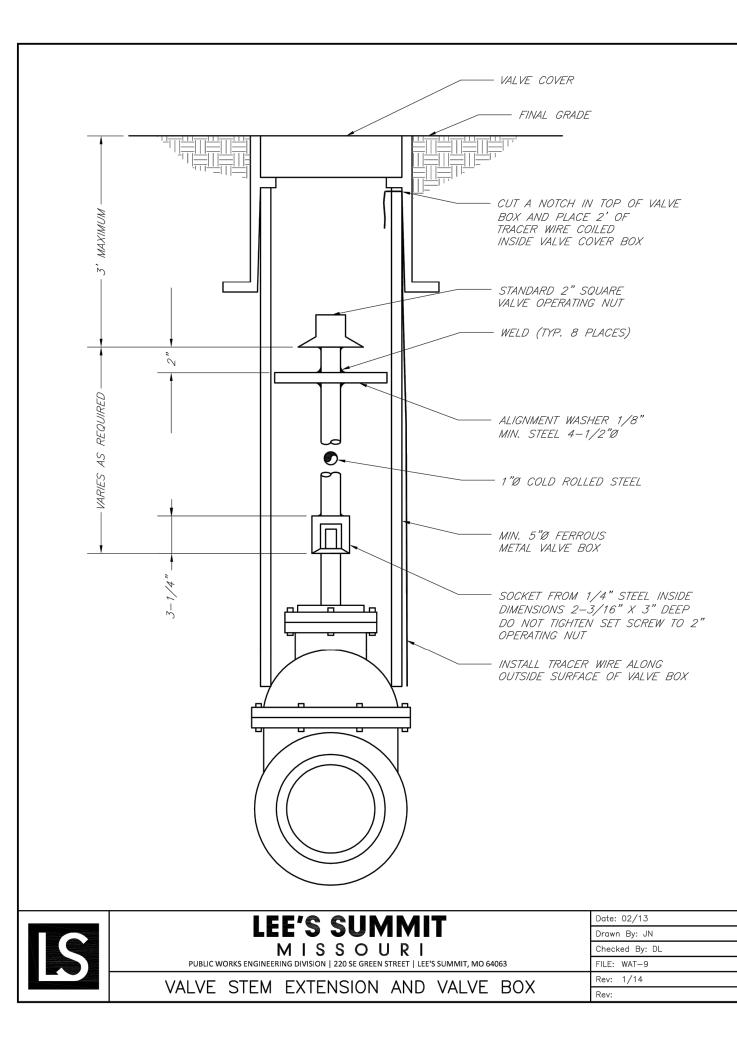
RACK CROW	BACK OF CURB
	GROUND SURFACE
	THRUST BLOCK (SEE NOTE 1)
20", MIN 42", MAX	$\geq$
	KEEP WEEPHOLE FREE OF CONCRETE AND FOREIGN MATERIAL
	24"X24"X4" SOLID CONCRETE PAD
	UNDISTURBED EARTH
,	MJ RESTRAINT FITTINGS
	(SEE NOTES 1 & 2)
THRUST BLOCK	
UNDISTURBED EARTH	

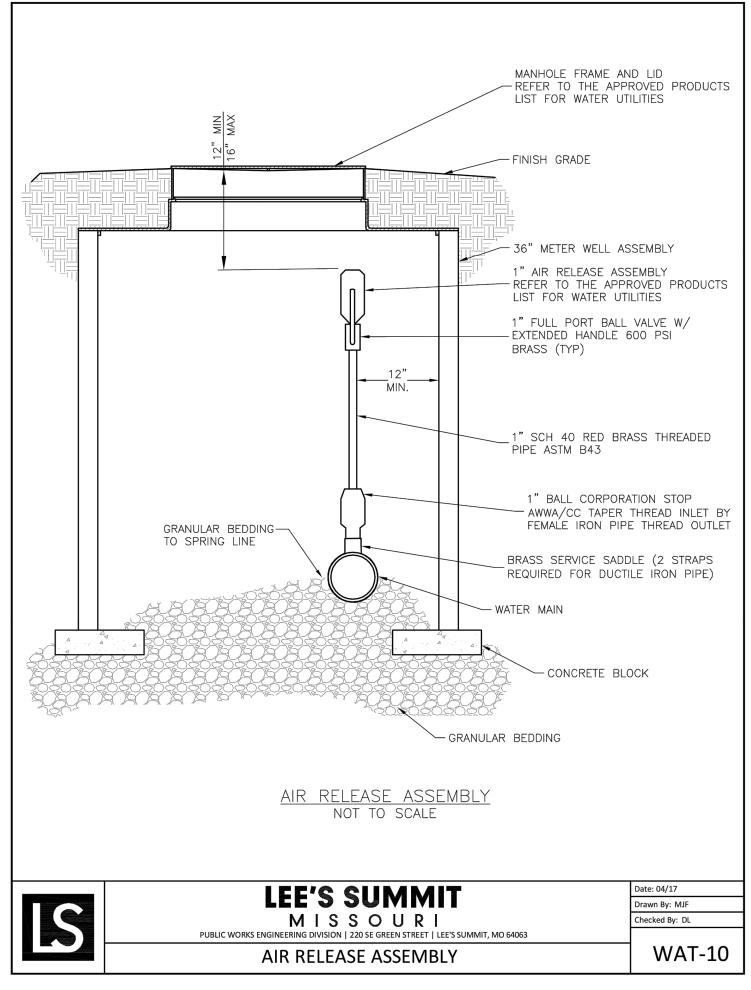
BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN

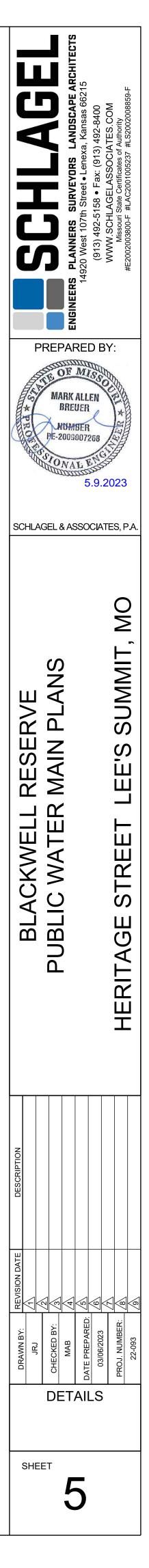
IINANAIT	Date: 02/13
UMMIT	Drawn By: JN
OURI	Checked By: DL
SE GREEN STREET   LEE'S SUMMIT, MO 64063	FILE: WAT-7
ON – STRAIGHT SET	Rev: 1/14
UN - STRAIGHT SET	Rev:

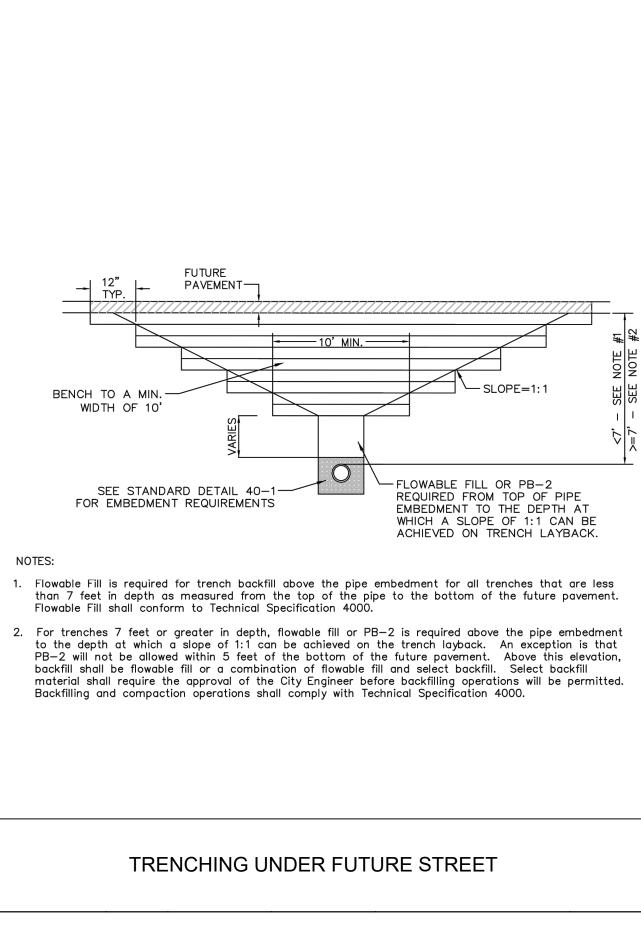


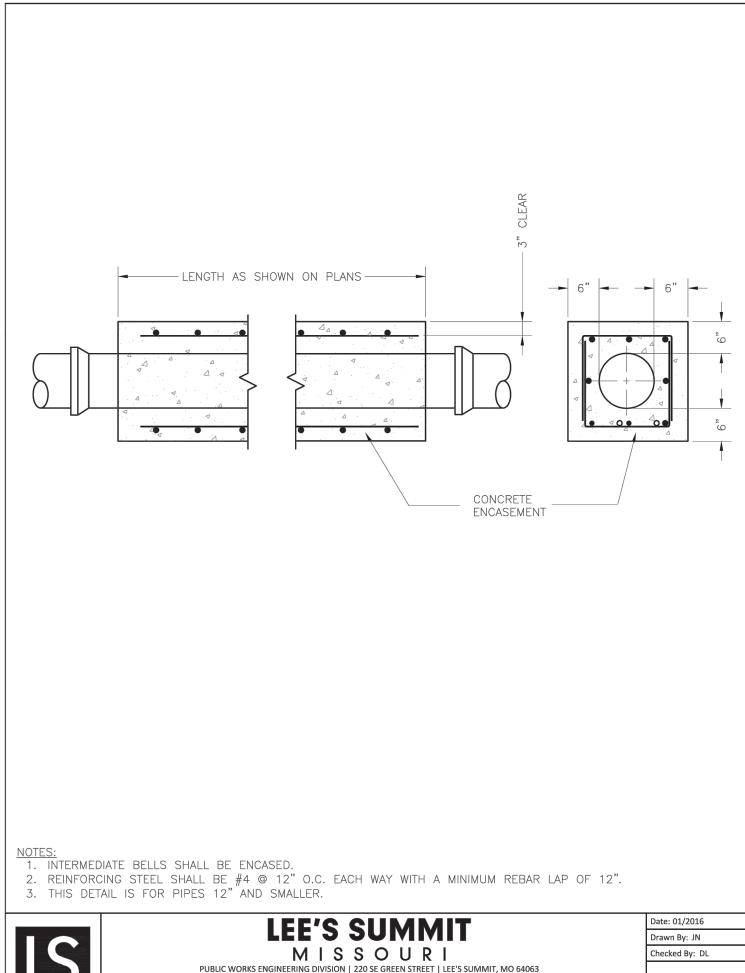








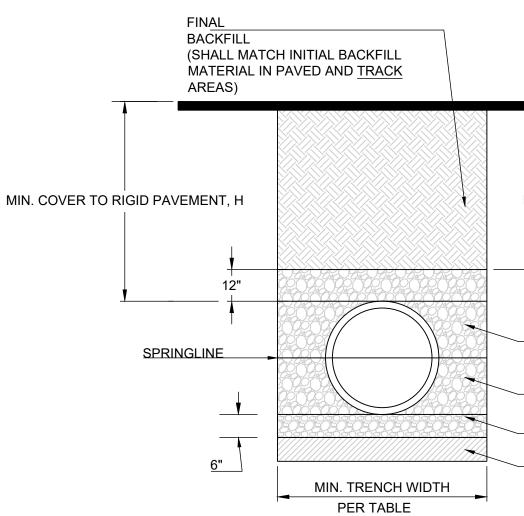






С.	EACH	WAY	WITH	А	MINIMUM	REBAR	LAP	OF	12".	

E'S SUMMIT	Date: 01/2016
	Drawn By: JN
1 I S S O U R I	Checked By: DL
G DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063	
R PIPE ENCASEMENT	WAT-4



	L L			RECOMMENDE	D MINIMUM TRENCH WIE
ļ	12"		¥	PIPE DIAM.	MIN. TRENCH WIDTH
<u> </u>				4"	21"
SPRI	NGLINE		INITIAL BACKFILL	6"	23"
0111				8"	26"
			HAUNCH	10"	28"
			BEDDING	12"	30"
	<u>6"</u>		SUITABLE FOUNDATION	15"	34"
	ļ	MIN. TRENCH WIDTH PER TABLE		18"	39"
				24"	48"
		RECOMMENDED COVER BASED ON HICLE LOADING CONDITIONS		30"	56"
		E LIVE LOADING CONDITION	7	36"	64"
IPE DIAM. H-25 HEAVY CONSTRUCTION (75T AXLE LOAD) *				42"	72"
12" - 48"	12"	48"		48"	80"
54" - 60"	24"	60"		54"	88"
		AY REQUIRE ADDITIONAL COVER	1	60"	96"

### NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 6" (100mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

MIN. CO	VER TO
LEXIBLE P	AVEMENT, H

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