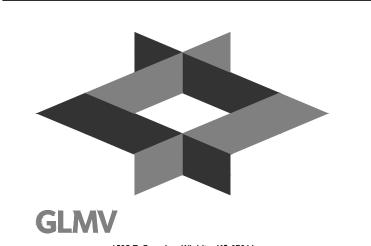
LEE'S SUMMIT FIRE STATION NO. 5 801 SW MO 150 HIGHWAY LEE'S SUMMIT, MISSOURI 64082

FINAL DEVELOPMENT PLAN

CONSULTANT:



www.glmv.com

PARCEL INFORMATION:

ACREAGE: 1.00

DERICK.HOLMES@GLMV.COM

ADDRESS: 801 SW M0 150 HIGHWAY LEE'S SUMMIT. MO 64082

LEGAL DESCRIPTION ALL OF LOT 5, RAINTREE LAKE VILLAGE, A

SUBDIVISON IN THE NW 1/4 OF SECTION 31, T-47 N, R-31 W, LEE'S SUMMIT, JACKSON

COUNTY, MISSOURI

FEMA FLOODPLAIN THE SUBJECT PROPERTY IS LOCATED IN ZONE X, AREAS DETERMINED TO BE

OUTSIDE THE 0.2% ANNUAL CHANCE

FLOODPLAIN, AS SHOWN ON FLOOD INSURANCE RATE MAP (FIRM) 29095C0532G,

EFFECTIVE JANUARY 20, 2017.

OIL AND GAS WELLS

NO EVIDENCE OF OIL OR GAS WELLS WERE
FOUND ON LOT 6-A AND THE PORTION OF
LOT 7 PROPOSED TO BE REPLATTED AS
EVIDENCED BY THE FOLLOWING SOURCES

1. ATLAS/NSPS LAND SURVEY PERFORMED

12, 2021.
2. MISSOURI SPATIAL DATA INFORMATION

SERVICE (FEBRUARY 20, 2022), MO 2018

BY J&J SURVEYING LLC, DATED AUGUST

STATE PERMITTED OIL AND GAS WELLS. RETRIEVED FROM

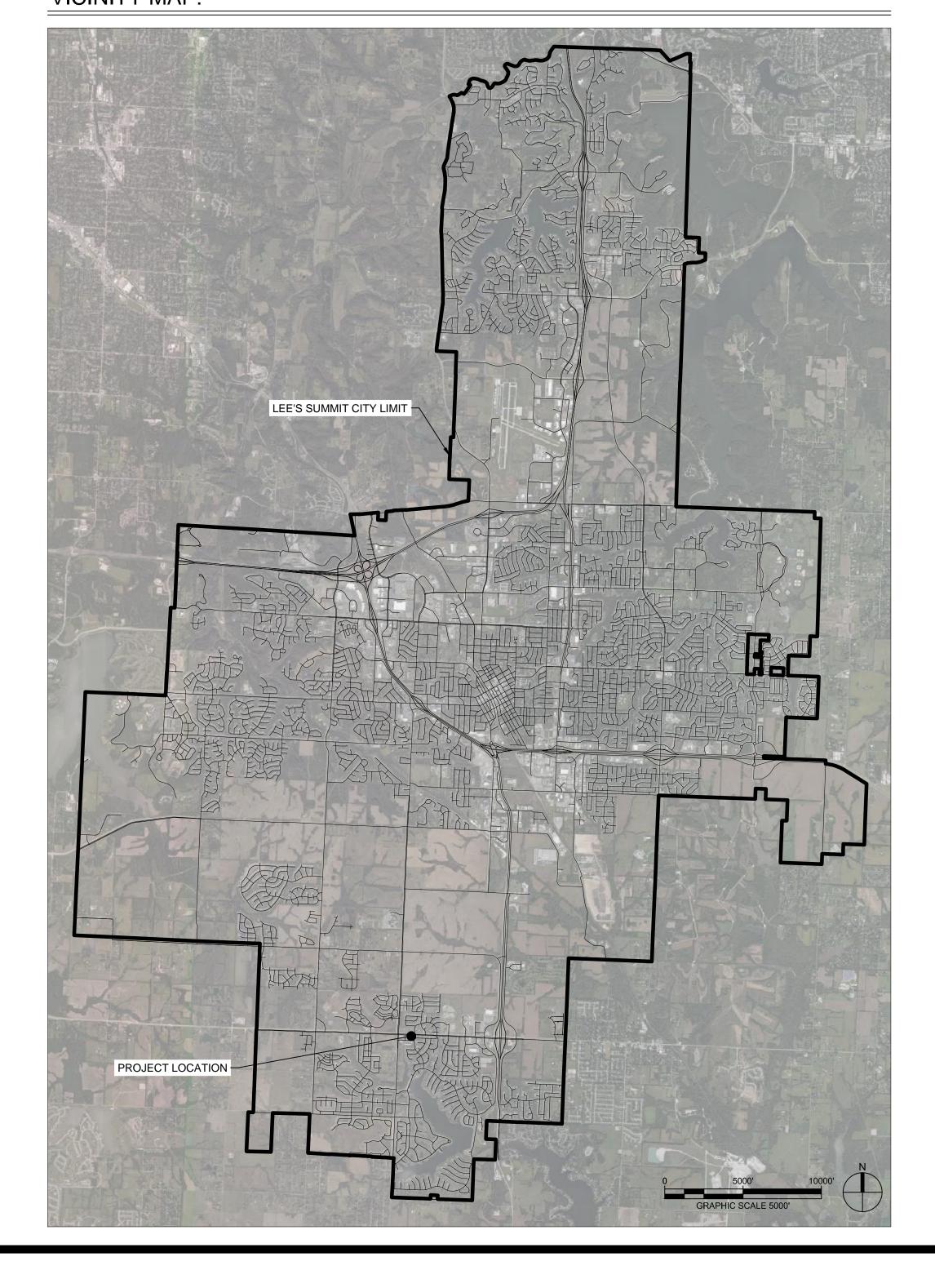
ZONING

CP-2, PLANNED COMMUNITY COMMERCIAL

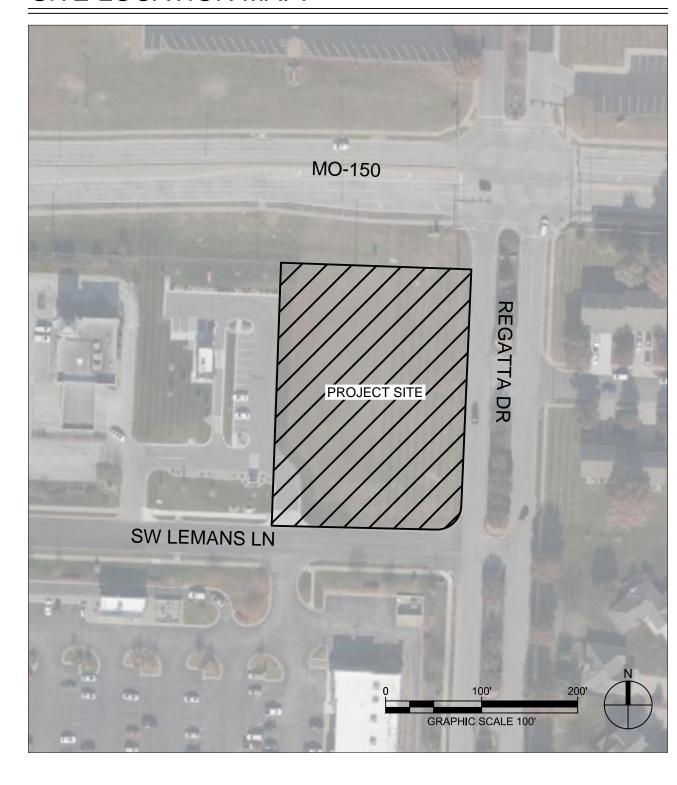
HTTP://DATA-MSDIS.OPENDATA.ARCGIS.COM/DATASETS

LAND USE SCHEDULE			
TOTAL FLOOR AREA	12,189 SF		
NUMBER OF DWELLING UNITS	8		
LAND AREA	1.00 ACRES		
REQUIRED PARKING	DIRECTED BY FIRE CHIEF		
PROPOSED PARKING	13 SPACES		
IMPERVIOUS COVERAGE	25,745 SF (.59 ACRES)		
FLOOR AREA RATIO (FAR)	0.28		
PERMITTED LAND USE	FIRE STATION - MUNICIPAL = CONDITIONAL		
DWELLING UNITS PER ACRE WITH COMMON AREA	8		
DWELLING UNITS PER ACRE WITHOUT COMMON AREA	8		

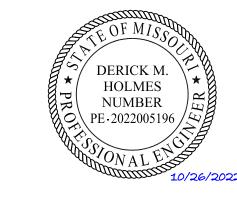
VICINITY MAP:



SITE LOCATION MAP:



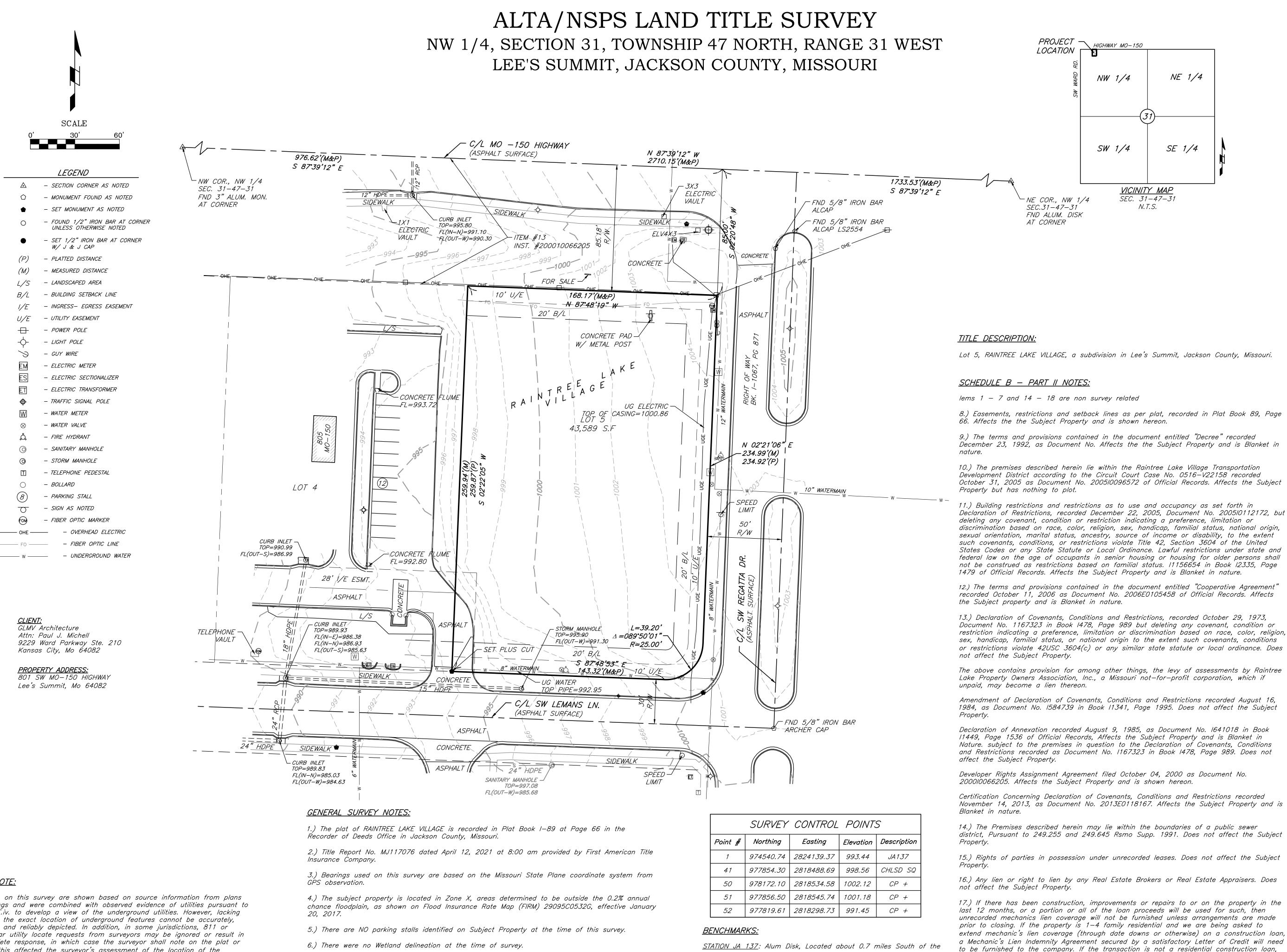
INDEX OF DRAWINGS		
SHEET NO.	SHEET NAME	
C-001	COVER SHEET	
GS001	ALTA/NSPS LAND TITLE SURVEY	
A-101	FIRST FLOOR PLAN	
A-102	SECOND FLOOR PLAN	
A-201	BUILDING ELEVATIONS	
A-202	BUILDING ELEVATIONS	
C-100	SITE PLAN	
C-101	LAYOUT PLAN	
C-102	DEMOLITION PLAN	
C-103	EROSION CONTROL PLAN	
C-104	GRADING & DRAINAGE PLAN	
C-105	UTILITY PLAN	
C-220	PUBLIC WATER PLAN & PROFILE	
C-231	PUBLIC STORMWATER PROFILES	
C-231	PRIVATE STORMWATER PROFILES	
C-400	SITE ENLARGEMENTS	
C-401	SITE ENLARGEMENTS	
C-402	SITE ENLARGEMENTS	
C-500	SITE DETAILS	
C-501	SITE DETAILS	
C-502	SITE DETAILS	
C-503	SITE DETAILS	
C-504	SITE DETAILS	
C-510	EROSION CONTROL DETAILS	
C-511	EROSION CONTROL DETAILS	
C-520	WATER DETAILS	
C-521	WATER DETAILS	
C-530	STORMWATER DETAILS	
C-531	STORMWATER DETAILS	
C-532	STORMWATER DETAILS	
C-540	SANITARY SEWER DETAILS	
ME001	MPE SITE PLAN	
ME002	SITE LIGHTING PHOTOMETRIC PLAN	
L-100	LANDSCAPE SCHEDULE	
L-101	LANDSCAPE PLAN	



REVISIO		
#	Description	Date
	ISSUED FO)R
	PERMITTIN	

PROJECT NO:	18225R21001
DATE:	10.26.2022
COV SHE	`

C-001



UTILITY NOTE:

The utilities on this survey are shown based on source information from plans and markings and were combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary.

- 7.) This property is Zoned CP-2, Planned Community Commercial
- 8.) Water utilities are based on the City Map image provided by City of Lee's Summit, Missouri,

intersection of highway 150 and highway 291 of Lee's Summit.

ELEVATION = 993.44

and Restrictions recorded as Document No. 1167323 in Book 1478, Page 989. Does not affect the Subject Property.

Developer Rights Assignment Agreement filed October 04, 2000 as Document No. 2000/0066205. Affects the Subject Property and is shown hereon.

PROJECT — HIGHWAY MO-150

NE COR., NW 1/4

SEC.31-47-31

FND ALUM. DISK AT CORNER

NW 1/4

SW 1/4

<u>VICINITY MAP</u>

SEC. 31-47-31

N. T. S.

NE 1/4

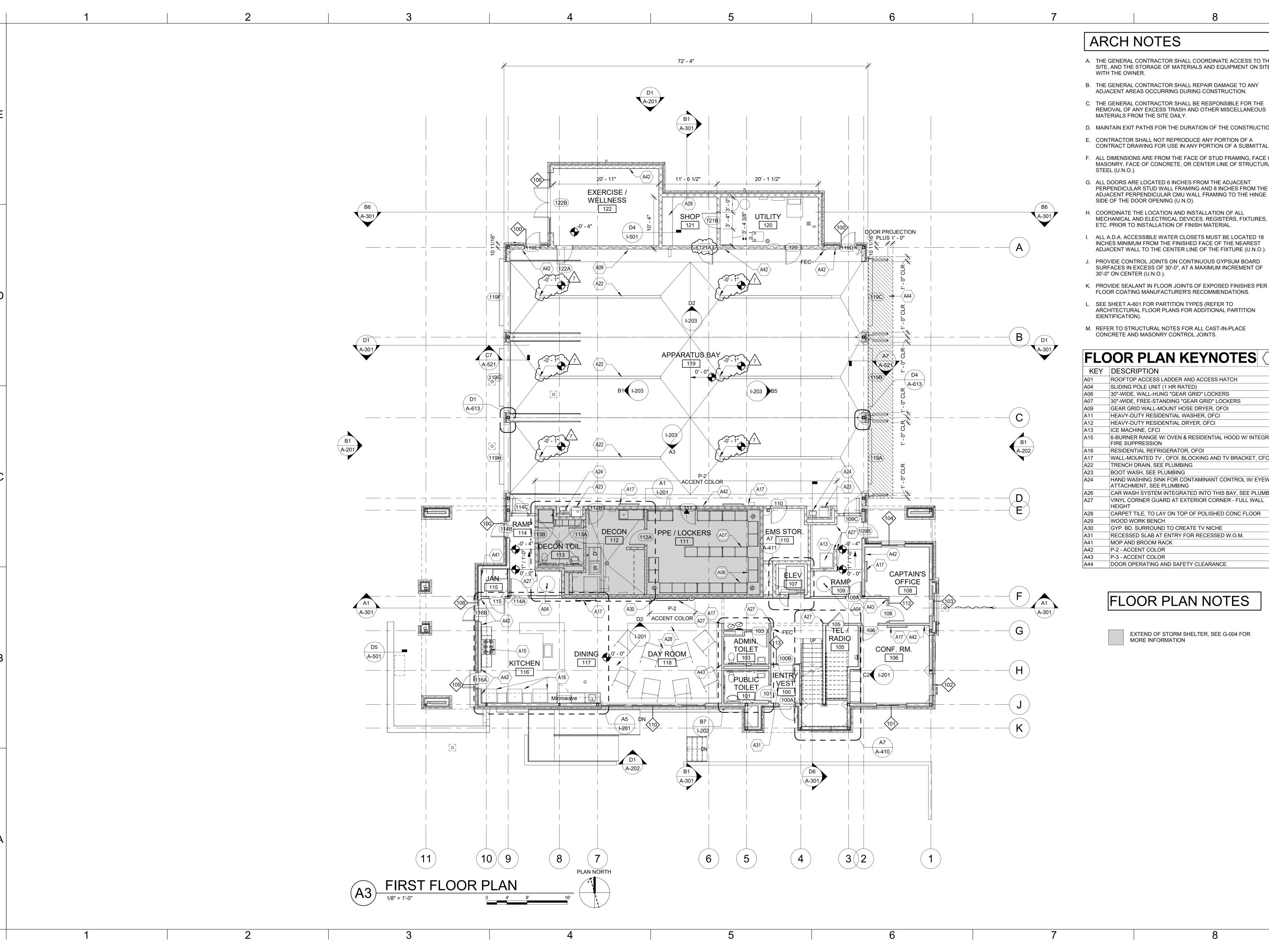
Certification Concerning Declaration of Covenants, Conditions and Restrictions recorded November 14, 2013, as Document No. 2013E0118167. Affects the Subject Property and is Blanket in nature.

14.) The Premises described herein may lie within the boundaries of a public sewer district, Pursuant to 249.255 and 249.645 Rsmo Supp. 1991. Does not affect the Subject

16.) Any lien or right to lien by any Real Estate Brokers or Real Estate Appraisers. Does

not affect the Subject Property.

17.) If there has been construction, improvements or repairs to or on the property in the last 12 months, or a portion or all of the loan proceeds will be used for such, then unrecorded mechanics lien coverage will not be furnished unless arrangements are made prior to closing. If the property is 1-4 family residential and we are being asked to extend mechanic's lien coverage (through date downs or otherwise) on a construction loan, a Mechanic's Lien Indemnity Agreement secured by a satisfactory Letter of Credit will need to be furnished to the company. If the transaction is not a residential construction loan, either the aforesaid secured indemnity or satisfactory financial statements, indemnities, affidavits and possibly lien waivers, will need to be furnished to the company. Failure to notify the company in writing before closing will invalidate any mechanic's lien coverage given in the policy. Does not affect the Subject Property.



- A. THE GENERAL CONTRACTOR SHALL COORDINATE ACCESS TO THE SITE, AND THE STORAGE OF MATERIALS AND EQUIPMENT ON SITE
- B. THE GENERAL CONTRACTOR SHALL REPAIR DAMAGE TO ANY
- C. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ANY EXCESS TRASH AND OTHER MISCELLANEOUS
- D. MAINTAIN EXIT PATHS FOR THE DURATION OF THE CONSTRUCTION.
- E. CONTRACTOR SHALL NOT REPRODUCE ANY PORTION OF A
- F. ALL DIMENSIONS ARE FROM THE FACE OF STUD FRAMING, FACE OF MASONRY, FACE OF CONCRETE, OR CENTER LINE OF STRUCTURAL
- G. ALL DOORS ARE LOCATED 6 INCHES FROM THE ADJACENT PERPENDICULAR STUD WALL FRAMING AND 8 INCHES FROM THE ADJACENT PERPENDICULAR CMU WALL FRAMING TO THE HINGE
- H. COORDINATE THE LOCATION AND INSTALLATION OF ALL MECHANICAL AND ELECTRICAL DEVICES, REGISTERS, FIXTURES, ETC. PRIOR TO INSTALLATION OF FINISH MATERIAL.
- ALL A.D.A. ACCESSIBLE WATER CLOSETS MUST BE LOCATED 18 INCHES MINIMUM FROM THE FINISHED FACE OF THE NEAREST
- PROVIDE CONTROL JOINTS ON CONTINUOUS GYPSUM BOARD SURFACES IN EXCESS OF 30'-0", AT A MAXIMUM INCREMENT OF
- K. PROVIDE SEALANT IN FLOOR JOINTS OF EXPOSED FINISHES PER FLOOR COATING MANUFACTURER'S RECOMMENDATIONS.
- L. SEE SHEET A-601 FOR PARTITION TYPES (REFER TO ARCHITECTURAL FLOOR PLANS FOR ADDITIONAL PARTITION
- M. REFER TO STRUCTURAL NOTES FOR ALL CAST-IN-PLACE CONCRETE AND MASONRY CONTROL JOINTS.

FLOOR PLAN KEYNOTES

KEY	DESCRIPTION
A01	ROOFTOP ACCESS LADDER AND ACCESS HATCH
A04	SLIDING POLE UNIT (1 HR RATED)
A06	30"-WIDE, WALL-HUNG "GEAR GRID" LOCKERS
A07	30"-WIDE, FREE-STANDING "GEAR GRID" LOCKERS
A09	GEAR GRID WALL-MOUNT HOSE DRYER, OFOI
A11	HEAVY-DUTY RESIDENTIAL WASHER, OFCI
A12	HEAVY-DUTY RESIDENTIAL DRYER, OFCI
A13	ICE MACHINE, CFCI
A15	6-BURNER RANGE W/ OVEN & RESIDENTIAL HOOD W/ INTEGRAL FIRE SUPPRESSION
A16	RESIDENTIAL REFRIGERATOR, OFOI
A17	WALL-MOUNTED TV , OFOI. BLOCKING AND TV BRACKET, CFCI
A22	TRENCH DRAIN, SEE PLUMBING
A23	BOOT WASH, SEE PLUMBING
A24	HAND WASHING SINK FOR CONTAMINANT CONTROL W/ EYEWASH ATTACHMENT, SEE PLUMBING
A26	CAR WASH SYSTEM INTEGRATED INTO THIS BAY, SEE PLUMBING
A27	VINYL CORNER GUARD AT EXTERIOR CORNER - FULL WALL HEIGHT
A28	CARPET TILE, TO LAY ON TOP OF POLISHED CONC FLOOR
A29	WOOD WORK BENCH
A30	GYP. BD. SURROUND TO CREATE TV NICHE
A31	RECESSED SLAB AT ENTRY FOR RECESSED W.O.M.
A41	MOP AND BROOM RACK
A42	P-2 - ACCENT COLOR
A43	P-3 - ACCENT COLOR
ΔΔΔ	DOOR OPERATING AND SAFETY CLEARANCE

FLOOR PLAN NOTES

EXTEND OF STORM SHELTER, SEE G-004 FOR MORE INFORMATION



GLMVArchitecture 9229 WARD PARKWAY

TEL: (816) 444-4200 FAX: (316) 265-5646 www.glmv.com GLMV ARCHITECTURE, INC. MISSOURI STATE CERTIFICATE OF AUTHORITY #000305

SUITE # 210

KANSAS CITY, MO 64114

CONSULTING ARCHITECT FGMA ARCHITECTS 11250 ROGER BACON DRIVE, SUITE 16 RESTON, VIRGINIA 20190

TEL: (703) 956-5600 CIVIL ENGINEER & LANDSCAPE ARCH.

GLMV ARCHITECTURE, INC MISSOURI CIVIL COA #2018033898 MISSOURI LANDSCAPE COA #000008 9229 WARD PARKWAY, SUITE # 210 KANSAS CITY, MO 64114

TEL: (816) 444-4200 STRUCTURAL ENGINEER LEIGH + O'KANE MISSOURI COA #001644 250 NE MULBERRY, SUITE 201

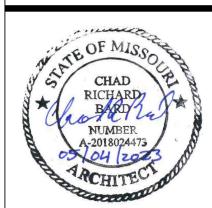
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MISSOURI COA #01022 15902 MIDLAND DRIVE SHAWNEE, KS 66217 (913) 362.9090

SECURITY & IT ENGINEERS HENDERSON ENGINEERS MISSOURI COA #000556 1801 MAIN STREET, SUITE 300 KANSAS CITY, MO 64108 (816) 663-8700

801 MISSOUF LEE'S SUMMI FIRE ST

REVISIONS: Description 11/21/2022 02/01/2023 02/22/2023 05/04/2023 ASI 01 ASI 04 ASI 06 ASI 07

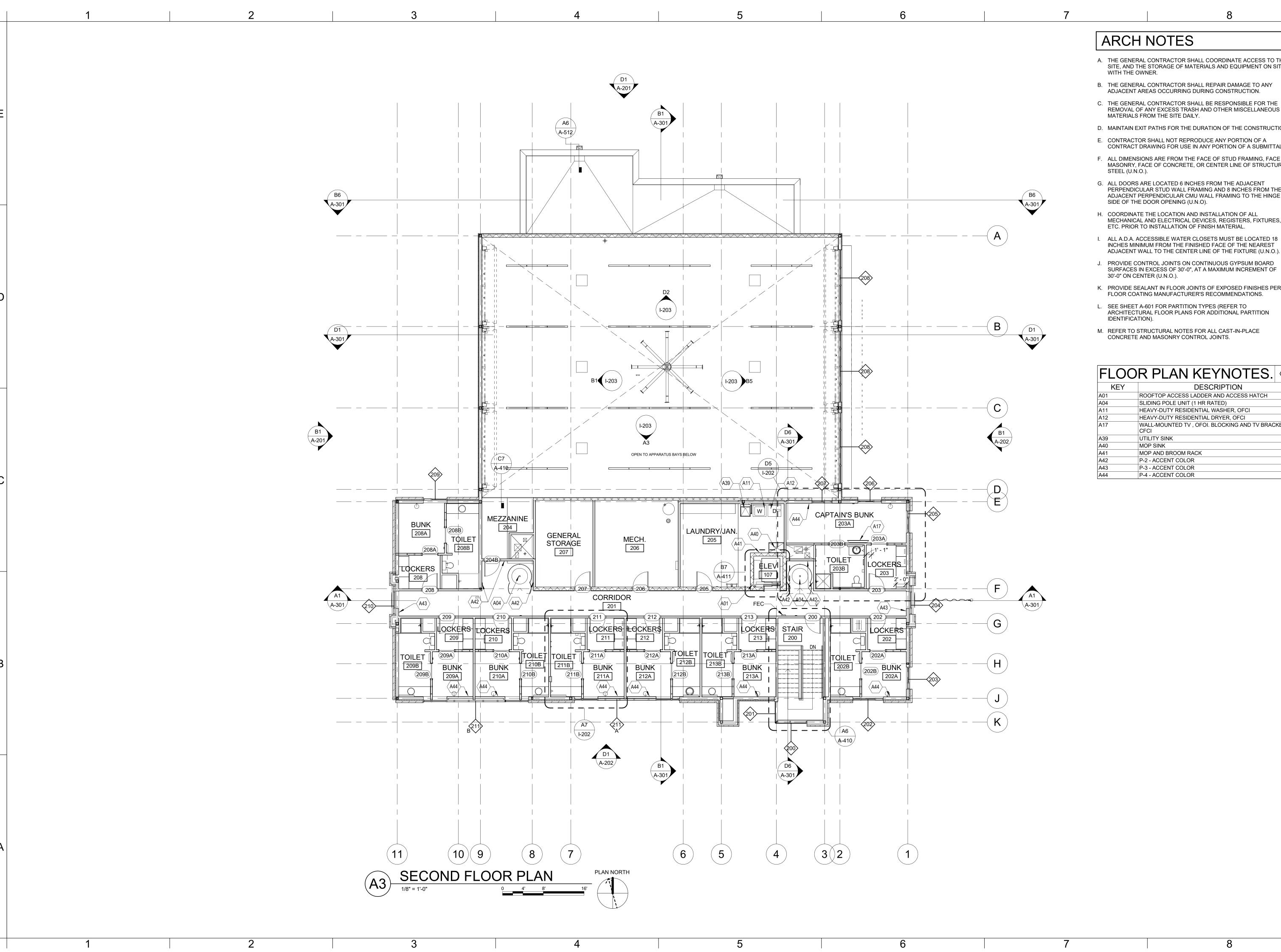


CHAD R. BARD - ARCHITECT MO# A-2018024473

PROJECT NO: 18225R21001 DATE: 05.04.2023 DRAWN BY: CHK'D BY:

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FIRST FLOOR



ARCH NOTES

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A42	P-2 - ACCENT COLOR
A43	P-3 - ACCENT COLOR
	D 4 400ENT 001 0D



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STRUCTURAL ENGINEER LEIGH + O'KANE MISSOURI COA #001644 250 NE MULBERRY, SUITE 201

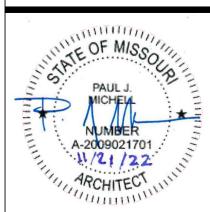
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HENDERSON ENGINEERS MISSOURI COA #000556 1801 MAIN STREET, SUITE 300 KANSAS CITY, MO 64108 (816) 663-8700

801 MISSOUF LEE'S SUMMI

REVISIONS: # Description Date

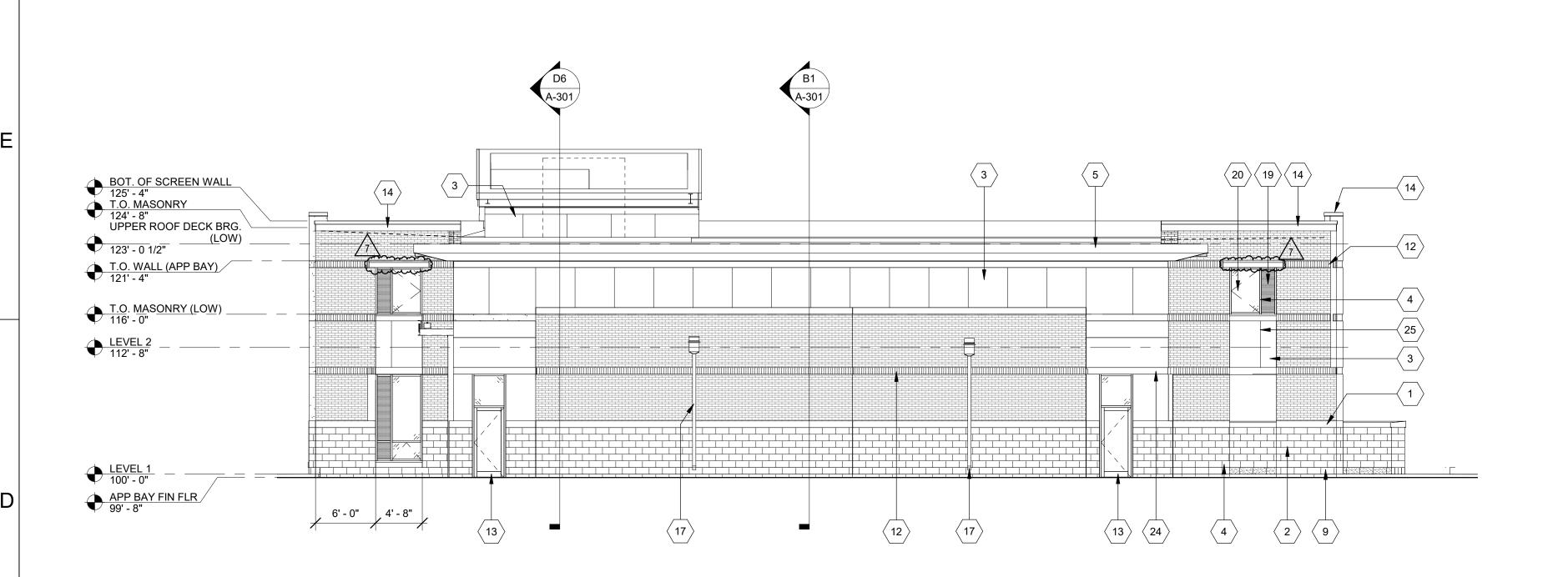


PAUL J. MICHELL - ARCHITECT MO# A-2009021701

PROJECT NO: 11.21.2022 DRAWN BY: CHK'D BY: © GLMV Architecture, Inc.

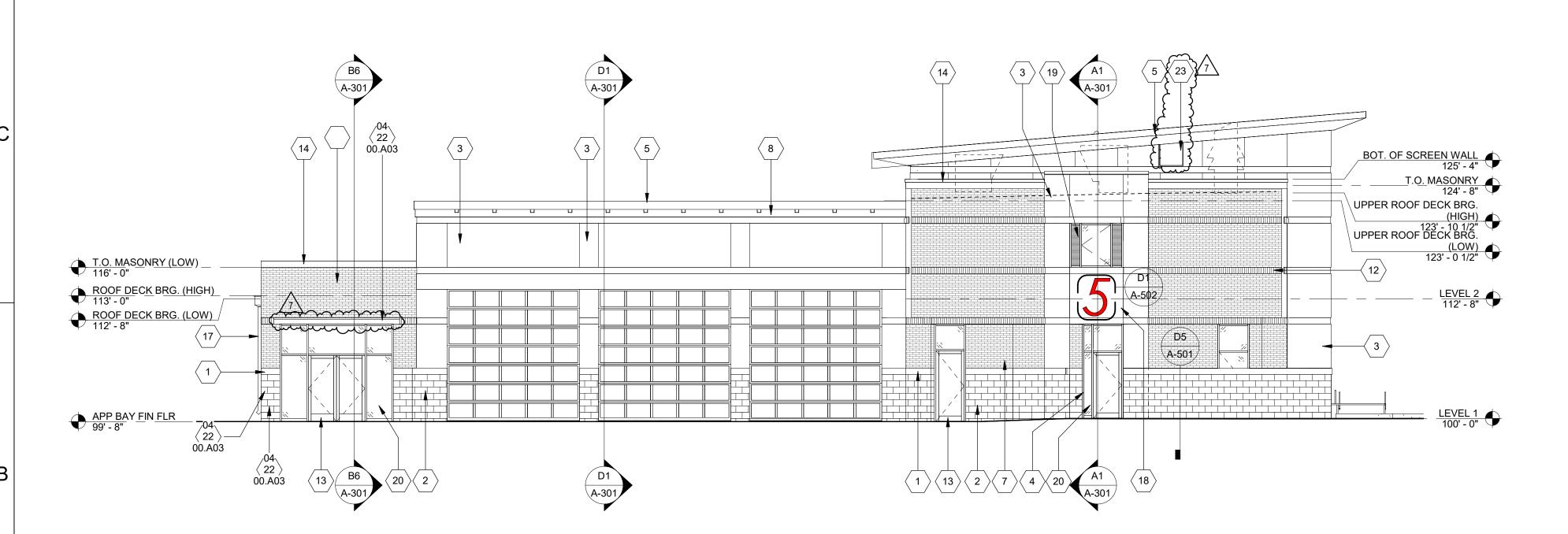
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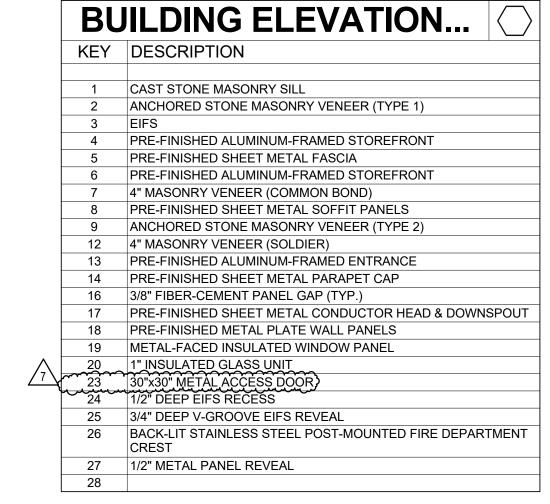
SECOND FLOOR



NORTH ELEVATION

EAST ELEVATION







SUITE # 210

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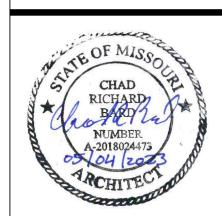
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SHAWNEE, KS 66217

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1801 MAIN STREET, SUITE 300
KANSAS CITY, MO 64108
(816) 663-8700

HIGHWAY 150 , MISSOURI 64082



CHAD R. BARD - ARCHITECT MO# A-2018024473

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PROJECT NO: 18225R21001

DATE: 05.04.2023

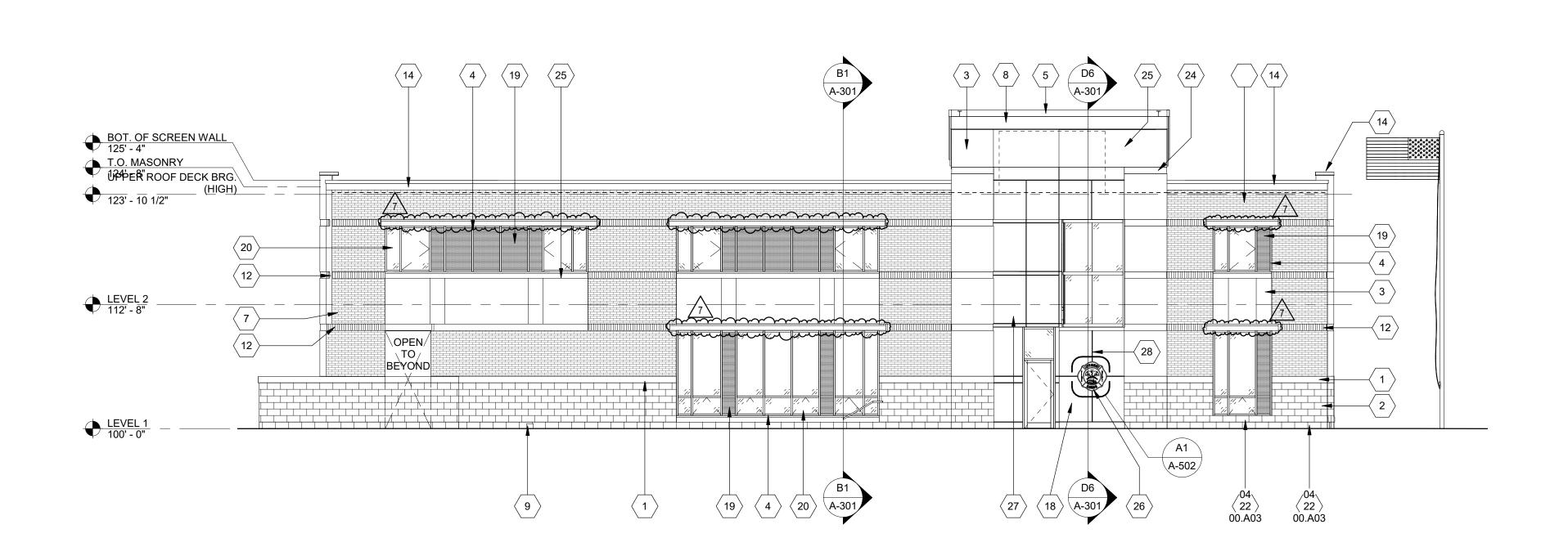
DRAWN BY: JSP

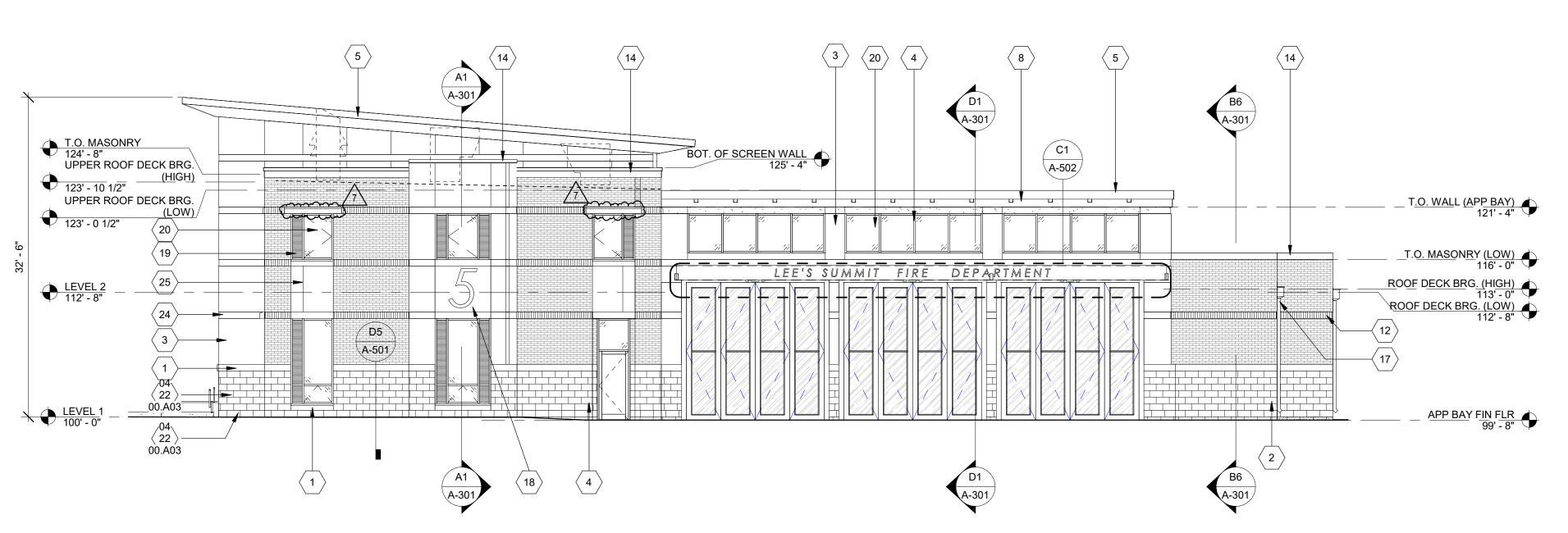
CHK'D BY: GLW

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BUILDING ELEVATIONS

A-201







SOUTH ELEVATION

BUILDING ELEVATION... KEY DESCRIPTION 1 CAST STONE MASONRY SILL 2 ANCHORED STONE MASONRY VENEER (TYPE 1) 4 PRE-FINISHED ALUMINUM-FRAMED STOREFRONT 5 PRE-FINISHED SHEET METAL FASCIA 6 PRE-FINISHED ALUMINUM-FRAMED STOREFRONT 7 4" MASONRY VENEER (COMMON BOND) 8 PRE-FINISHED SHEET METAL SOFFIT PANELS 9 ANCHORED STONE MASONRY VENEER (TYPE 2) 12 4" MASONRY VENEER (SOLDIER) 13 PRE-FINISHED ALUMINUM-FRAMED ENTRANCE 14 PRE-FINISHED SHEET METAL PARAPET CAP 16 3/8" FIBER-CEMENT PANEL GAP (TYP.) 17 PRE-FINISHED SHEET METAL CONDUCTOR HEAD & DOWNSPOUT 18 PRE-FINISHED METAL PLATE WALL PANELS 19 METAL-FACED INSULATED WINDOW PANEL 20 1" INSULATED GLASS UNIT
23 30"x30" METAL ACCESS DOOR)
24 1/2" DEEP EIFS RECESS 25 3/4" DEEP V-GROOVE EIFS REVEAL 26 BACK-LIT STAINLESS STEEL POST-MOUNTED FIRE DEPARTMENT 27 1/2" METAL PANEL REVEAL 28

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STRUCTURAL ENGINEER LEIGH + O'KANE MISSOURI COA #001644 250 NE MULBERRY, SUITE 201 LEE'S SUMMIT, MO 64086

TEL: (816) 444-4200

(816) 444-3144

MECH., ELECT. & PLMG. ENGINEERS HOSS & BROWN ENGINEERS MISSOURI COA #01022 15902 MIDLAND DRIVE SHAWNEE, KS 66217 (913) 362.9090

SECURITY & IT ENGINEERS HENDERSON ENGINEERS MISSOURI COA #000556 1801 MAIN STREET, SUITE 300 KANSAS CITY, MO 64108 (816) 663-8700

FIRE STATION #5 CITY OF LEE'S SUMMIT 801 MISSOUF LEE'S SUMMI

REVISIONS: Description 11/21/2022 02/01/2023 02/22/2023 05/04/2023

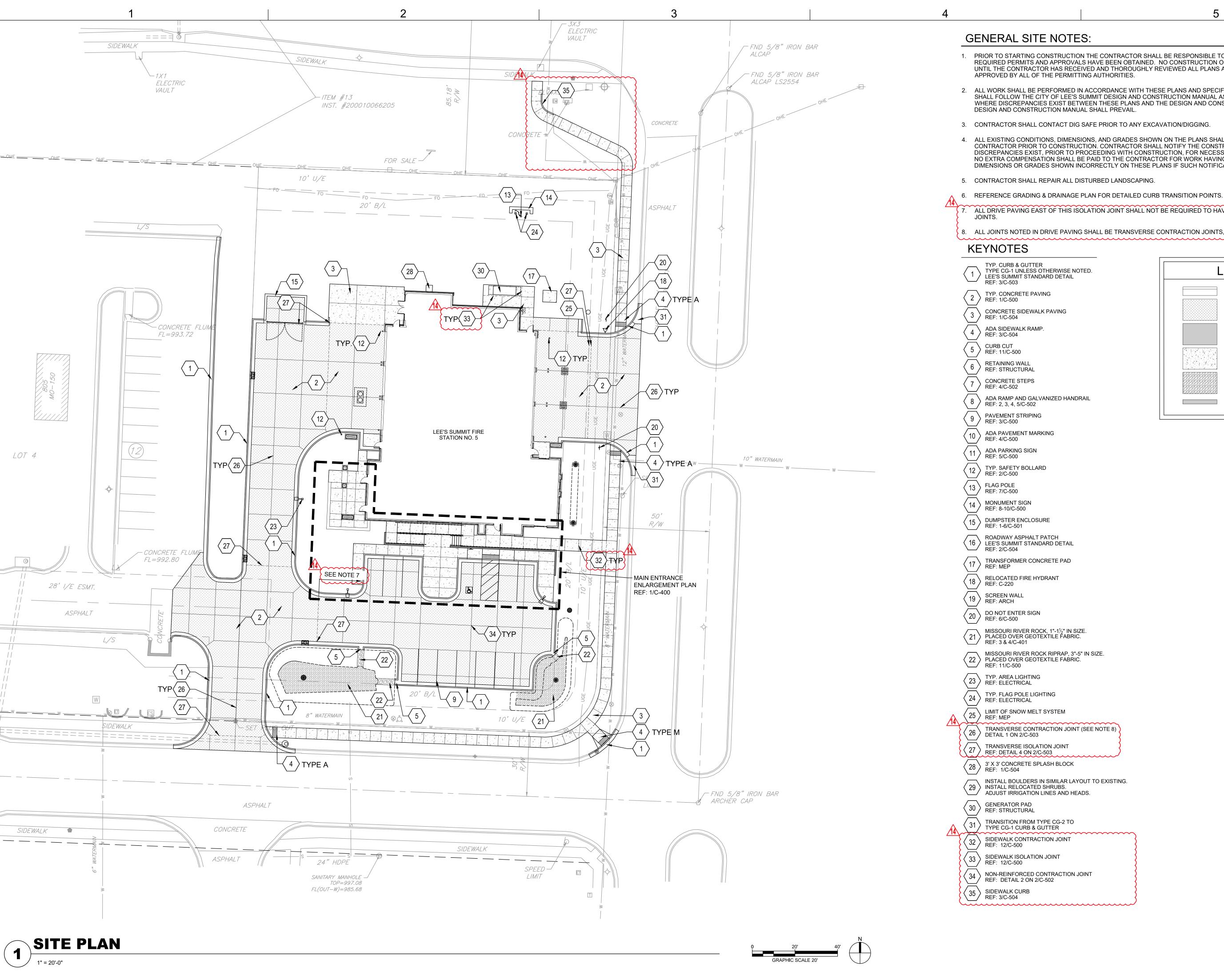


CHAD R. BARD - ARCHITECT MO# A-2018024473

PROJECT NO: 18225	R21001
DATE: 05.	04.2023
DRAWN BY:	JSP
CHK'D BY:	GLW
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ELEVATIONS



- 1. PRIOR TO STARTING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS
- 2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE
- 4. ALL EXISTING CONDITIONS, DIMENSIONS, AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION, FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

ALL DRIVE PAVING EAST OF THIS ISOLATION JOINT SHALL NOT BE REQUIRED TO HAVE DOWEL OR TIE BARS AT

8. ALL JOINTS NOTED IN DRIVE PAVING SHALL BE TRANSVERSE CONTRACTION JOINTS, UNLESS NOTED OTHERWISE.

LEGEND

TYP. CURB & GUTTER

ASPHALT PATCH

CONCRETE SIDEWALK

MISSOURI RIVER ROCK

RETAINING WALL

TYP. CONCRETE PAVING

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MISSOURI COA #001644 250 NE MURBERRY, SUITE 201 LEE'S SUMMIT, MO, 64086 (816) 444-3144 PHONE

SHAWNEE, KS 66217

(816) 663-8700 PHONE

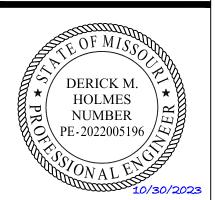
MECH., ELEC. & PLUMBING ENGINEERS HOSS & BROWN ENGINEERS MISSOURI COA #01022 15902 MIDLAND DRIVE

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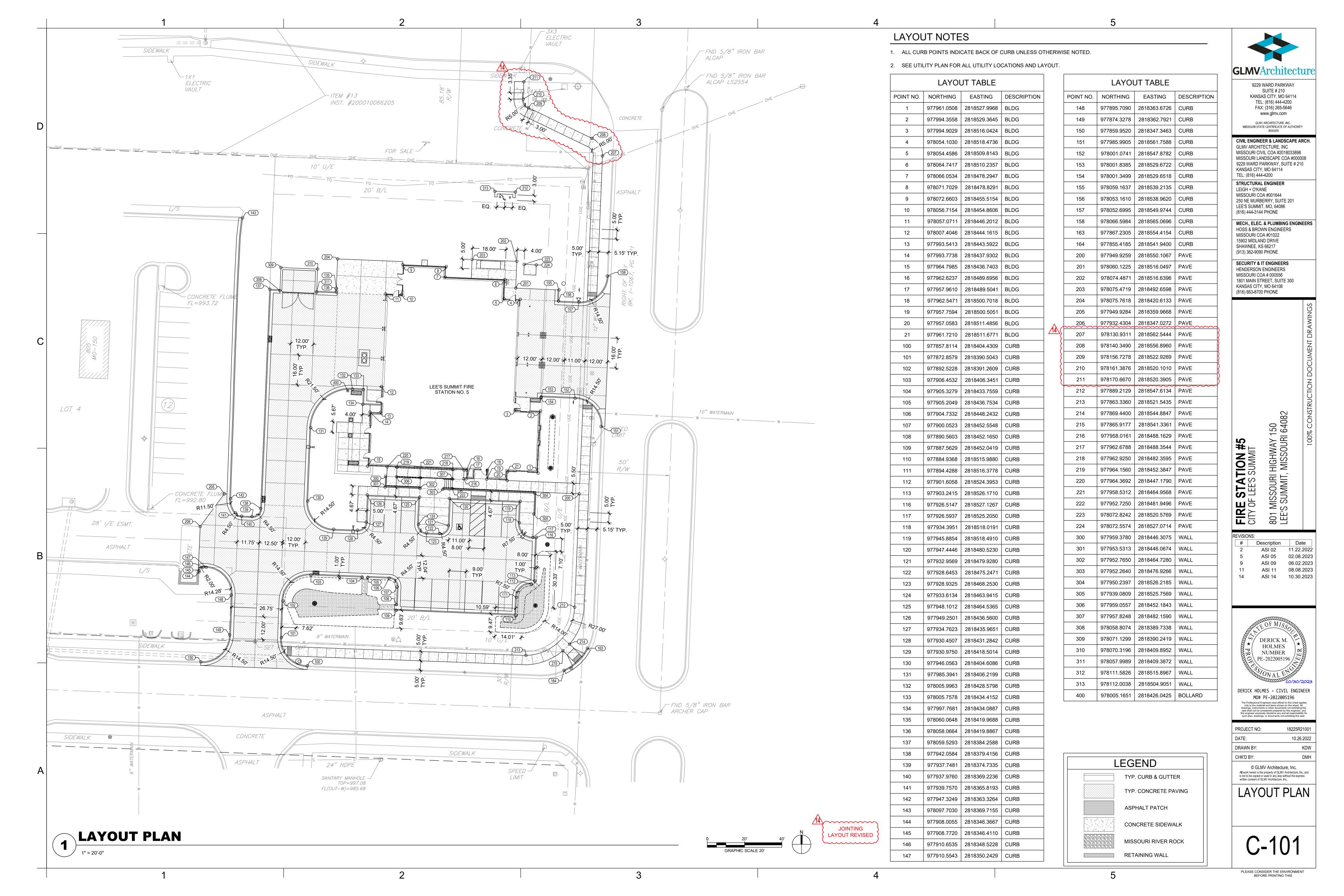
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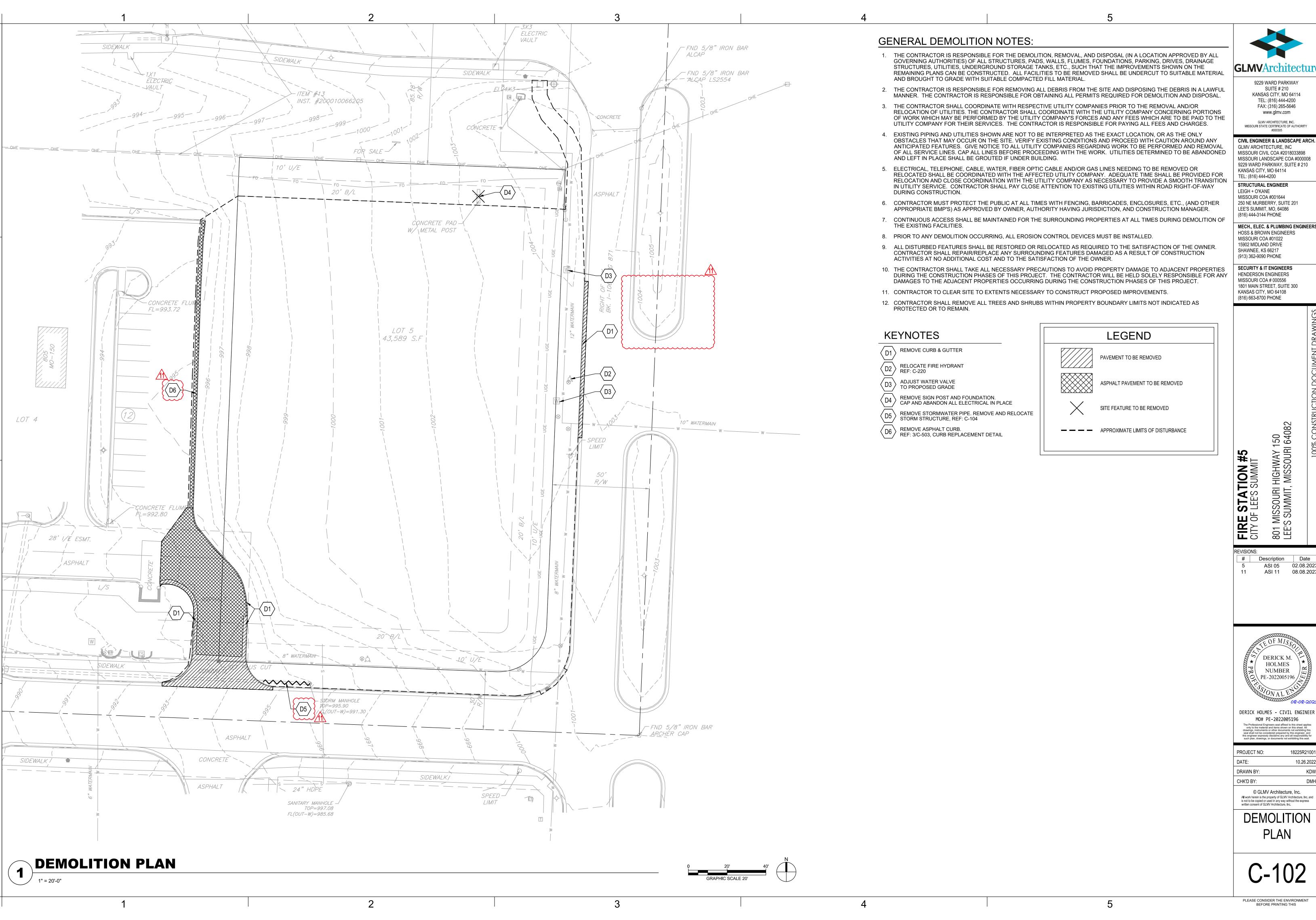
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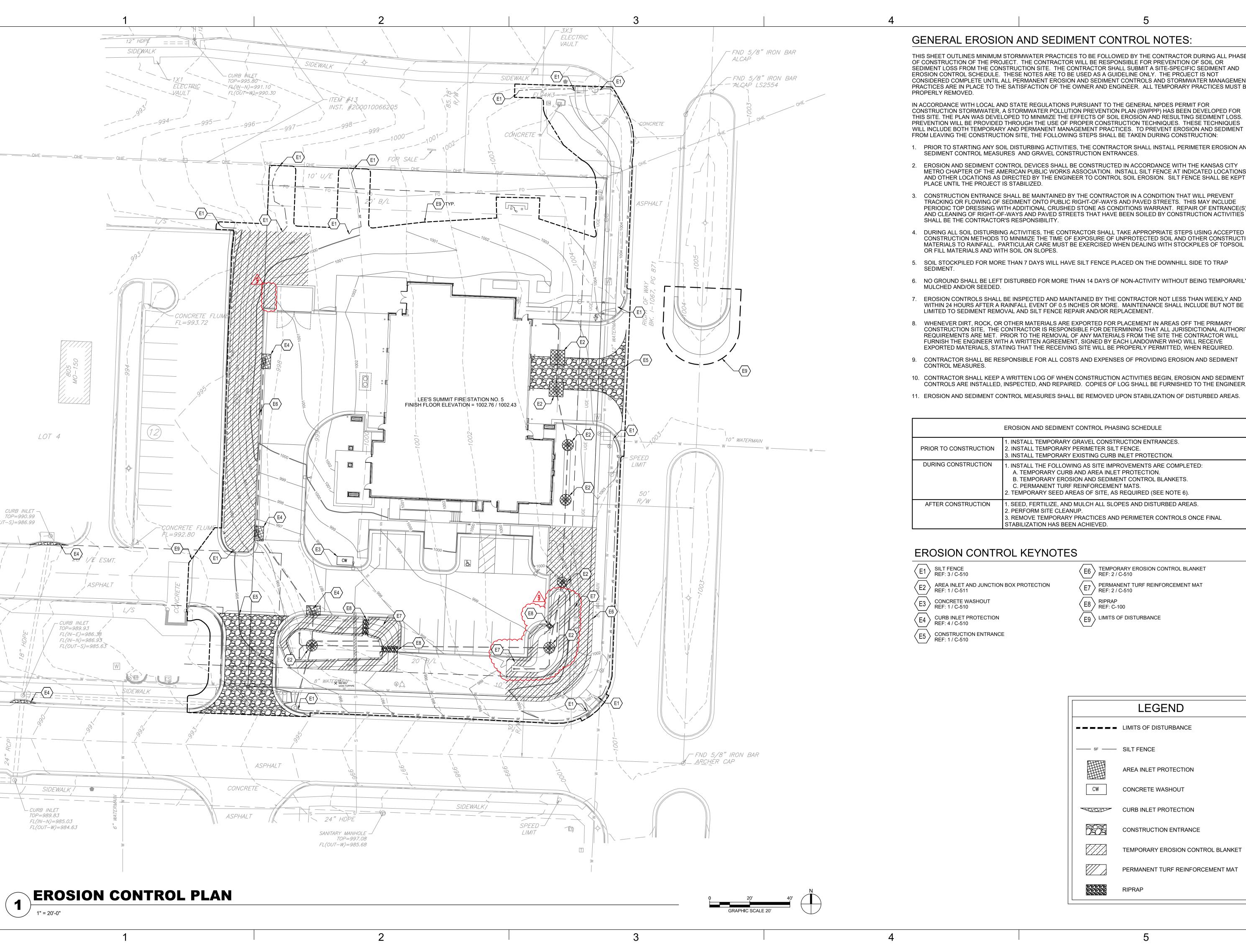
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DEMOLITION





THIS SHEET OUTLINES MINIMUM STORMWATER PRACTICES TO BE FOLLOWED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREVENTION OF SOIL OR SEDIMENT LOSS FROM THE CONSTRUCTION SITE. THE CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC SEDIMENT AND EROSION CONTROL SCHEDULE. THESE NOTES ARE TO BE USED AS A GUIDELINE ONLY. THE PROJECT IS NOT CONSIDERED COMPLETE UNTIL ALL PERMANENT EROSION AND SEDIMENT CONTROLS AND STORMWATER MANAGEMENT PRACTICES ARE IN PLACE TO THE SATISFACTION OF THE OWNER AND ENGINEER. ALL TEMPORARY PRACTICES MUST BE

IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS PURSUANT TO THE GENERAL NPDES PERMIT FOR CONSTRUCTION STORMWATER, A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED FOR THIS SITE. THE PLAN WAS DEVELOPED TO MINIMIZE THE EFFECTS OF SOIL EROSION AND RESULTING SEDIMENT LOSS. PREVENTION WILL BE PROVIDED THROUGH THE USE OF PROPER CONSTRUCTION TECHNIQUES. THESE TECHNIQUES WILL INCLUDE BOTH TEMPORARY AND PERMANENT MANAGEMENT PRACTICES. TO PREVENT EROSION AND SEDIMENT

- 1. PRIOR TO STARTING ANY SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL PERIMETER EROSION AND
- 2. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE KANSAS CITY METRO CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION. INSTALL SILT FENCE AT INDICATED LOCATIONS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER TO CONTROL SOIL EROSION. SILT FENCE SHALL BE KEPT IN
- 3. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS AND PAVED STREETS. THIS MAY INCLUDE PERIODIC TOP DRESSING WITH ADDITIONAL CRUSHED STONE AS CONDITIONS WARRANT. REPAIR OF ENTRANCE(S) AND CLEANING OF RIGHT-OF-WAYS AND PAVED STREETS THAT HAVE BEEN SOILED BY CONSTRUCTION ACTIVITIES
- 4. DURING ALL SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS USING ACCEPTED CONSTRUCTION METHODS TO MINIMIZE THE TIME OF EXPOSURE OF UNPROTECTED SOIL AND OTHER CONSTRUCTION MATERIALS TO RAINFALL. PARTICULAR CARE MUST BE EXERCISED WHEN DEALING WITH STOCKPILES OF TOPSOIL
- 5. SOIL STOCKPILED FOR MORE THAN 7 DAYS WILL HAVE SILT FENCE PLACED ON THE DOWNHILL SIDE TO TRAP
- 6. NO GROUND SHALL BE LEFT DISTURBED FOR MORE THAN 14 DAYS OF NON-ACTIVITY WITHOUT BEING TEMPORARILY
- 7. EROSION CONTROLS SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR NOT LESS THAN WEEKLY AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR MORE. MAINTENANCE SHALL INCLUDE BUT NOT BE
- 8. WHENEVER DIRT, ROCK, OR OTHER MATERIALS ARE EXPORTED FOR PLACEMENT IN AREAS OFF THE PRIMARY CONSTRUCTION SITE, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THAT ALL JURISDICTIONAL AUTHORITY REQUIREMENTS ARE MET. PRIOR TO THE REMOVAL OF ANY MATERIALS FROM THE SITE THE CONTRACTOR WILL FURNISH THE ENGINEER WITH A WRITTEN AGREEMENT, SIGNED BY EACH LANDOWNER WHO WILL RECEIVE
- 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND EXPENSES OF PROVIDING EROSION AND SEDIMENT
- CONTRACTOR SHALL KEEP A WRITTEN LOG OF WHEN CONSTRUCTION ACTIVITIES BEGIN, EROSION AND SEDIMENT
- 11. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UPON STABILIZATION OF DISTURBED AREAS.

	EROSION AND SEDIMENT CONTROL PHASING SCHEDULE
PRIOR TO CONSTRUCTION	INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES. INSTALL TEMPORARY PERIMETER SILT FENCE. INSTALL TEMPORARY EXISTING CURB INLET PROTECTION.
DURING CONSTRUCTION	1. INSTALL THE FOLLOWING AS SITE IMPROVEMENTS ARE COMPLETED: A. TEMPORARY CURB AND AREA INLET PROTECTION. B. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKETS. C. PERMANENT TURF REINFORCEMENT MATS. 2. TEMPORARY SEED AREAS OF SITE, AS REQUIRED (SEE NOTE 6).
AFTER CONSTRUCTION	1. SEED, FERTILIZE, AND MULCH ALL SLOPES AND DISTURBED AREAS. 2. PERFORM SITE CLEANUP. 3. REMOVE TEMPORARY PRACTICES AND PERIMETER CONTROLS ONCE FINAL STABILIZATION HAS BEEN ACHIEVED.

- E7 PERMANENT TURF REINFORCEMENT MAT REF: 2 / C-510

LEGEND

AREA INLET PROTECTION

CONCRETE WASHOUT

CURB INLET PROTECTION

CONSTRUCTION ENTRANCE

- E8 RIPRAP REF: C-100
- $\langle E9 \rangle$ LIMITS OF DISTURBANCE

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TEL: (816) 444-4200 STRUCTURAL ENGINEER

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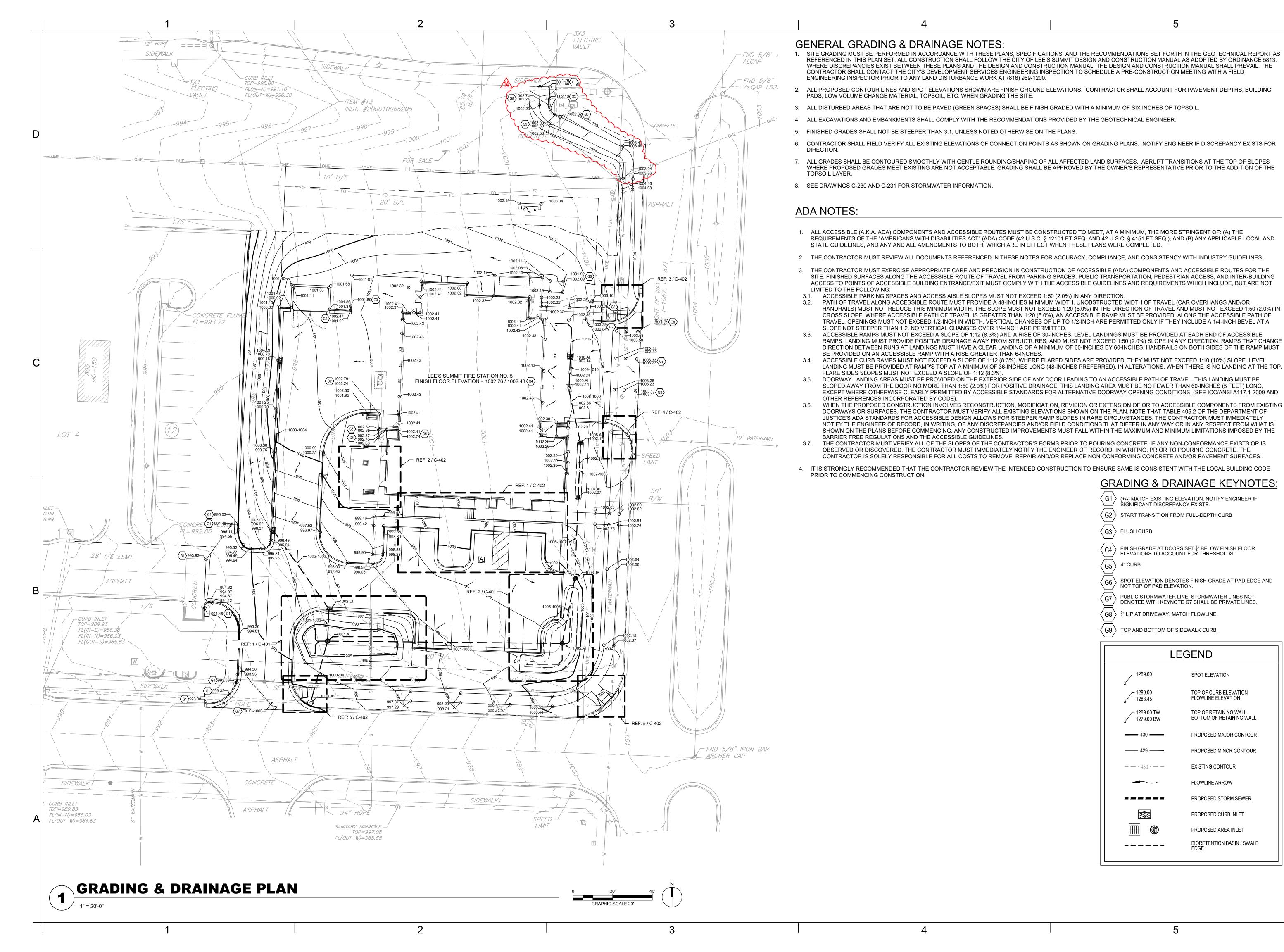
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EROSION CONTROL PLAN

TEMPORARY EROSION CONTROL BLANKET

PERMANENT TURF REINFORCEMENT MAT





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MO# PE-2022005196

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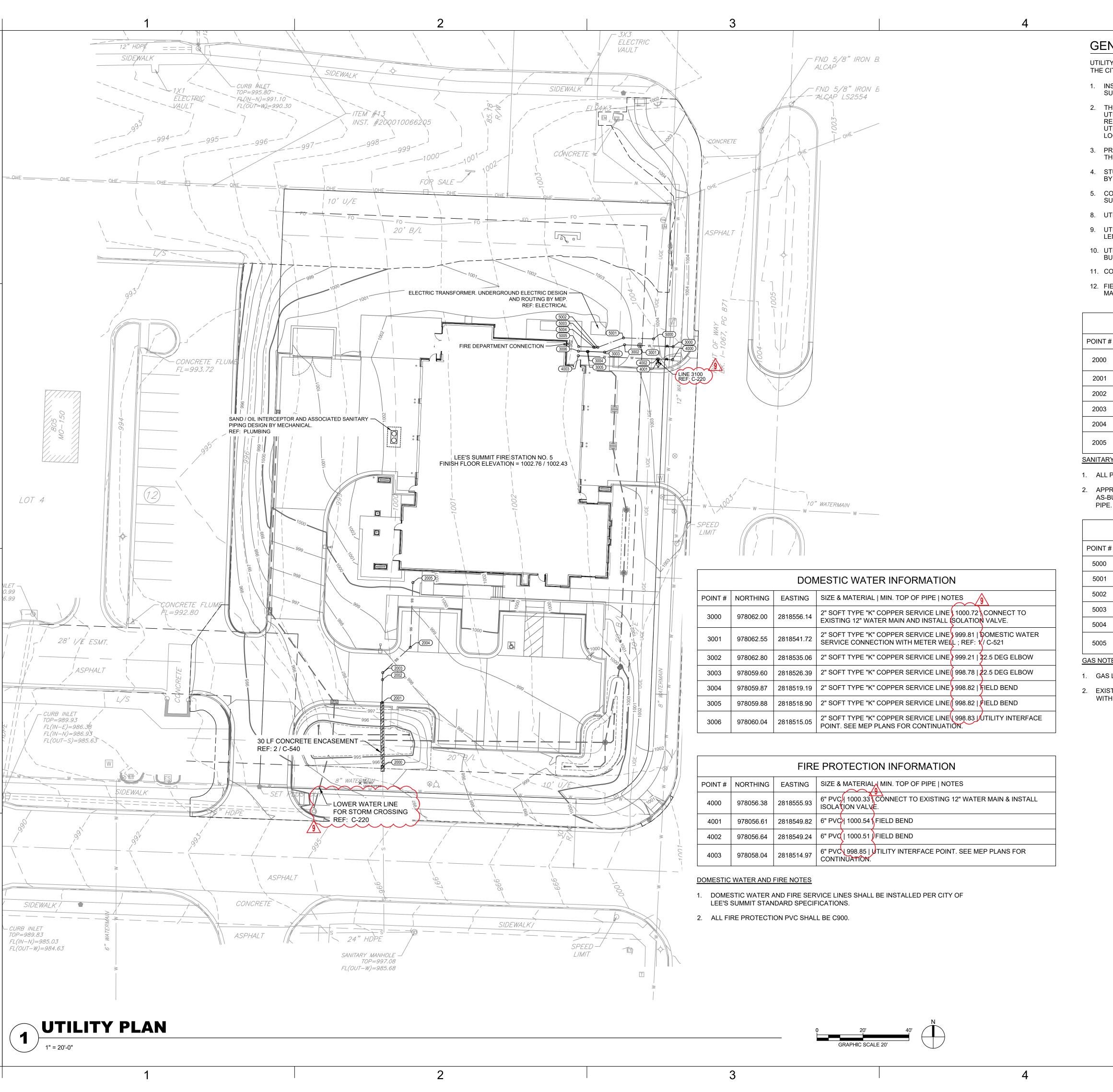
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GRADING & DRAINAGE PLAN

C-104



GENERAL UTILITY NOTES:

UTILITY CONSTRUCTION SHALL COMPLY WITH THE STANDARD SPECIFICATIONS, CODES, AND DETAILS OF THE CITY OF LEE'S SUMMIT, MO AND UTILITY PROVIDERS.

- 1. INSTALLATION, BEDDING, & TESTING OF UTILITY INSTALLATIONS SHALL BE AS PER CITY OF LEE'S SUMMIT, MO STANDARD SPECIFICATIONS AND STANDARD SPECIAL PROVISIONS.
- 2. THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION AND FOR MAKING HIS OWN VERIFICATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- PROTECT ALL COMPONENTS DURING DEMOLITION / CONSTRUCTION PROCESS. MAINTAIN BMP'S THROUGHOUT THE DURATION OF CONSTRUCTION.
- 4. STUB ALL CONNECTIONS TO WITHIN 5' OF THE BUILDING TO PROVIDE CONNECTION INTO THE BUILDING BY MECHANICAL PLUMBING CONTRACTOR.
- 5. CONTRACTOR TO PROVIDE DETAILED AS-BUILT DRAWINGS TO OWNER, ENGINEER, AND CITY OF LEE'S SUMMIT, MO UPON COMPLETION OF ALL UTILITIES.
- 8. UTILITY TRENCH BACKFILL SHALL BE PER PROJECT SPECIFICATIONS.
- 9. UTILITY PIPE LENGTHS ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR TO VERIFY ACTUAL LENGTHS OF PIPE REQUIRED PRIOR TO BIDDING & INSTALLING UTILITIES.
- 10. UTILITY CONTRACTOR TO COORDINATE BUILDING CONNECTION POINTS WITH PLUMBING PLAN AND BUILDING CONTRACTOR.
- 11. CONTRACTOR TO ADJUST EXISTING WATER VALVES TO PROPOSED GRADE, AS REQUIRED.
- 12. FIELD BEND INFORMATION IS PROVIDED FOR REFERENCE ONLY. CONTRACTOR TO FOLLOW PIPE MANUFACTURER'S RECOMMENDATIONS FOR FIELD ADJUSTMENTS OF PIPE BETWEEN FITTINGS.

		SAN	IITARY SEWER INFORMATION
POINT #	NORTHING	EASTING	SIZE & MATERIAL SLOPE DOWNSTREAM INV. EL. NOTES
2000	977879.55	2818429.96	4" PVC N/A 989.58 CONNECTION TO EXISTING SERVICE. SEE SANITARY SEWER NOTE 2
2001	977907.40	2818429.72	4" PVC 4.32% 990.78 FIELD BEND
2002	977917.33	2818429.88	4" PVC 4.32% 991.21 FIELD BEND
2003	977920.39	2818430.01	4" PVC 4.32% 991.34 45 DEG ELBOW
2004	977931.40	2818441.95	4" PVC 13.19% 993.49 45 DEG ELBOW
2005	977959.53	2818443.11	4" PVC 13.19% 997.20 CLEANOUT UTILITY INTERFACE POINT. SEE MEP PLANS FOR CONTINUATION

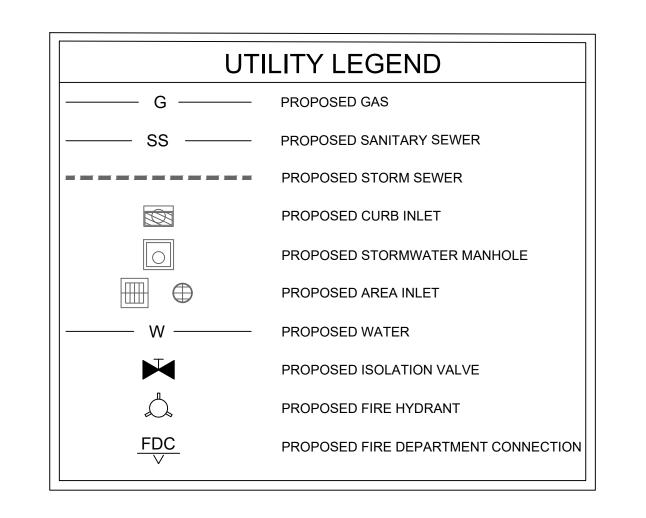
SANITARY SEWER NOTES

- 1. ALL PVC PIPE SHALL BE SDR 26.
- 2. APPROXIMATE LOCATION OF EXISTING SANITARY SEWER STUB (PER CITY AS-BUILTS). CONTRACTOR TO FIELD VERIFY PRIOR TO INSTALLING UPSTREAM

			GAS INFORMATION
POINT#	NORTHING	EASTING /9	FINISHED GRADE NOTES
5000	978065.39	2818547.67	1003.89 SEE GAS NOTE 2
5001	978065.83	2818534.58	1002.74 22.5 DEG ELBOW
5002	978061.70	2818523.44	1002.25 22.5 DEG ELBOW
5003	978061.75	2818522.21	1002.25 FIELD BEND
5004	978061.77	2818521.63	1002.26 FIELD BEND
5005	978062.04	2818515.13	1002.30 UTILITY INTERFACE POINT. SEE MEP PLANS FOR CONTINUATION.

GAS NOTES

- 1. GAS LINE DESIGN AND INSTALLATION PER SERVICE PROVIDER.
- 2. EXISTING GAS NOT PICKED UP ON SITE SURVEY. CONTRACTOR TO COORDINATE WITH SERVICE PROVIDER FOR SERVICING SITE WITH NATURAL GAS.





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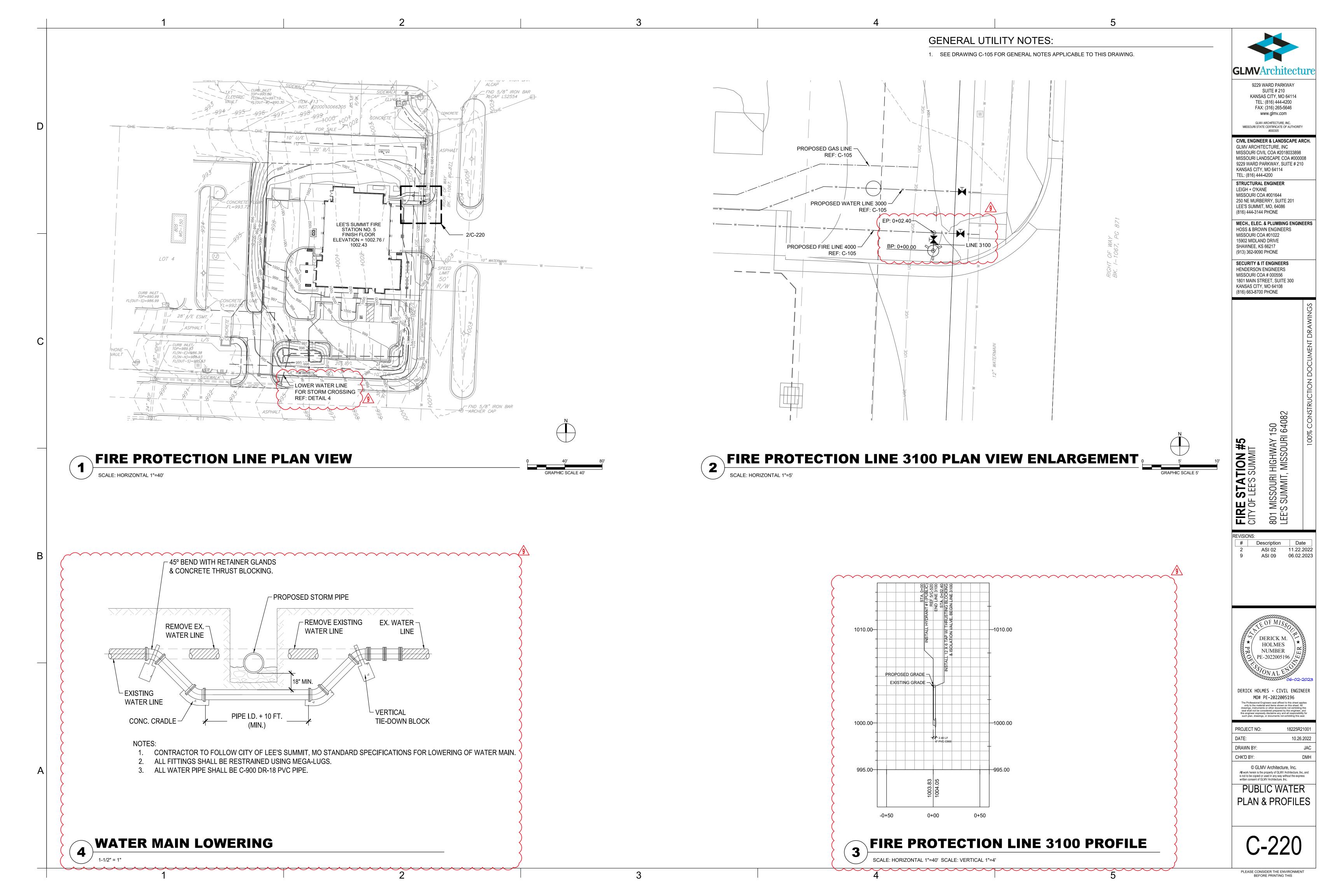
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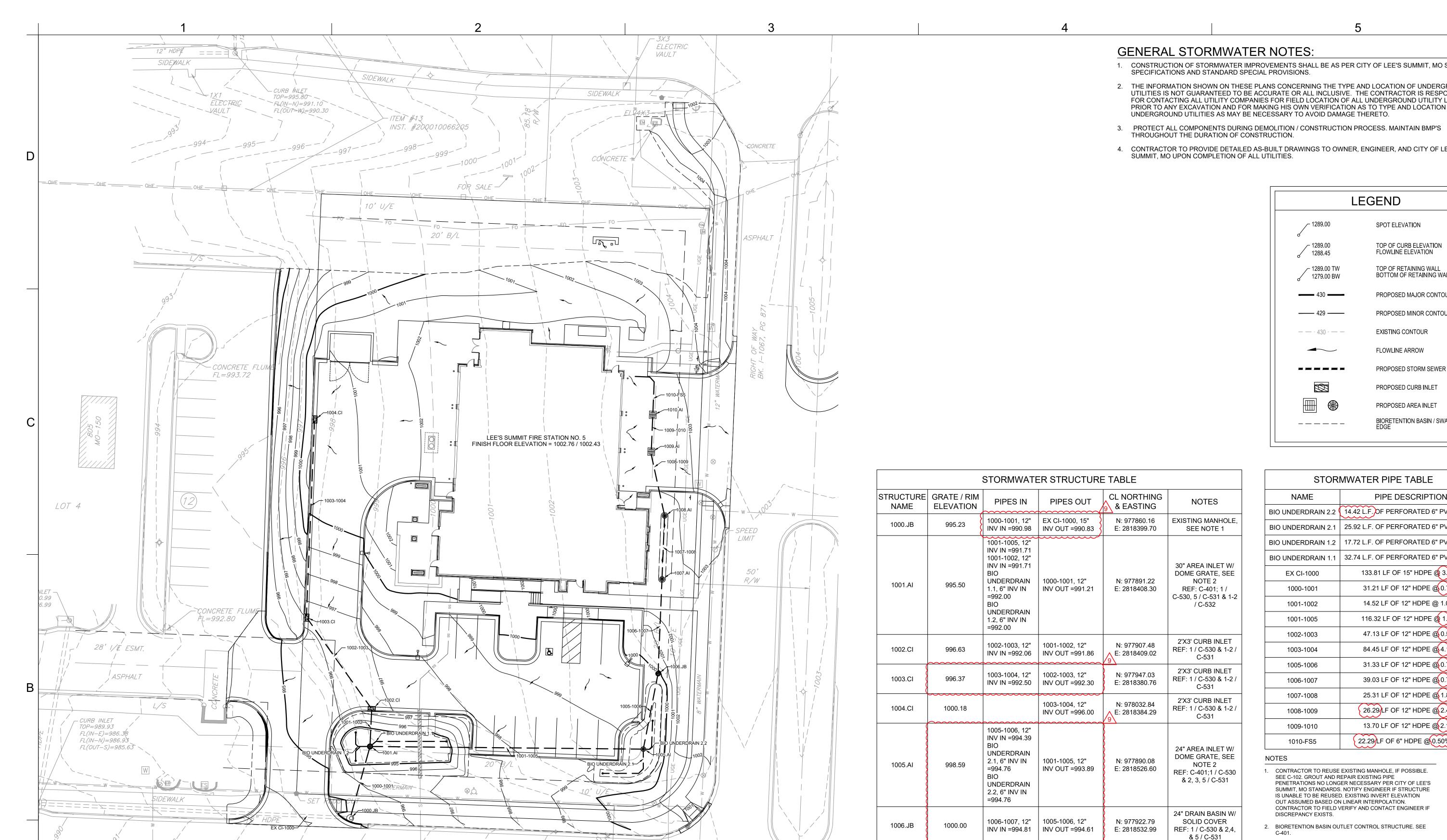
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UTILITY PLAN





SIDEWALK!

SPEED —/ LIMIT

ASPHALT

SANITARY MANHOLE -TOP=997.08 FL(OUT-W)=985.68

CONCRETE

SIDEWALK /

- CURB INLET TOP=989.83

FL(IN-N)=985.03

FL(OUT-W)=984.63

STORMWATER PLAN

- CONSTRUCTION OF STORMWATER IMPROVEMENTS SHALL BE AS PER CITY OF LEE'S SUMMIT, MO STANDARD
- 2. THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION AND FOR MAKING HIS OWN VERIFICATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- 4. CONTRACTOR TO PROVIDE DETAILED AS-BUILT DRAWINGS TO OWNER, ENGINEER, AND CITY OF LEE'S

Ll	EGEND
_ 1289.00	SPOT ELEVATION
1289.00 1288.45	TOP OF CURB ELEVATION FLOWLINE ELEVATION
1289.00 TW 1279.00 BW	TOP OF RETAINING WALL BOTTOM OF RETAINING WALL
430	PROPOSED MAJOR CONTOUR
 429 	PROPOSED MINOR CONTOUR
— · 430 · — —	EXISTING CONTOUR
	FLOWLINE ARROW
	PROPOSED STORM SEWER
	PROPOSED CURB INLET
	PROPOSED AREA INLET
	BIORETENTION BASIN / SWALE EDGE

		STORMWATE	ER STRUCTURI	E TABLE	
STRUCTURE NAME	GRATE / RIM ELEVATION	PIPES IN	PIPES OUT	CL NORTHING & EASTING	NOTES
1000.JB	995.23	1000-1001, 12" INV IN =990.98	EX CI-1000, 15" INV OUT =990.83	N: 977860.16 E: 2818399.70	EXISTING MANHOLE, SEE NOTE 1
1001.AI	1001- INV II 1001- INV II BIO UNDI 1.1, 6 =992 BIO UNDI 1.2, 6 =992		1000-1001, 12" INV OUT =991.21	N: 977891.22 E: 2818408.30	30" AREA INLET W/ DOME GRATE, SEE NOTE 2 REF: C-401; 1 / C-530, 5 / C-531 & 1-2 / C-532
1002.CI	996.63	1002-1003, 12" INV IN =992.06	1001-1002, 12" INV OUT =991.86	N: 977907.48 E: 2818409.02	2'X3' CURB INLET REF: 1 / C-530 & 1-2 / C-531
1003.CI	996.37	1003-1004, 12" INV IN =992.50	1002-1003, 12" INV OUT =992.30	N: 977947.03 E: 2818380.76	2'X3' CURB INLET REF: 1 / C-530 & 1-2 / C-531
1004.CI	1000.18		1003-1004, 12" INV OUT =996.00	N: 978032.84 E: 2818384.29	2'X3' CURB INLET REF: 1 / C-530 & 1-2 / C-531
1005.AI	998.59	1005-1006, 12" INV IN =994.39 BIO UNDERDRAIN 2.1, 6" INV IN =994.76 BIO UNDERDRAIN 2.2, 6" INV IN =994.76	1001-1005, 12" INV OUT =993.89	N: 977890.08 E: 2818526.60	24" AREA INLET W/ DOME GRATE, SEE NOTE 2 REF: C-401;1 / C-530 & 2, 3, 5 / C-531
1006.JB	1000.00	1006-1007, 12" INV IN =994.81	1005-1006, 12" INV OUT =994.61	N: 977922.79 E: 2818532.99	24" DRAIN BASIN W/ SOLID COVER REF: 1 / C-530 & 2,4, & 5 / C-531
1007.AI	1002.07	1007-1008, 12" INV IN =995.31	1006-1007, 12" INV OUT =995.11	N: 977963.78 E: 2818534.70	24" AREA INLET W/ DOME GRATE REF:1 / C-530 & 2, 3, & 5 / C-531
1008.AI	1002.17	1008-1009, 12" INV IN =995.98	1007-1008, 12" INV OUT =995.78	N: 977991.06 E: 2818535.81	24" AREA INLET W/ DOME GRATE REF: 1 / C-530 & 2, 3, & 5 / C-531
1009.AI	1002.14	1009-1010, 12" INV IN =996.81	1008-1009, 12" INV OUT =996.61	N: 978018.88 E: 2818530.05	STANDARD DOUBLE GRATE INLET REF: 2 / C-530
1010.AI	1002.14	1010-FS5, 6" INV IN =997.30	1009-1010, 12" INV OUT =997.10	N: 978034.83 E: 2818530.72	STANDARD DOUBLE GRATE INLET REF: 2 / C-530
EX CI	989.93	EX CI-1000, 15" INV IN =986.38		N: 977866.28 E: 2818263.15	EXISTING CURB INLET, SEE NOTE 3 REF: 3-4 / C-530

STORMWATER PIPE TABLE						
NAME	PIPE DESCRIPTION					
BIO UNDERDRAIN 2.2	14.42 L.F. OF PERFORATED 6" PVC @ 0.5%					
BIO UNDERDRAIN 2.1	25.92 L.F. OF PERFORATED 6" PVC @ 0.5%					
BIO UNDERDRAIN 1.2	17.72 L.F. OF PERFORATED 6" PVC @ 0.5%					
BIO UNDERDRAIN 1.1	32.74 L.F. OF PERFORATED 6" PVC @ 0.5%					
EX CI-1000	133.81 LF OF 15" HDPE @ 3.33%					
1000-1001	31.21 LF OF 12" HDPE @ 0.75%					
1001-1002	14.52 LF OF 12" HDPE @ 1.00%					
1001-1005	116.32 LF OF 12" HDPE @ 1.87%					
1002-1003	47.13 LF OF 12" HDPE @ 0.50%					
1003-1004	84.45 LF OF 12" HDPE @4.15%					
1005-1006	31.33 LF OF 12" HDPE @0.70%					
1006-1007	39.03 LF OF 12" HDPE @ 0.77%					
1007-1008	25.31 LF OF 12" HDPE @ 1.86%					
1008-1009	26.29 LF OF 12" HDPE @ 2.40%					
1009-1010	13.70 LF OF 12" HDPE @ 2.12%					
1010-FS5	22.29 LF OF 6" HDPE @0.50% MIN					

- 1. CONTRACTOR TO REUSE EXISTING MANHOLE, IF POSSIBLE. SEE C-102. GROUT AND REPAIR EXISTING PIPE PENETRATIONS NO LONGER NECESSARY PER CITY OF LEE'S SUMMIT, MO STANDARDS. NOTIFY ENGINEER IF STRUCTURE IS UNABLE TO BE REUSED. EXISTING INVERT ELEVATION OUT ASSUMED BASED ON LINEAR INTERPOLATION. CONTRACTOR TO FIELD VERIFY AND CONTACT ENGINEER IF
- 2. BIORETENTION BASIN OUTLET CONTROL STRUCTURE. SEE
- 3. THIS STRUCTURE HAS ADDITIONAL EXISTING PIPES NOT SHOWN IN THIS STRUCTURE TABLE.

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STORMWATER PLAN

GENERAL NOTES:

- 1. SEE DRAWING C-230 FOR GENERAL NOTES APPLICABLE TO THIS DRAWING.
- 2. ALL STORMWATER STRUCTURES AND PIPES SHOWN ON THIS DRAWING ARE PRIVATE, UNLESS NOTED OTHERWISE.
- 3. 18" MINIMUM CLEARANCE REQUIRED.

_ EXISTING GRADE 39.03 LF OF 12" HDPE @ 0.77% / 13.70 LF OF 12" HDPE @ 2.12% PROPOSED --1000.00 1000.00 BIORETENTION FINAL GRADE -BASIN 2 PROPOSED -BIORETENTION 1005-1006 BASIN 1 1.33 LF OF 12" HDPE @ 0.70% -100-YR, 24-HR HGL (TYP) __26.29 LF OF 12" HDPE @ 2.40% 1001-1005 116.32 LE OF 12" HDPE @ 1.87% ⁻25.31 LF OF 12" HDPE @ 1.86% -990.00 PROPOSED 4" SANITARY INV. EL: 990.08 STA.=0+21.56 -PIPE ENCASEMENT PER 2 / C-540

 FINAL GRADE EXISTING GRADE 1000.00-COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF THE PIPE PRIOR TO INSTALLATION. PROPOSED BIORETENTION BASIN 1 -14.52 LF OF 12" HDPE @ 1.00% 84.45 LF OF 12" HDPE @ 4.15% 47.13 LF OF 12" HDPE @ 0.50% 990.00 990.00 1000-1001 - 100-YR, 24-HR HGL (TYP) 31.21 LF OF 12" HDPE @ 0.75% EXISTING 8" WATERLINE SEE NOTE 3 0+00 0+50 1+00 1+50 2+00 2+50 1000.JB - 1004.CI PROFILE

1001.AI - 1010.AI PROFILE

0+00

0+50

1+00

1+50

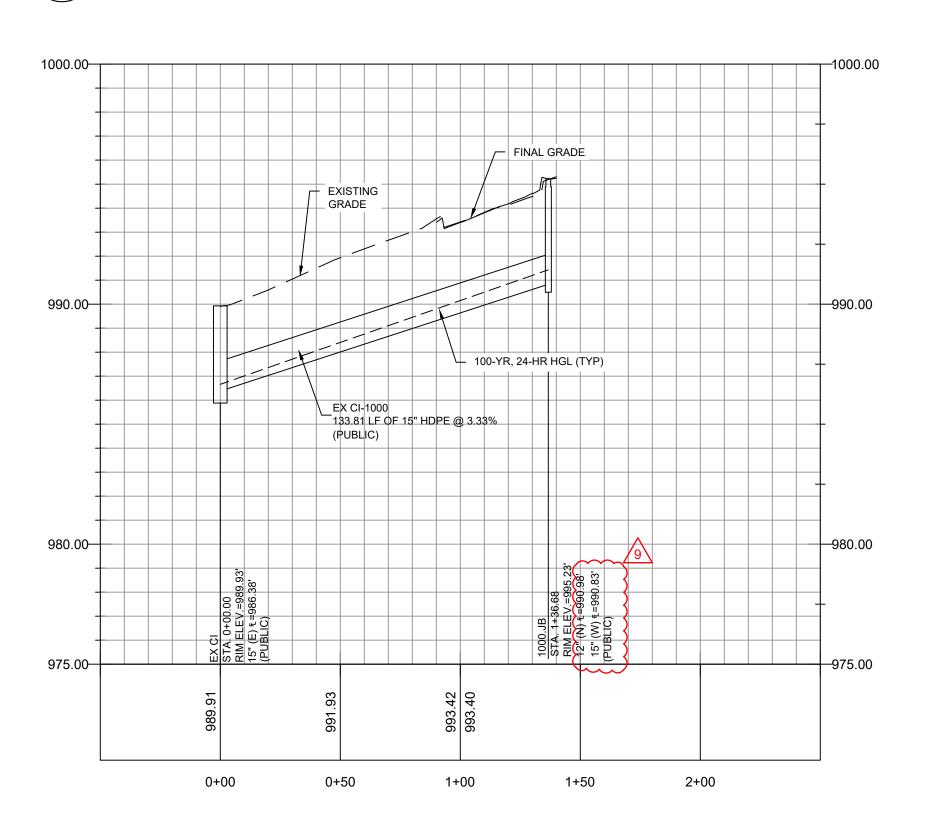
2+00

2+50

3+00

3+50

SCALE: HORIZONTAL 1"=40' SCALE: VERTICAL: 1"=4'



7	EX CI - 1000.JB PROFILE
્ચ	SCALE: HORIZONTAL 1"=40' SCALE:VERTICAL: 1"=4'

								100-YR, 24-HR	STORM EVEN	ΙΤ								
PIPE NAME	UPSTREAM NODE	DOWNSTREAM NODE	LENGTH (FT)	INLET INVERT ELEVATION (FT)	OUTLET INVERT ELEVATION (FT)	SLOPE (%)	PIPE DIAMETER (INCHES)	MANNING'S ROUGHNESS (N)	ENTRANCE LOSSES	EXIT/BEND LOSSES	PEAK FLOW (CFS)	TIME OF PEAK FLOW OCCURRENCE (DAYS HH:MM)	MAX FLOW VELOCITY (FT/SEC)	TRAVEL TIME (MIN)	DESIGN FLOW CAPACITY (CFS)	MAX FLOW / DESIGN FLOW RATIO	MAX FLOW DEPTH (FT)	MAX FLOW DEPTH / TOTAL DEPTH RATIO
1000-1001	1001.AI	1000.JB	31.21	991.21	990.98	0.75	12	0.012	0.50	0.80	1.36	0 12:02	4.01	0.13	3.31	0.41	0.45	0.45
1001-1002	1002.CI	1001.AI	14.52	991.86	991.71	1.00	9 12	0.012	0.50	1.00	0.28	0 12:00	2.91	0.08	3.92	0.07	0.18	0.18
1001-1005	1005.AI	1001.AI	116.32	993.89	991.71	1.87	12	0.012	0.50	1.00	0.77	0 12:02	4.83	0.40	5.28	0.15	0.26	0.26
1002-1003	1003.CI	1002.CI	47.13	992.30	992.06	0.50	12	0.012	0.50	0.60	0.21	0 12:05	2.10	0.37	2.75	0.08	0.19	0.19
1003-1004	1004.CI	1003.CI	84.45	996.00	992.50	4.15	12	0.012	0.50	0.60	0.17	0 12:05	4.02	0.35	7.86	0.02	0.10	0.10
1005-1006	1006.JB	1005.AI	31.33	994.61	994.39	0.70	12	0.012	0.50	0.80	0.59	0 12:00	3.13	0.17	3.23	0.18	0.29	0.29
1006-1007	1007.AI	1006.JB	39.03	995.11	994.81	0.77	12	0.012	0.50	0.55	0.59	0 12:00	3.25	0.20	3.38	0.17	0.28	0.28
1007-1008	1008.AI	1007.AI	25.31	995.78	995.31	1.86	12	0.012	0.50	0.50	0.57	0 11:56	4.38	0.10	5.26	0.11	0.22	0.22
1008-1009	1009.AI	1008.AI	26.29	996.61	995.98	2.40	12	0.012	0.50	0.55	0.54	0 11:20	4.75	0.09	6.00	0.09	0.20	0.20
1009-1010	1010.AI	1009.AI	13.70	997.10	996.81	2.12	12	0.012	0.50	0.50	0.47	0 11:20	4.37	0.05	5.62	0.08	0.20	0.20
EX CI - 1000.JB	1000.JB	EX CI	133.81	990.83	986.38	3.33	15	0.012	0.50	0.50	1.36	0 12:01	6.79	0.33	12.76	0.11	0.28	0.22

100-11, 24-111 31	OINIVI LVLIVI	
STRUCTURE NAME	MAX HGL ELEVATION (FT)	/ 9\
1000.JB	991.43	}
1001.AI	991.97	}
1002.CI	992.25	Ř
1003.CI	992.60)
1004.CI	996.11	<u>\</u>
1005.AI	994.68)
1006.JB	995.09	}
1007.AI	995.53	}
1008.AI	996.18	}
1009.AI	997.01	Ř
1010.AI	997.30)
EX CI	986.66	

100-YR, 24-HR ST	ORM EVENT
STRUCTURE NAME	MAX HGL ELEVATION (FT)
1000.JB	991.43
1001.AI	991.97
1002.CI	992.25
1003.CI	992.60
1004.CI	996.11
1005.AI	994.68
1006.JB	995.09
1007.AI	995.53
1008 ΔΙ	996 18

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ASI 09 06.02.2023

HOLMES NUMBER PE-2022005196

DERICK HOLMES - CIVIL ENGINEER MO# PE-2022005196

PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	HFL
CHK'D BY:	DMH

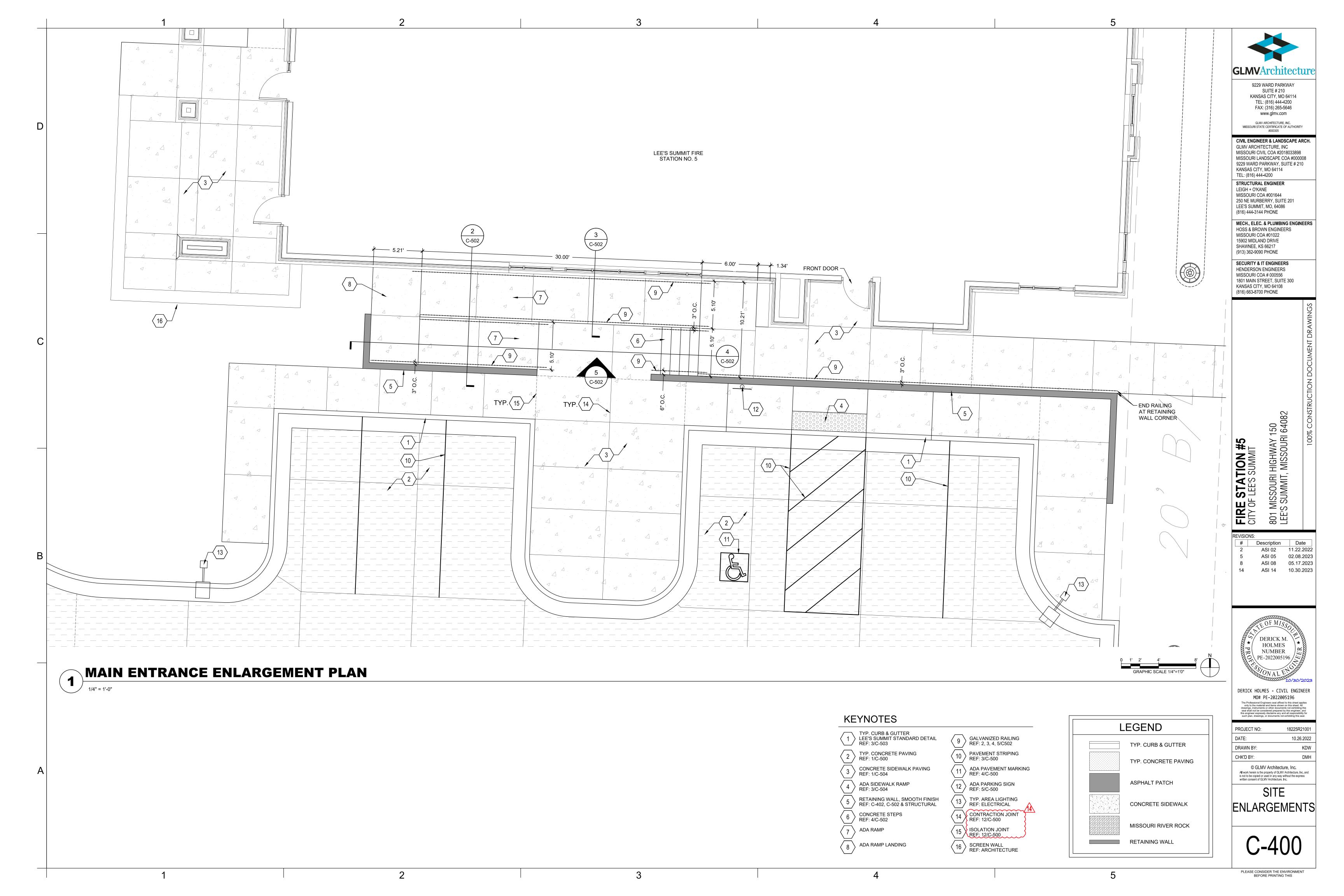
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STORMWATER **PROFILES**

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

SCALE: HORIZONTAL 1"=40' SCALE:VERTICAL: 1"=4'



GENERAL NOTES:

- BIORETENTION FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREAS ARE PERMANENTLY STABILIZED AGAINST EROSION AND SEDIMENTATION. ANY DISCHARGE OF SEDIMENT THAT AFFECTS THE PERFORMANCE OF THE CELL WILL REQUIRE RECONSTRUCTION OF THE CELL TO RESTORE ITS DEFINED
- 2. NO HEAVY EQUIPMENT SHALL OPERATE WITHIN THE BIORETENTION FACILITY DURING UNDERDRAIN PLACEMENT, BACKFILLING, OR PLANTING OF THE FACILITY.
- 3. IF THE BIORETENTION FACILITY IS TO BE USED AS A SEDIMENT BASIN. THE BIORETENTION FACILITY SHALL BE EXCAVATED TO THE DIMENSIONS, SIDE SLOPES, AND 1 FOOT ABOVE THE BOTTOM OF THE BIORETENSION SOIL MIXTURE. ANY SEDIMENT FROM CONSTRUCTION OPERATIONS DEPOSITED IN THE BIORETENTION FACILITY SHALL BE COMPLETELY REMOVED FROM THE FACILITY AFTER ALL VEGETATION HAS BEEN ESTABLISHED. THE EXCAVATION LIMITS SHALL THEN BE FINAL GRADED TO THE DIMENSIONS, SIDE SLOPES, AND FINAL ELEVATIONS. LOW GROUND-CONTACT PRESSURE EQUIPMENT IS TO BE USED WHEN CONSTRUCTING THE BIORETENTION FACILITIES TO MINIMIZE DISTURBANCE TO ESTABLISH AREAS AROUND PERIMETER OF CELL. NO HEAVY EQUIPMENT SHALL BE USED WITHIN THE PERIMETER OF THE BIORETENTION FACILITY BEFORE, DURING, OR AFTER THE PLACEMENT OF THE BSM.
- 4. THE BIORETENTION SOIL MIXTURE (BSM) SHALL BE PLACED IN LAYERS NOT TO EXCEED 12 INCHES. THE BSM SHALL BE SATURATED OVER THE ENTIRE AREA OF THE FACILITY AFTER EACH LIFT OF BSM IS PLACED UNTIL WATER FLOWS FROM THE UNDERDRAIN TO LIGHTLY CONSOLIDATE THE BSM MIXTURE. WATER FOR SATURATION SHALL BE APPLIED BY SPRAYING OR SPRINKLING TO AVOID SEPARATION OF THE BSM COMPONENTS. FINAL GRADING OF THE BSM SHALL BE PERFORMED AFTER A 24-HOUR SETTLING PERIOD. UPON FINAL GRADING THE SURFACE OF THE BSM SHALL BE ROTO-TILLED TO A DEPTH OF 6".
- 5. SEE DRAWING L-100 AND L-101 FOR PLANTING SCHEDULE. PESTICIDES, HERBICIDES, AND FERTILIZER SHALL NOT BE APPLIED DURING PLANTING UNDER ANY CIRCUMSTANCES.

BIORETENTION SOIL MIXTURE (BSM) SPECIFICATIONS:

A. BIORTENTION SOIL MIXUTRE: THE BIORETENTION SOIL MIXTURE (BSM) IS A MIXTURE OF PLANTING SOIL, COMPOST, AND SAND CONSISTING OF THE FOLLOWING:

ITEM	COMPOSITION BY VOLUME	REFERENCE
PLANTING SOIL	30%	SEE BELOW
ORGANIC COMPOST	20%	SEE BELOW
SAND	50%	ASTM C33 FINE AGGREGATE

B. PLANTING SOIL: THE USDA TEXTURAL CLASSIFICATION OF THE PLANTING SOIL FOR THE BSM SHALL BE LOAMY SAND OR SANDY LOAM. THE PLANTING SOIL SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:

ITEM	PERCENT BY WEIGHT	TEST METHOD
SAND (2.0 - 0.050 MM)	50-85%	AASHTO T88
SILT (0.050 - 0.002 MM)	0-50%	AASHTO T88
CLAY (LESS THAN 0.002 MM)	2-5%	AASHTO T88
ORGANIC MATTER	3-10%	AASHTO T194

THE TEXTURAL ANALYSIS OF THE PLANTING SOIL SHALL BE AS FOLLOWS:

ASTM E11 SIEVE SIZE	MINIMUM PERCENT PASSING BY WEIGHT
2 IN.	100%
NO. 4	90
NO. 10	80

AT LEAST 45 DAYS PRIOR TO THE START OF CONSTRUCTION OF THE BIORETENTION FACILITIES, THE CONTRACTOR SHALL SUBMIT THE SOURCE AND TESTING RESULTS OF THE PLANTING SOIL FOR THE BSM TO THE ENGINEER FOR

C. ORGANIC COMPOST

COMPOST IS DEEMED ACCEPTABLE IF IT MEETS 2 OF THE FOLLOWING REQUIREMENTS:

- 1. C/N RATIO <= 25; 2. OXYGEN UPTAKE RATE <= 150 mg/ O2/kg VOLATILE SOLIDS PER HOUR
- 3. COMPOST MUST NOT CONTAIN MORE THAN 1 PERCENT FOREIGN MATTER. FOREIGN MATTER IS DEFINED AS: "ANY MATTER OVER A 2 MM DIMENSION THAT RESULTS FROM HUMAN INTERVENTION AND HAVING ORGANIC OR INORGANIC CONSTITUENTS SUCH AS METAL, GLASS AND SYNTHETIC POLYMERS (E.G., PLASTIC OR RUBBER) THAT MAY BE PRESENT IN THE COMPOST BUT EXCLUDING MINERAL SOILS, WOODY MATERIAL AND
- 4. FOREIGN MATTER LESS THAN 1 PERCENT BY WEIGHT MUST NOT EXCEED 12.5 MM IN ANY DIMENSION
- D. THE BIORETENTION SOIL MIXTURE (BSM) SHALL BE A UNIFORM MIX, FREE OF PLANT RESIDUE, STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECT'S LARGER THAN TWO INCHES EXCLUDING MULCH. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS.

1. THE BIORETENTION SOIL MIXTURE SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:

CRITERIA	TEST METHOD
5.5 - 7.5	ASTM D4972
MINIMUM 32 PPM	*
NOT TO EXCEED 60 PPM PLANT AVAILABLE PHOSPHORUS	*
MINIMUM 78 PPM	*
NOT TO EXCEED 500 PPM	*
	5.5 - 7.5 MINIMUM 32 PPM NOT TO EXCEED 60 PPM PLANT AVAILABLE PHOSPHORUS MINIMUM 78 PPM

*USE AUTHORIZED SOIL TEST PROCEDURES

- 2. SHOULD THE pH FALL OUTSIDE OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED WITH LIME (TO RAISE) OR AMMONIUM SULFATE (TO LOWER). THE LIME OR AMMONIUM SULFATE MUST BE MIXED UNIFORMLY INTO THE BSM PRIOR TO USE IN BIORETENTION FACILITIES.
- 3. SHOULD THE BSM NOT MEET THE MINIMUM REQUIREMENT FOR MAGNESIUM, IT MAY BE MODIFIED WITH MAGNESIUM SULFATE. LIKEWISE, SHOULD THE BSM NOT MEET THE MINIMUM REQUIREMENT FOR POTASSIUM, IT MAY BE MODIFIED WITH POTASH. MAGNESIUM SULFATE AND POTASH MUST BE MIXED UNIFORMLY INTO THE BSM PRIOR TO USE IN BIORETENTION FACILITIES
- 4. PLANTING SOIL AND/OR BSM THAT FAILS TO MEET THE MINIMUM REQUIREMENTS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. MIXING OF THE CORRECTIVE ADDITIVES TO THE BSM IS INCIDENTAL AND SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 5. MIXING OF THE BSM TO A HOMOGENOUS CONSISTENCY SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER, UPON APPROVAL OF ALL REQUIREMENTS AND TESTING ABOVE, THE BSM SHALL BE STOCKPILED, AND NO MATERIAL SHALL BE ADDED TO THE BSM IN THE STOCKPILE OR DURING TRANSPORT TO THE BIORETENTION



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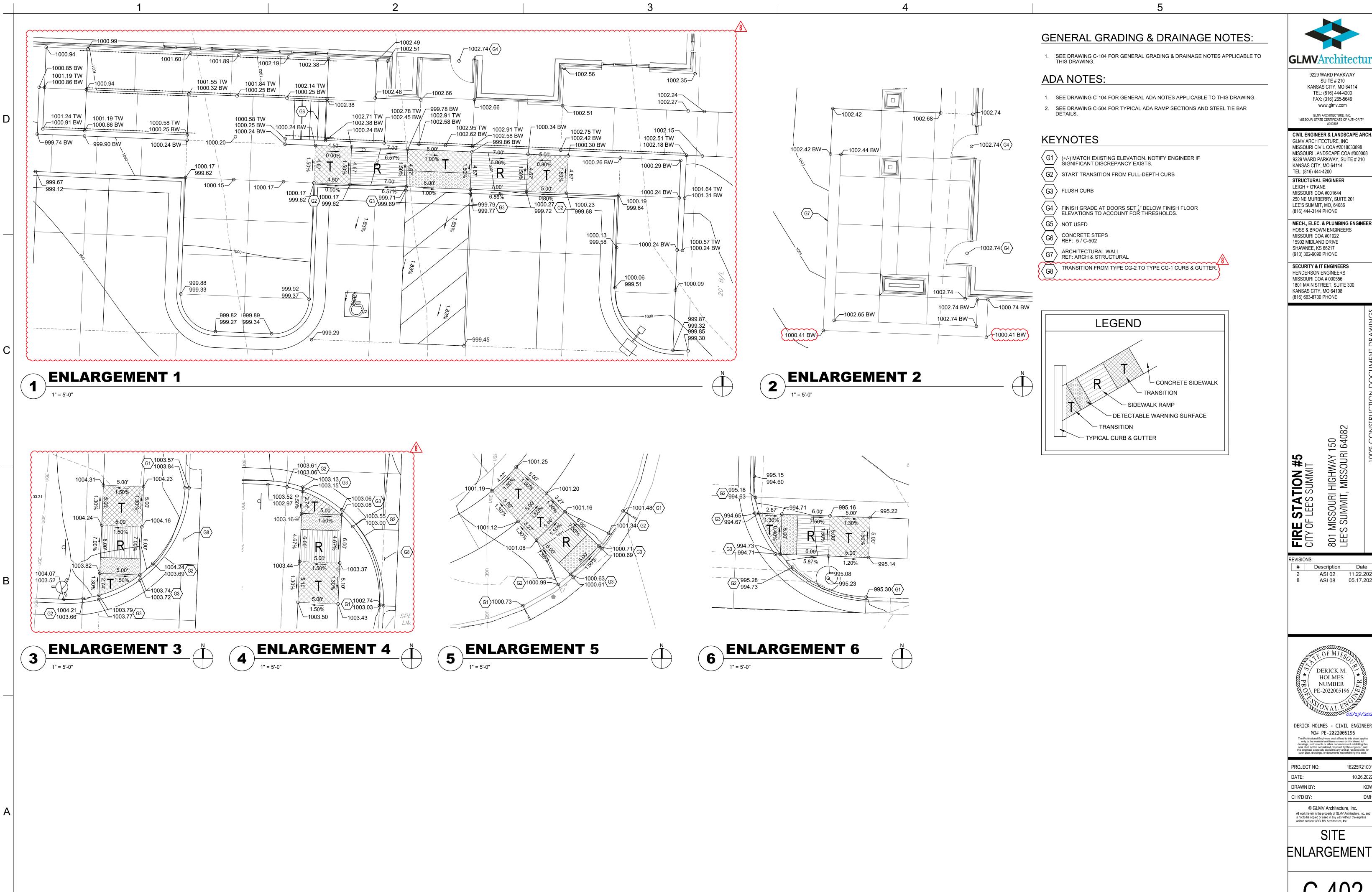
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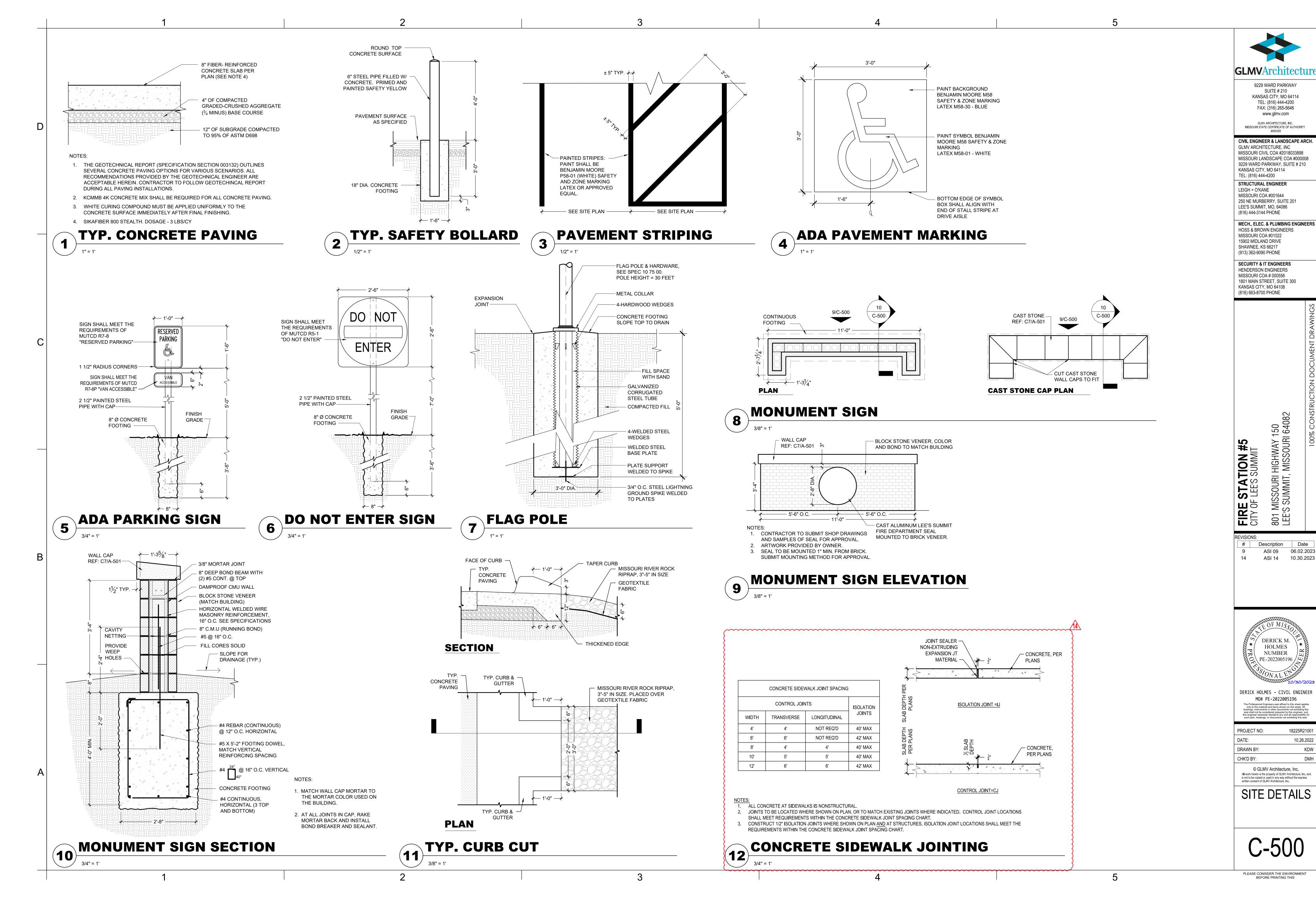
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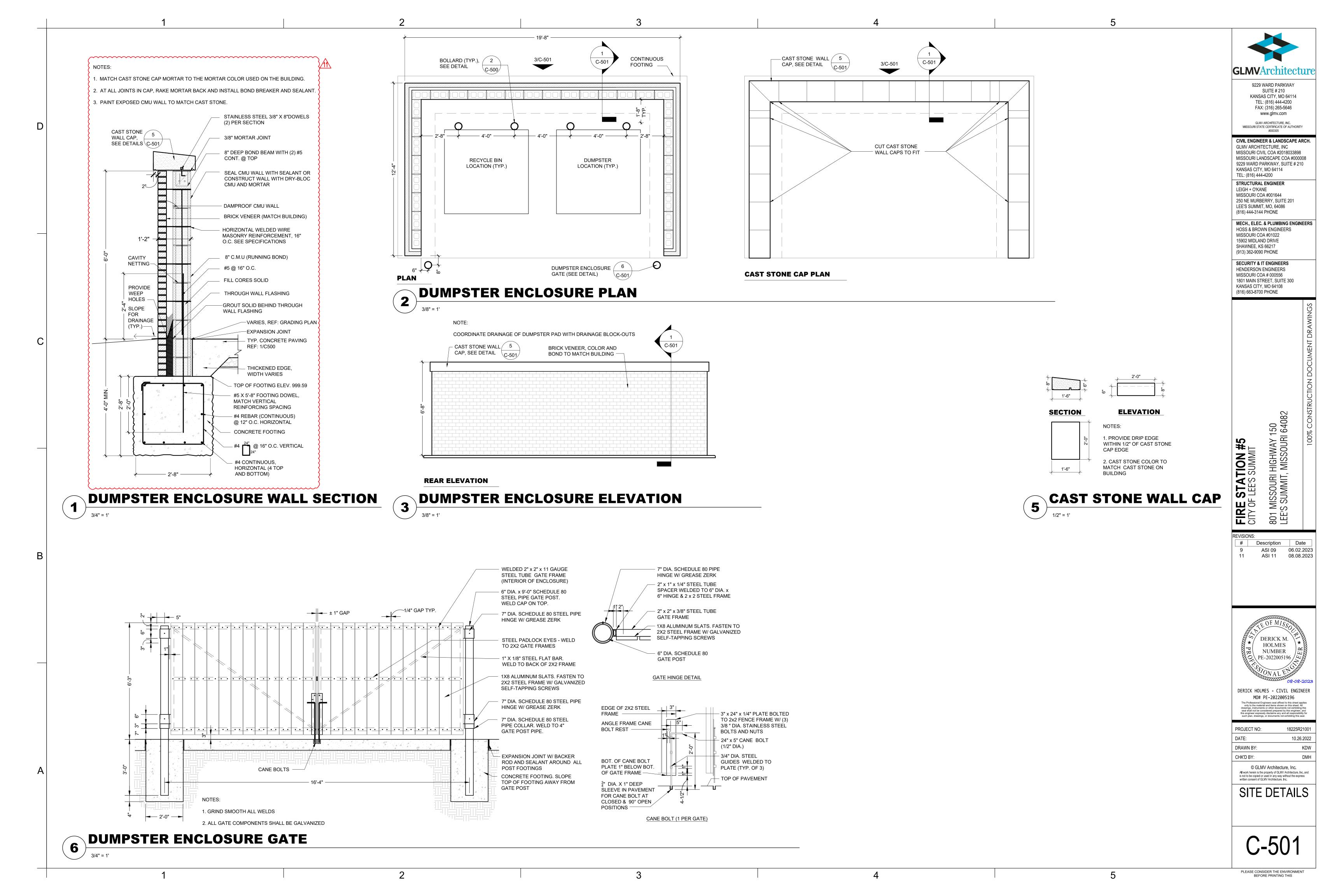
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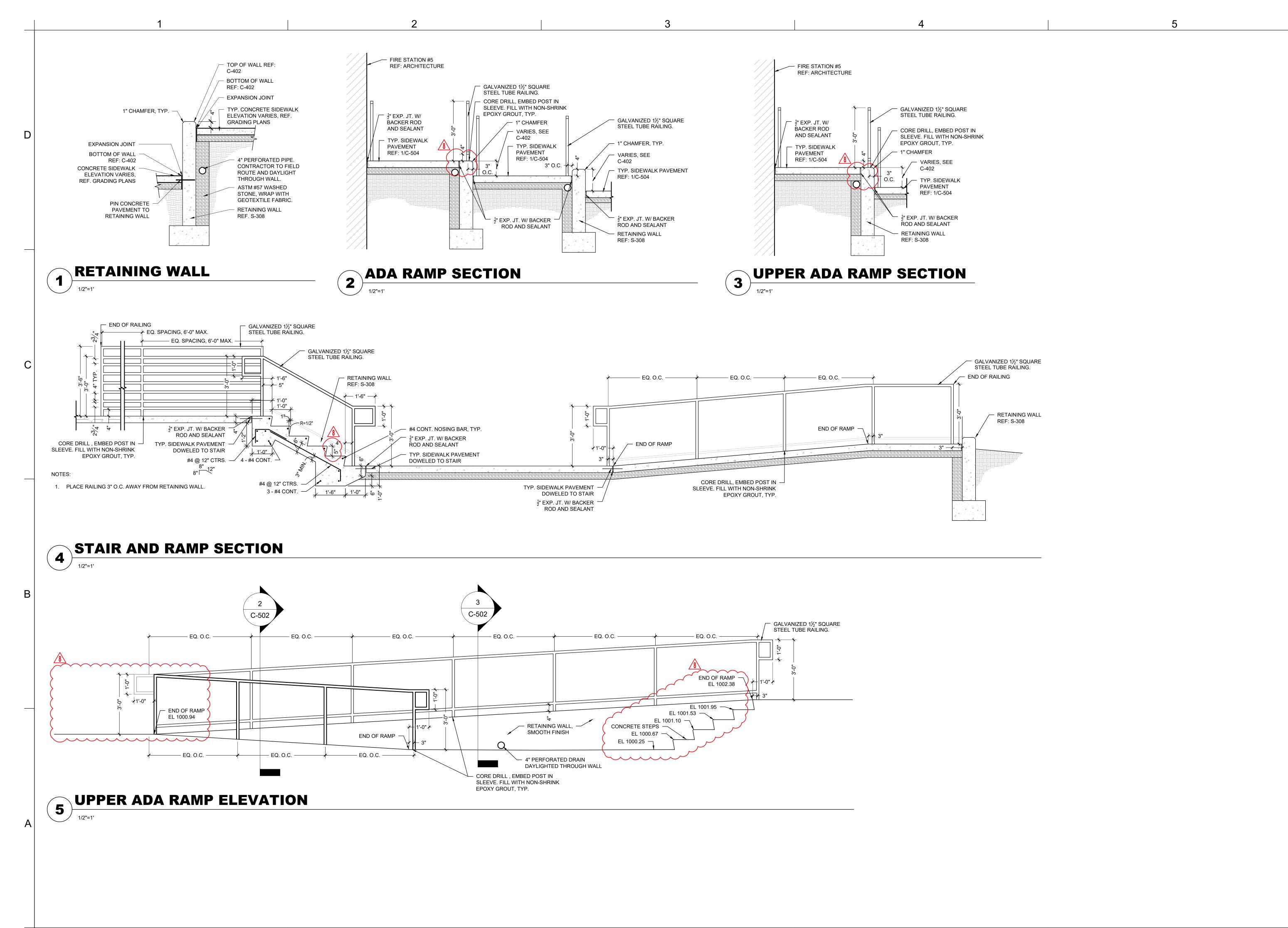


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FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 150
LEE'S SUMMIT, MISSOURI 64

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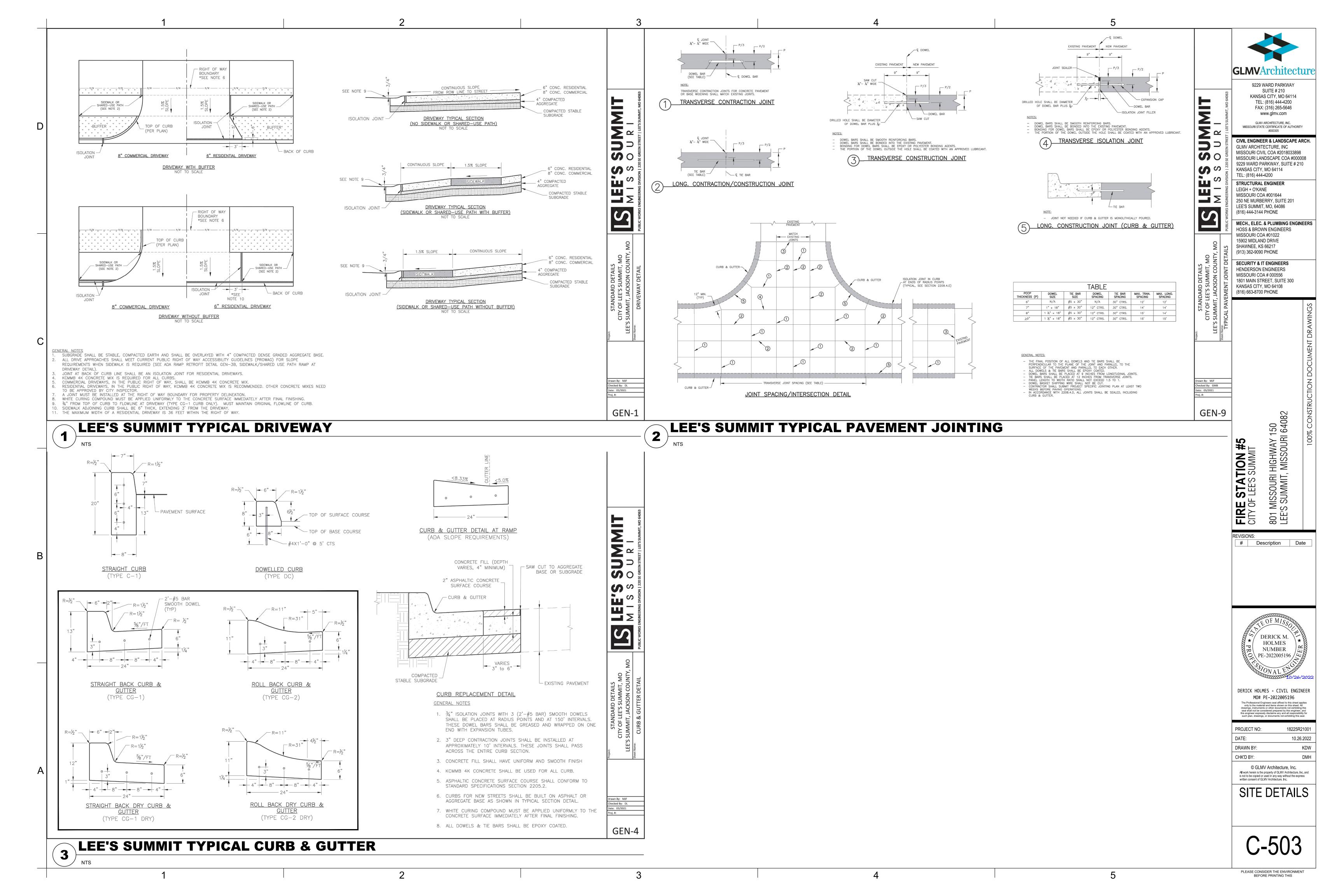
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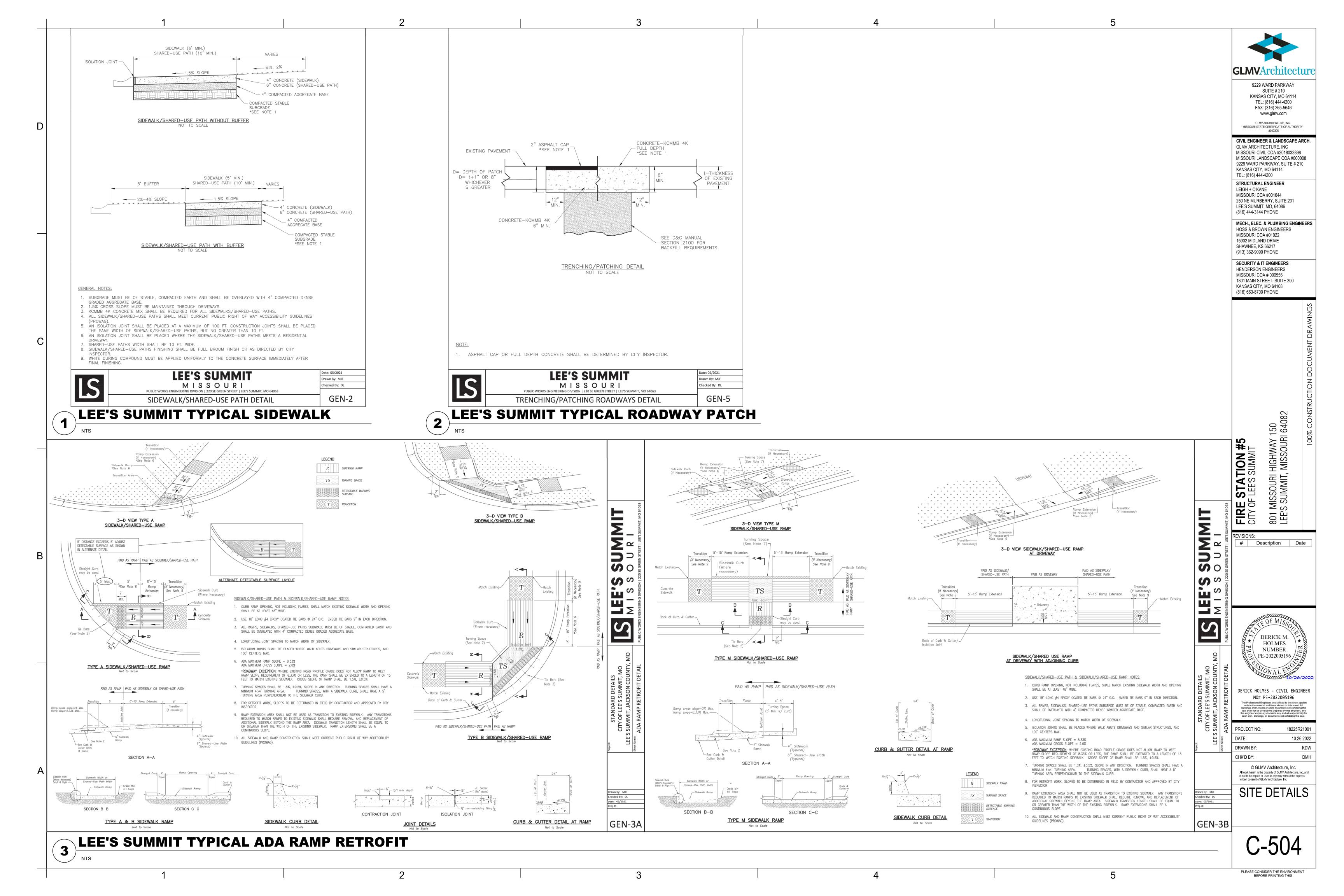
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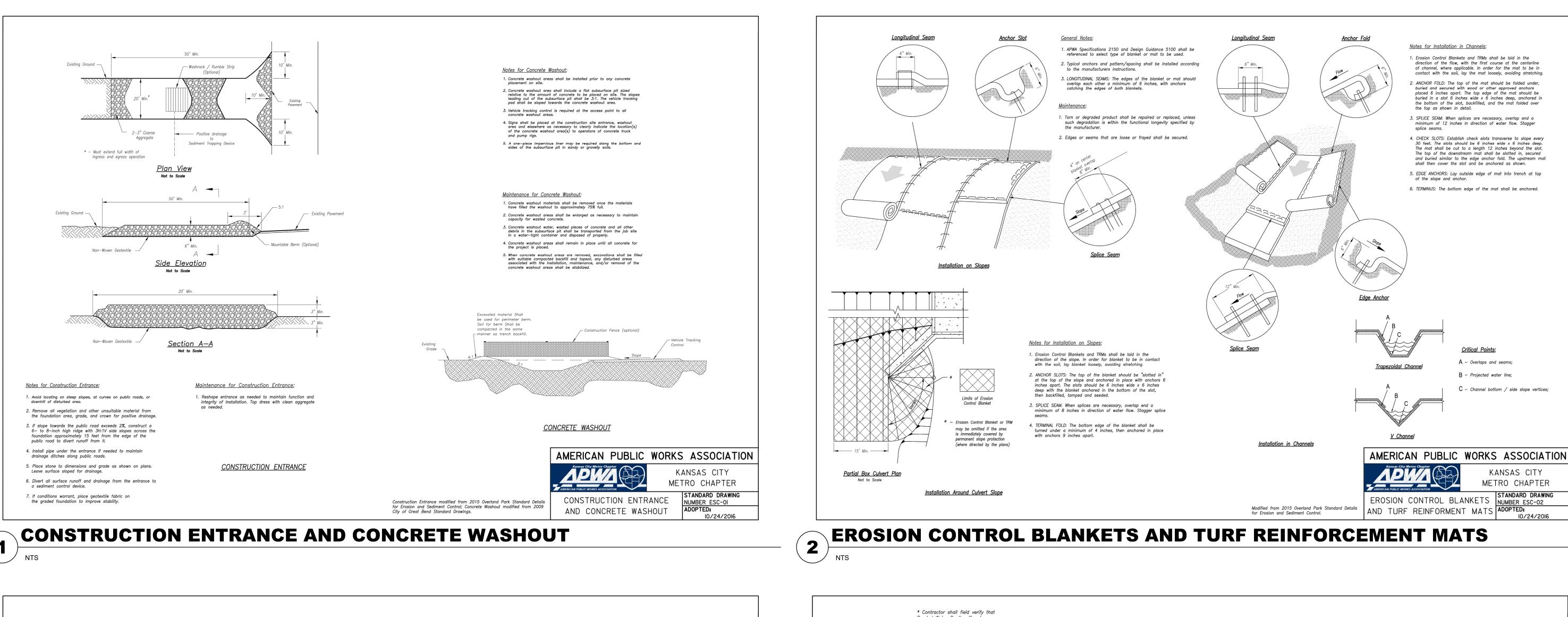
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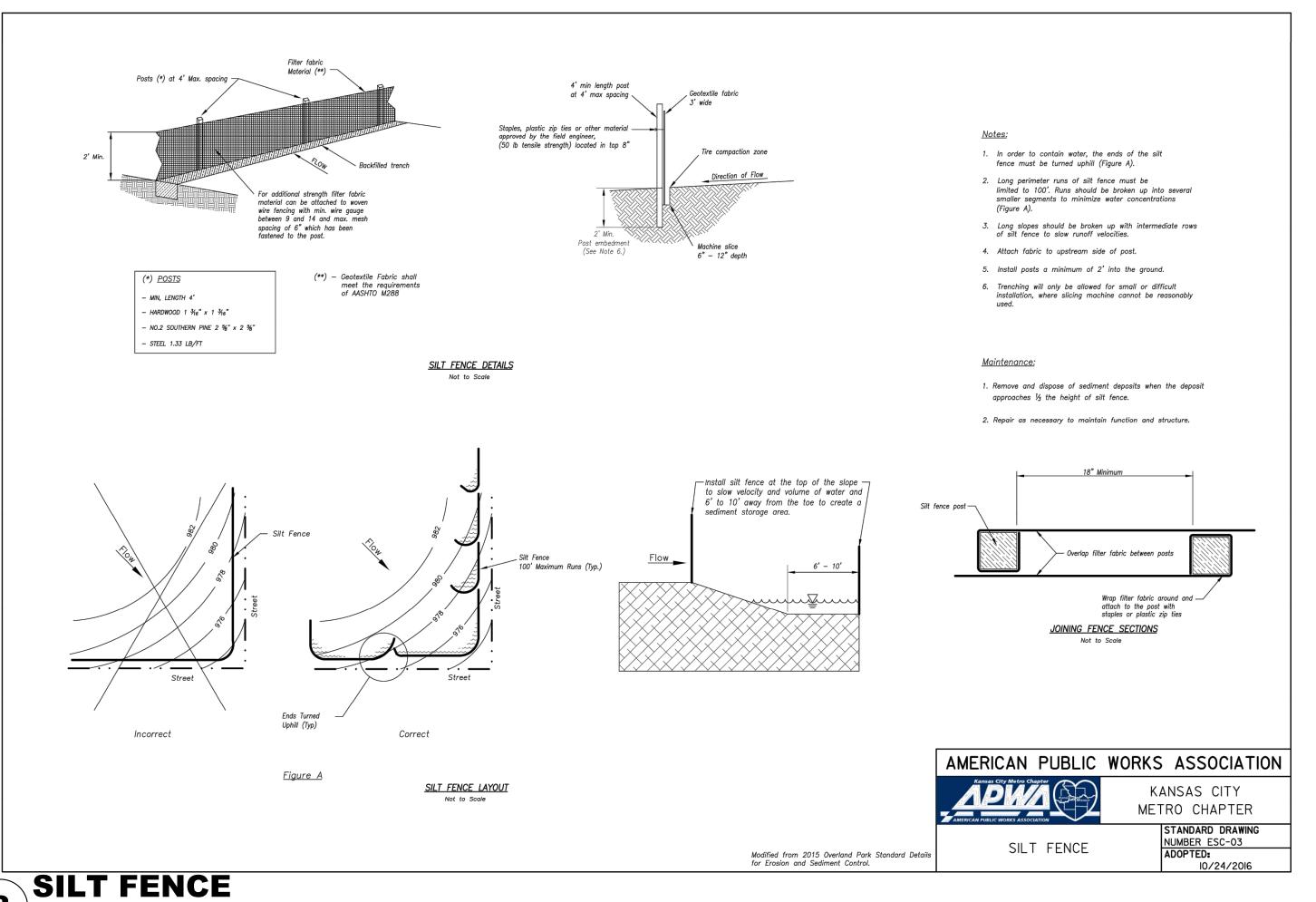
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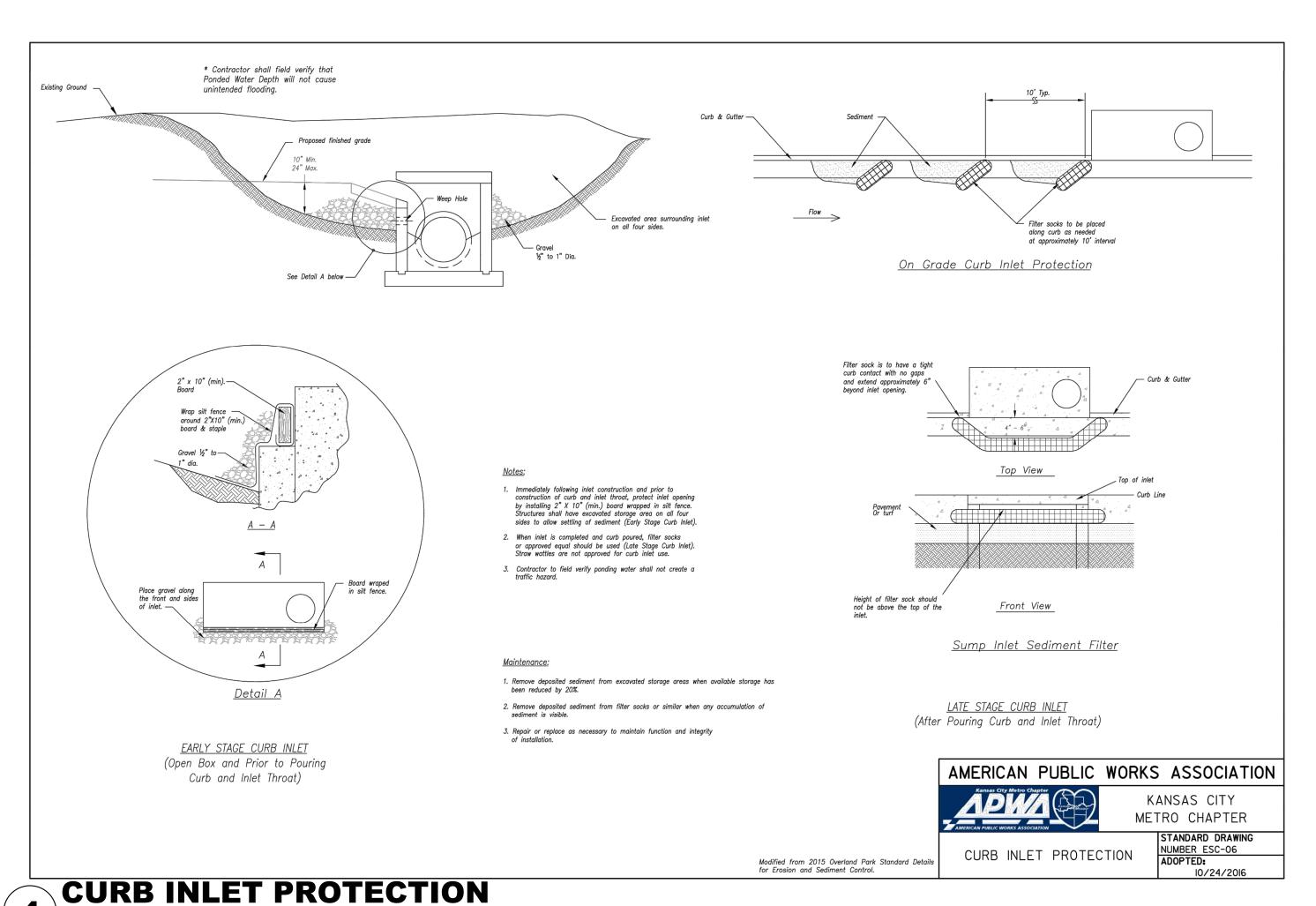
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Notes for Installation in Channels:

the top as shown in detail.

of the slope and anchor.

Erosion Control Blankets and TRMs shall be laid in the direction of the flow, with the first course at the centerline

of channel, where applicable. In order for the mat to be in

2. ANCHOR FOLD: The top of the mat should be folded under,

buried and secured with wood or other approved anchors placed 6 inches apart. The top edge of the mat should be

buried in a slot 6 inches wide x 6 inches deep, anchored in the bottom of the slot, backfilled, and the mat folded over

3. SPLICE SEAM: When splices are necessary, overlap end a

minimum of 12 inches in direction of water flow. Stagger

4. CHECK SLOTS: Establish check slots transverse to slope every 30 feet. The slots should be 6 inches wide x 6 inches deep.
The mat shall be cut to a length 12 inches beyond the slot.

The top of the downstream mat shall be slotted in, secured and buried similar to the edge anchor fold. The upstream mat

5. EDGE ANCHORS: Lay outside edge of mat into trench at top

Critical Points:

A – Overlaps and seams;

B - Projected water line;

C – Channel bottom / side slope vertices;

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METRO CHAPTER

6. TERMINUS: The bottom edge of the mat shall be anchored.

shall then cover the slot and be anchored as shown.

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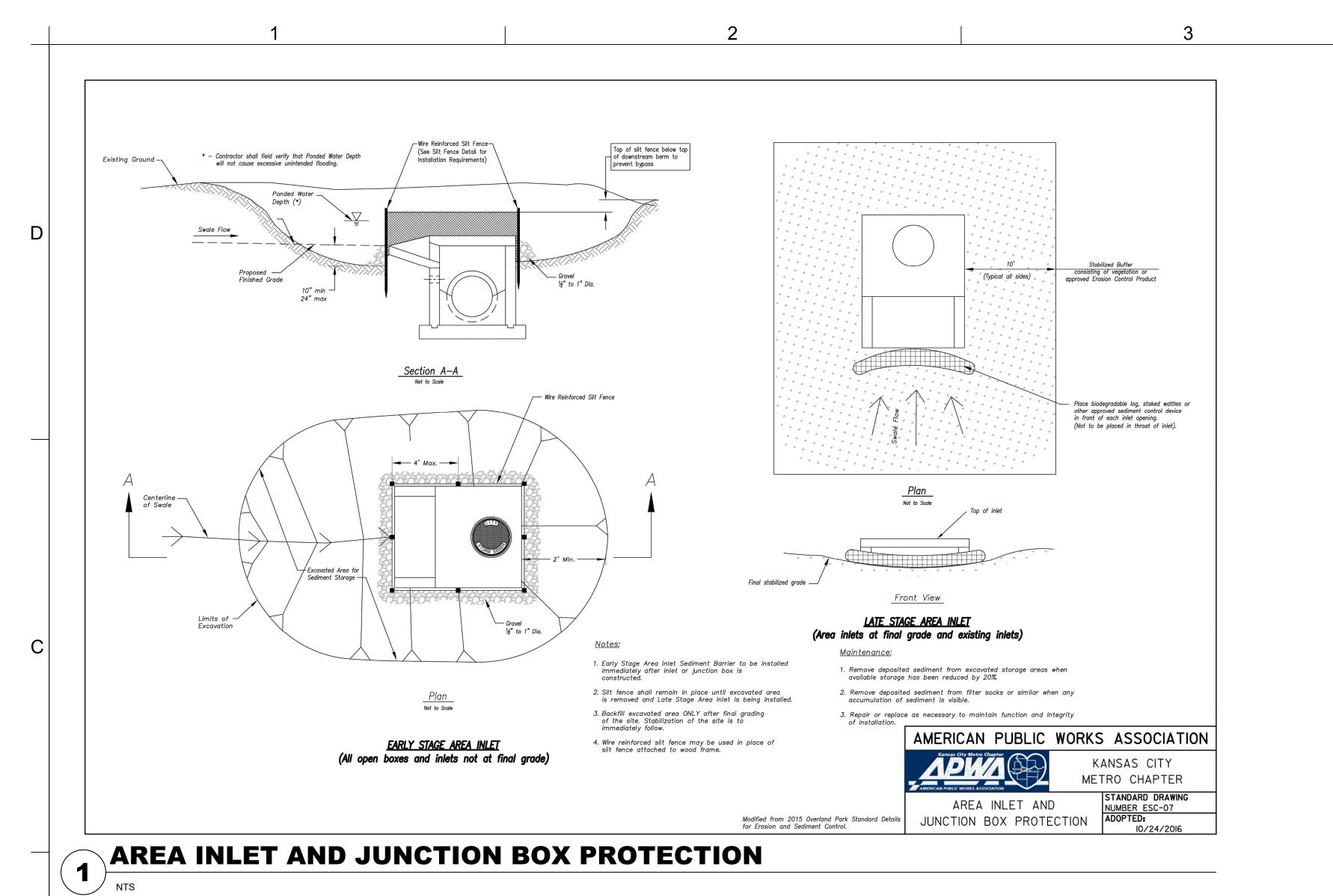
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SHAWNEE, KS 66217 (913) 362-9090 PHONE SECURITY & IT ENGINEERS HENDERSON ENGINEERS MISSOURI COA # 000556 1801 MAIN STREET, SUITE 300

FIRE STATION #5 CITY OF LEE'S SUMMIT

REVISIONS: # Description Date

> HOLMES NUMBER

DERICK HOLMES - CIVIL ENGINEER MO# PE-2022005196

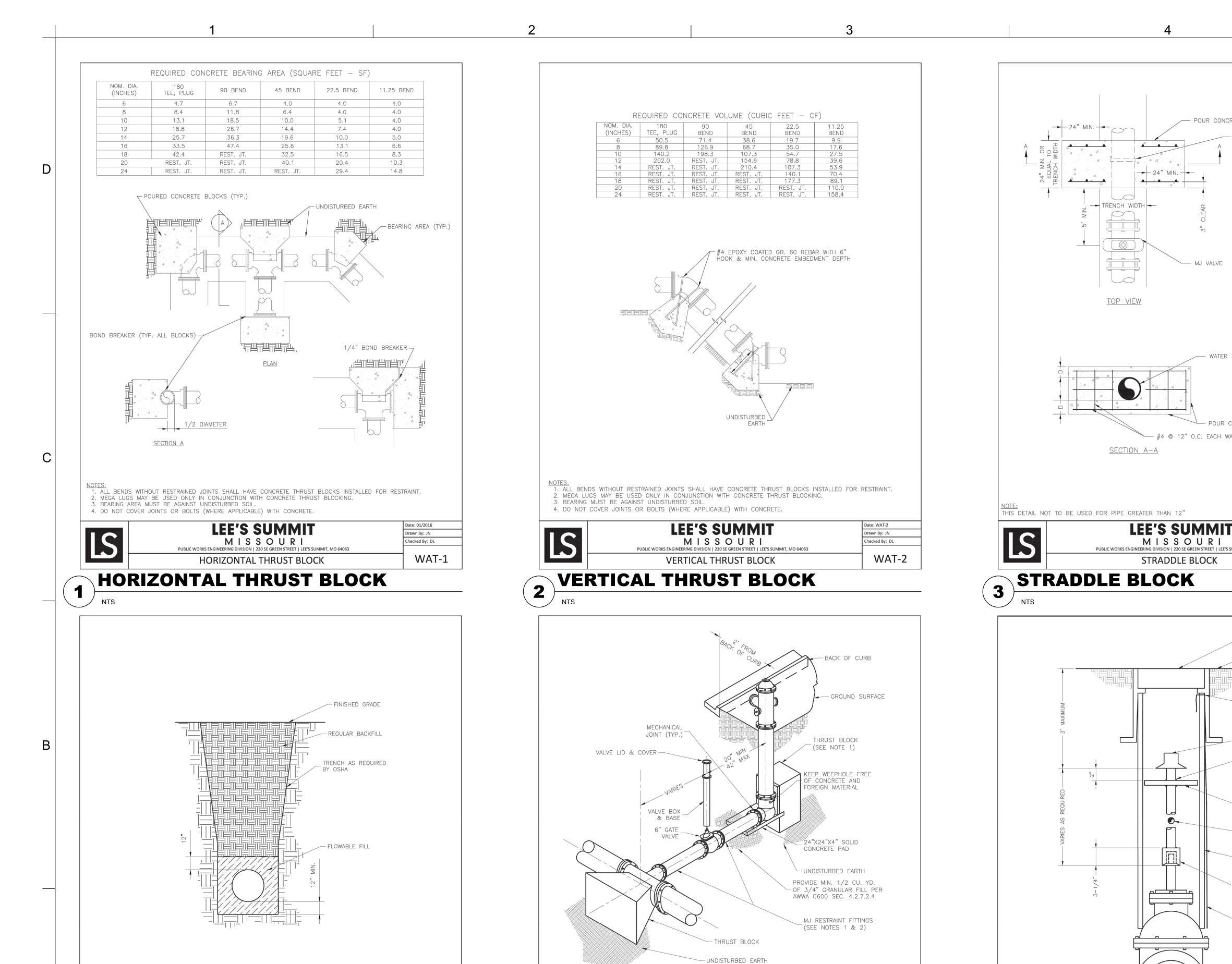
PROJECT NO: 18225R21001 10.26.2022 DRAWN BY: CHK'D BY: DMH

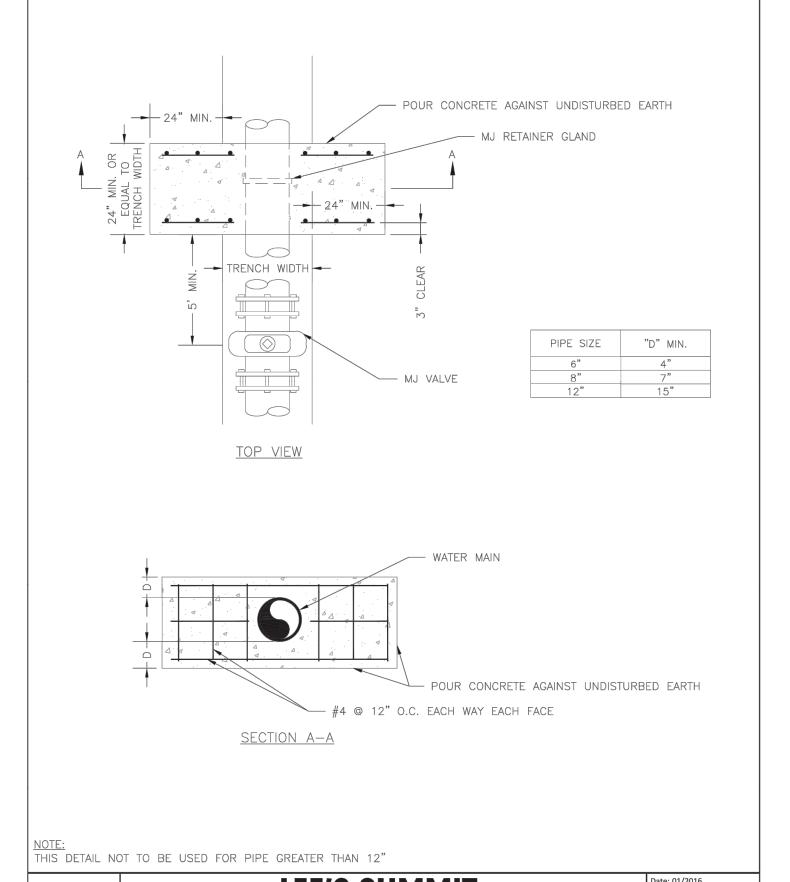
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EROSION CONTROL

DETAILS





Drawn By: JN

Checked By: DL

WAT-3

CUT A NOTCH IN TOP OF VALVE BOX AND PLACE 2' OF TRACER WIRE COILED INSIDE VALVE COVER BOX _ STANDARD 2" SQUARE VALVE OPERATING NUT - WELD (TYP. 8 PLACES) ALIGNMENT WASHER 1/8" MIN. STEEL 4-1/2"Ø 1"Ø COLD ROLLED STEEL _ MIN. 5"Ø FERROUS METAL VALVE BOX SOCKET FROM 1/4" STEEL INSIDE DIMENSIONS 2-3/16" X 3" DEEP DO NOT TIGHTEN SET SCREW TO 2" _ INSTALL TRACER WIRE ALONG OUTSIDE SURFACE OF VALVE BOX **LEE'S SUMMIT** Drawn By: JN MISSOURI

VALVE STEM EXTENSION & VALVE BOX 6

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> DERICK M. HOLMES NUMBER PE-2022005196 /

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> WATER **DETAILS**

WAT-9

CONSTRUCTION MANUAL.

4

NTS

AND STONES > 6" IN ANY DIMENSION.

4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".

. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND

. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER,

LEE'S SUMMIT

MISSOURI

WATER TRENCH CHECK DETAIL

WATER TRENCH CHECK DETAIL

3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.

Drawn By: JN

necked By: DL

WAT-7

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID,

5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE,

LEE'S SUMMIT

MISSOURI

HYDRANT - STRAIGHT SET

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

HYDRANT - STRAIGHT SET

4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.

6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

BOTTOM OF DITCH.

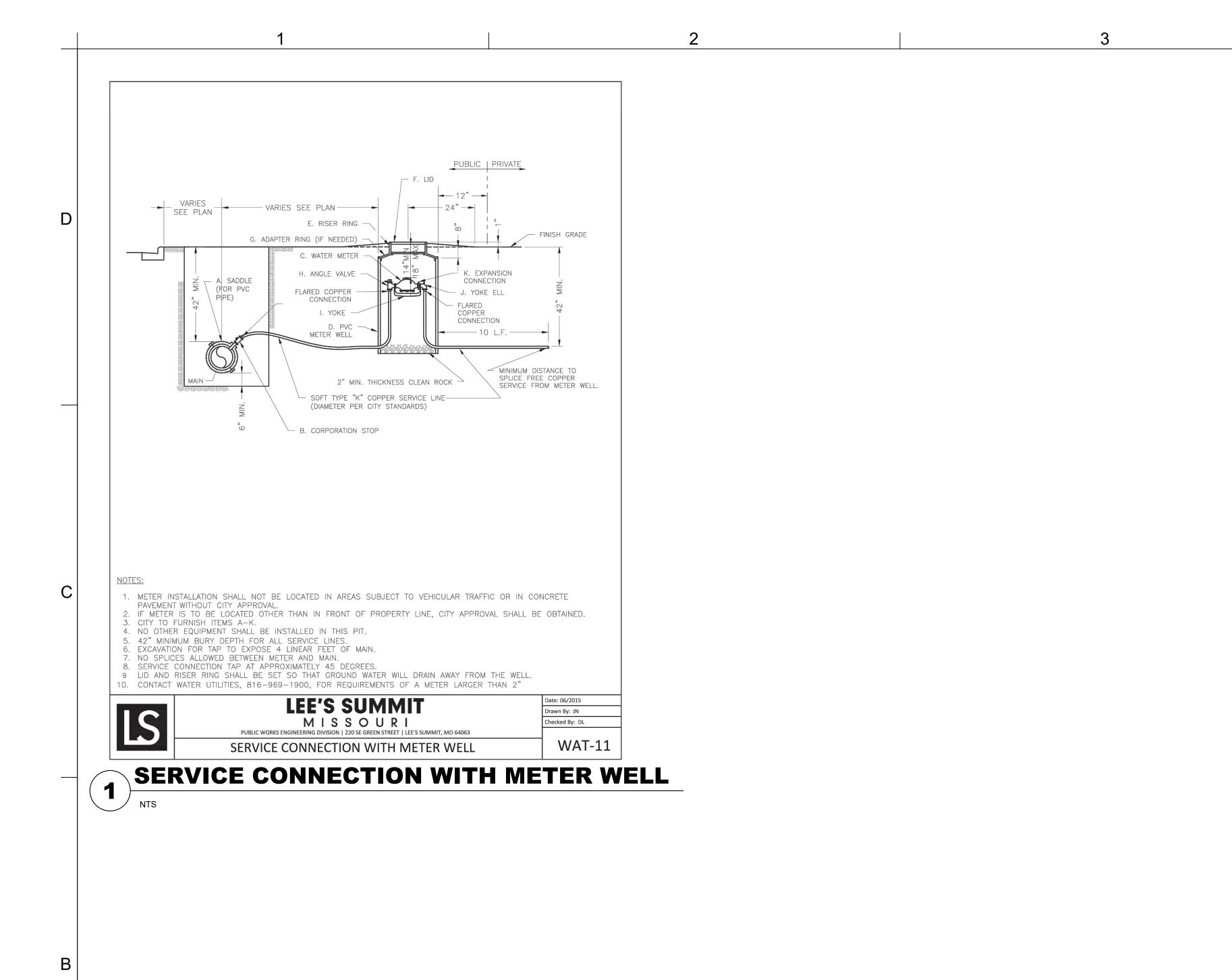
5

rawn By: JN

hecked By: DL

WAT-6

VALVE STEM EXTENSION AND VALVE BOX



2



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HENDERSON ENGINEERS

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1801 MAIN STREET, SUITE 300

KANSAS CITY, MO 64108 (816) 663-8700 PHONE

O C NIM A AC TH

JUKI 04062

FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 1
LEE'S SUMMIT, MISSOURI

REVISIONS:
Description Date

DERICK M.

HOLMES
NUMBER
PE-2022005196

DERICK M.

HOLMES
NUMBER
PE-2022005196

DERICK HOLMES - CIVIL ENGINEER

MO# PE-2022005196

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 DATE:
 10.26.2022

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WATER DETAILS

C-521

Section 2721

Engineered Surface Drainage Products

GENERAL

PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for structure sizes 8", 10", 12", 15", 18", 24", 30" and 36" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to <u>ASTM A536 grade 70-50-05</u>. Grates and covers shall be provided painted black.

INSTALLATION The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2, or class 3 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.

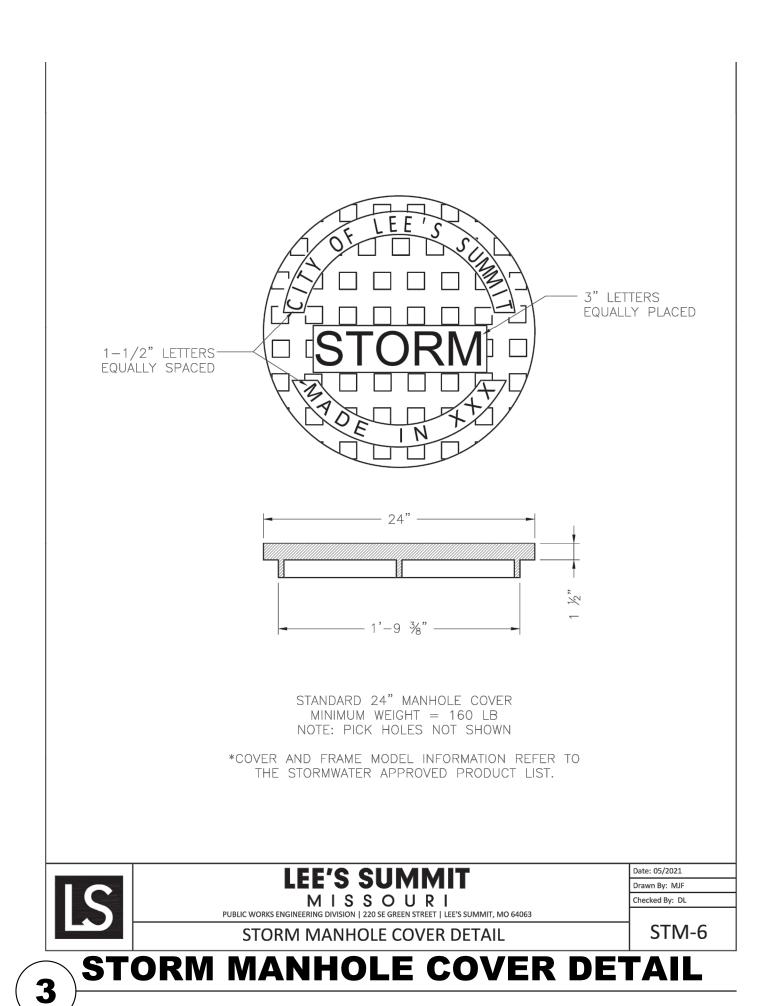
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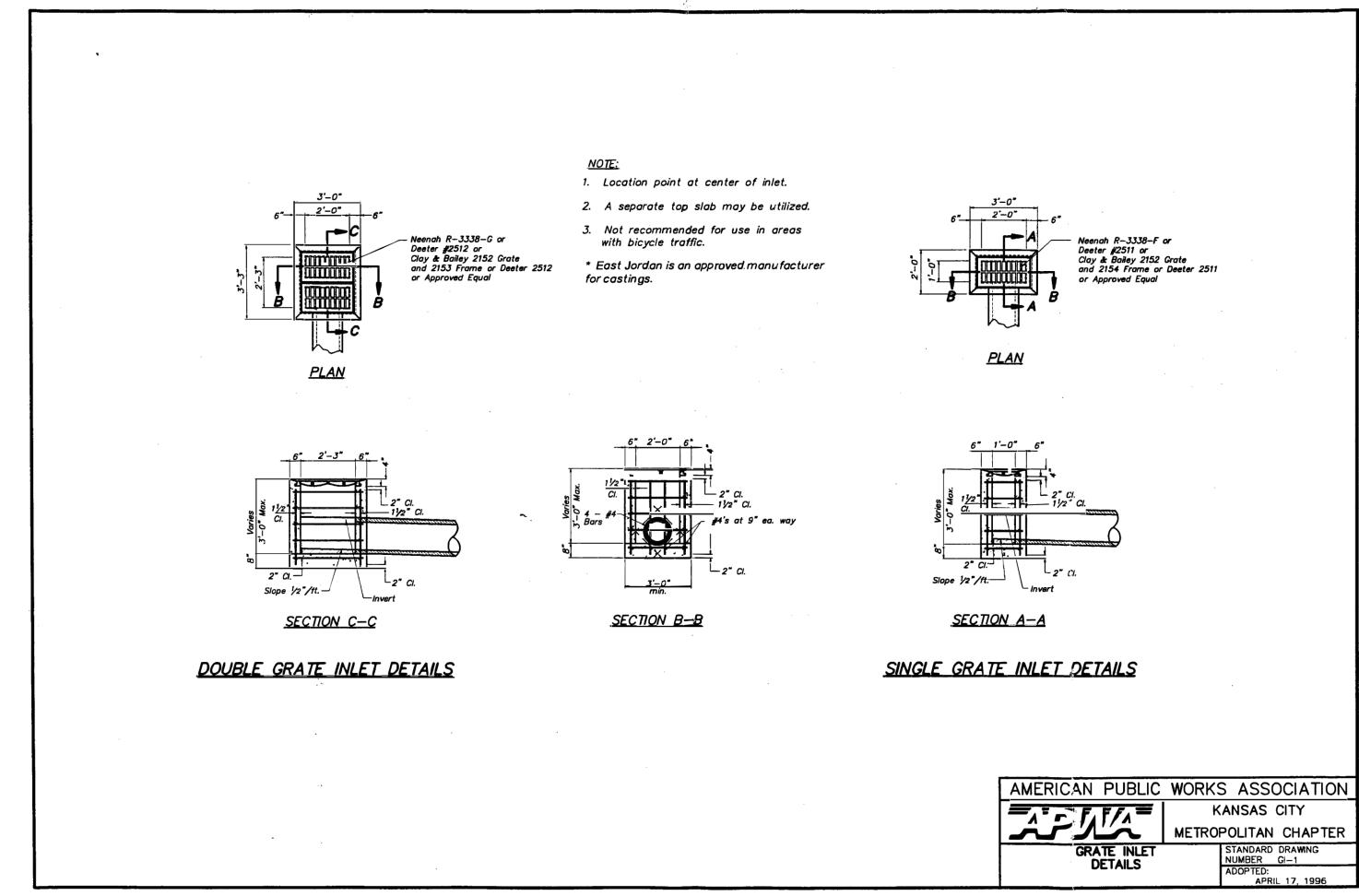
	DRAWN BY CJA	MATERIAL		3130 VERONA AVE
PT			(~%)	BUFORD, GA 30518 PHN (770) 932-2443
, R	DATE 3-10-00		Nyloplast	FAX (770) 932-2443
`	REVISED BY NMH	PROJECT NO./NAME	Tyjopiasi	www.nyloplast-us.com
N			TITLE	
IERS	DATE 02-21-18		8 IN - 36 IN DRAIN BASIN S	PECIFICATIONS

DWG SIZE A SCALE 1:1 SHEET 1 OF 1 DWG NO. 7001-110-011

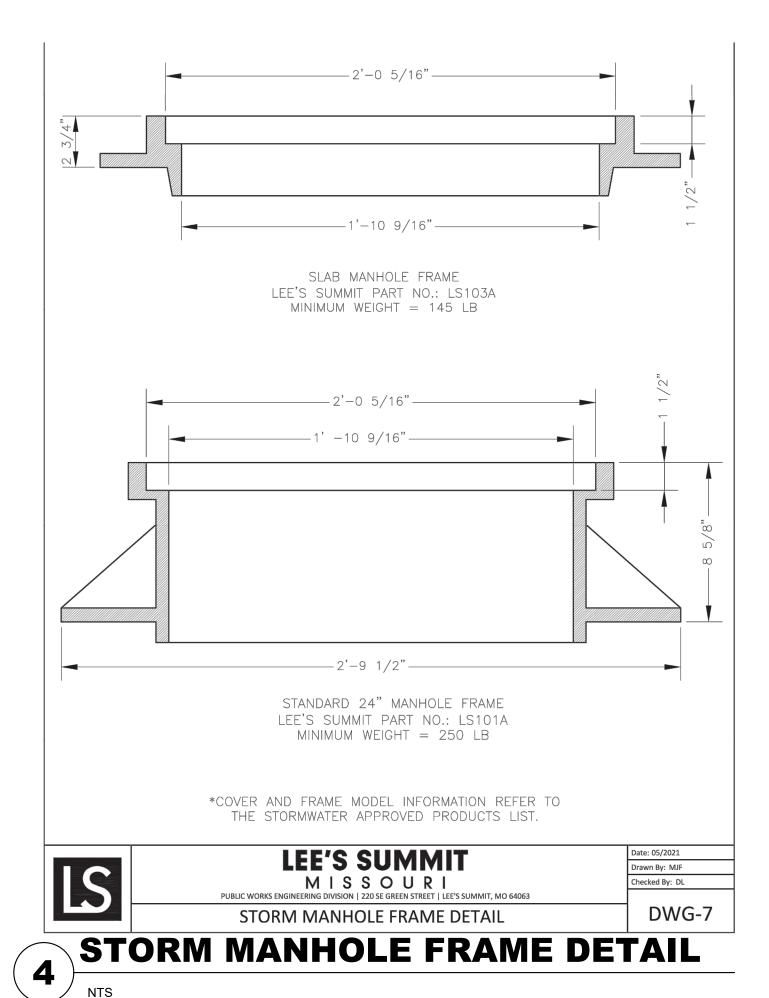
8 IN - 36 IN DRAIN BASIN SPECIFICATIONS

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GRATE INLET DETAIL



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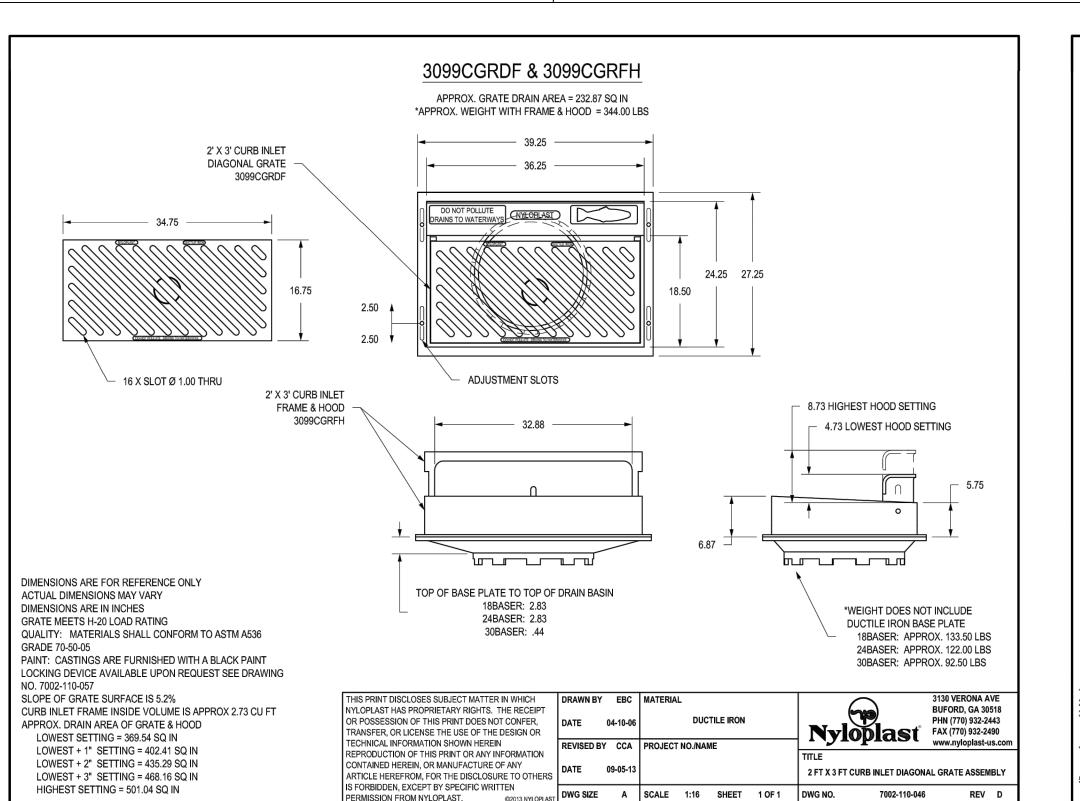
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DERICK HOLMES - CIVIL ENGINEER MO# PE-2022005196

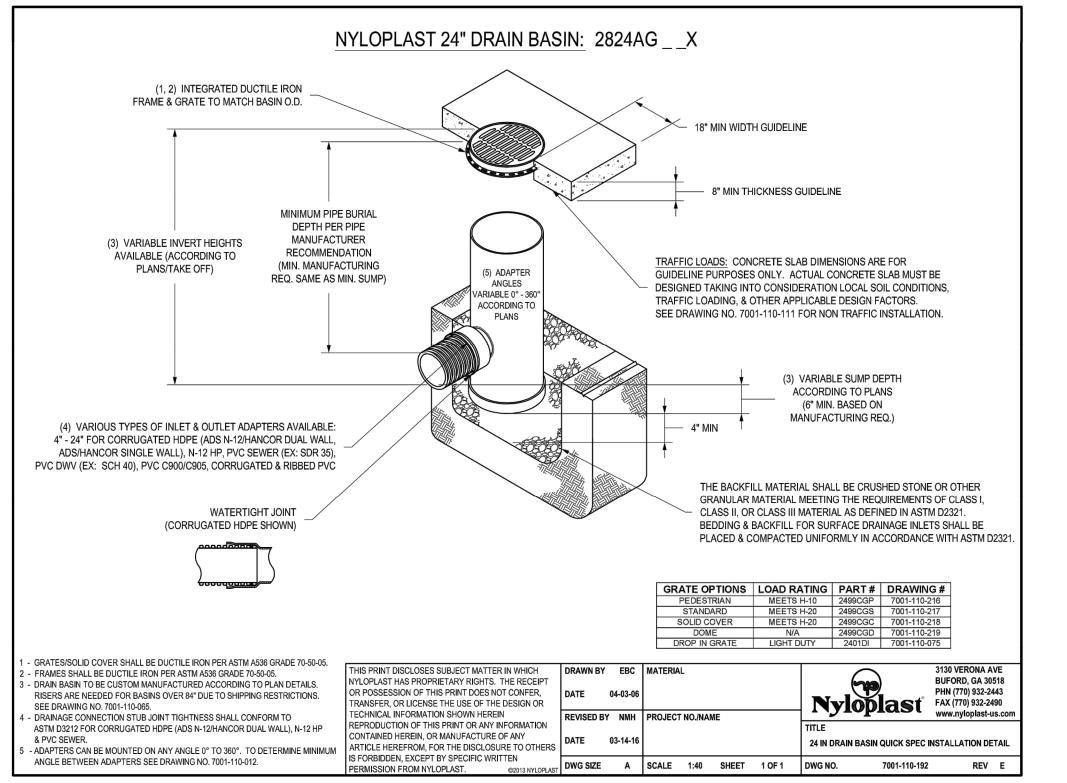
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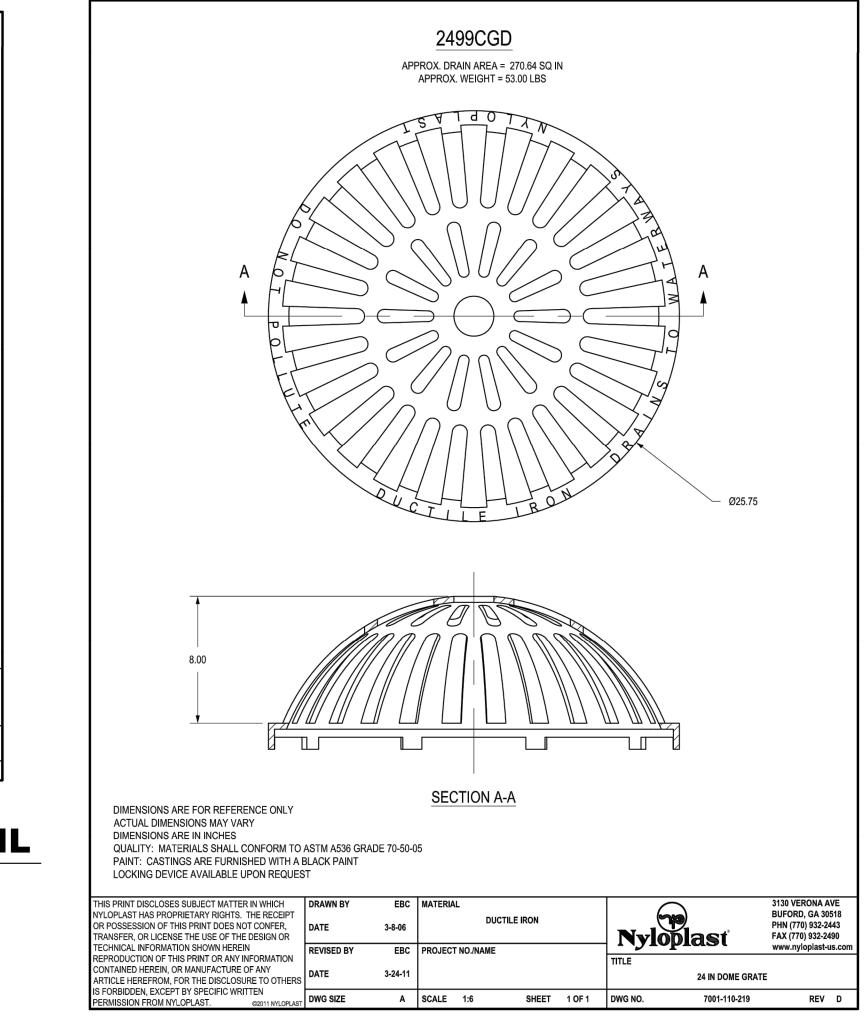
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STORMWATER **DETAILS**



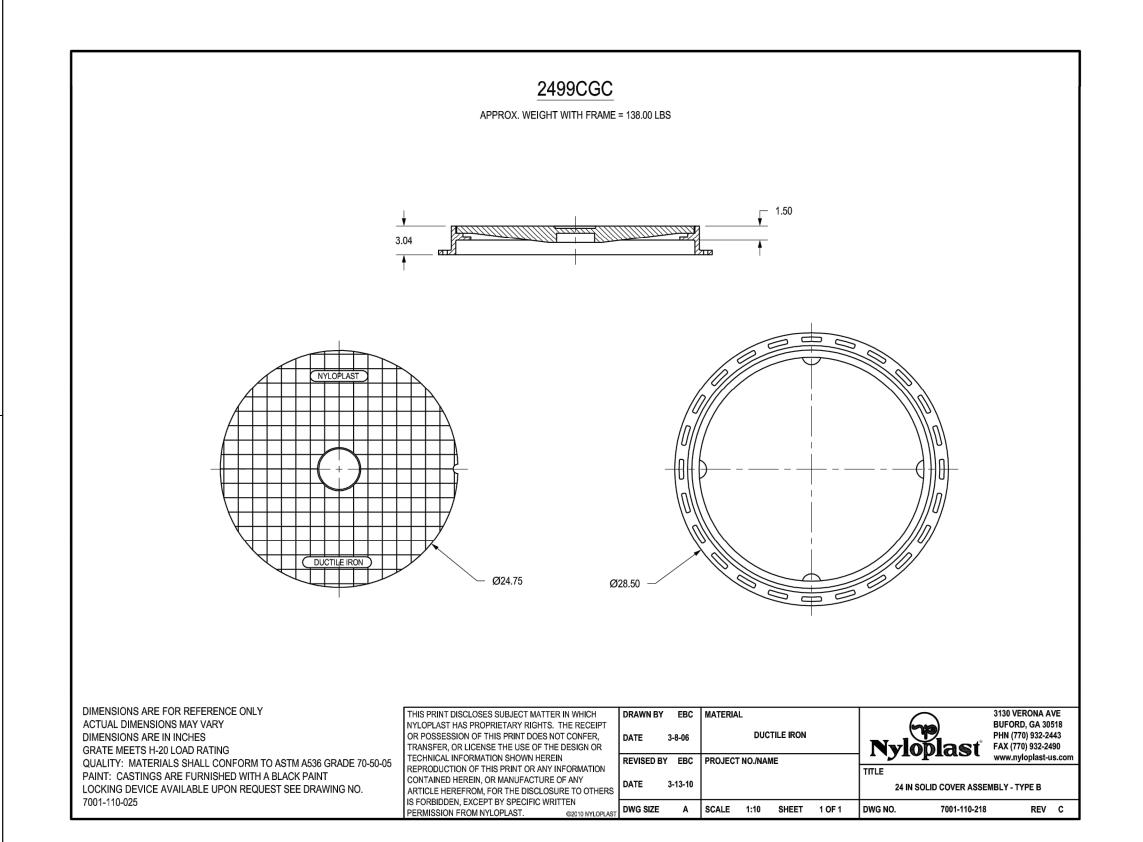
2'x3' CURB INLET DIAGONAL GRATE ASSEMBLY

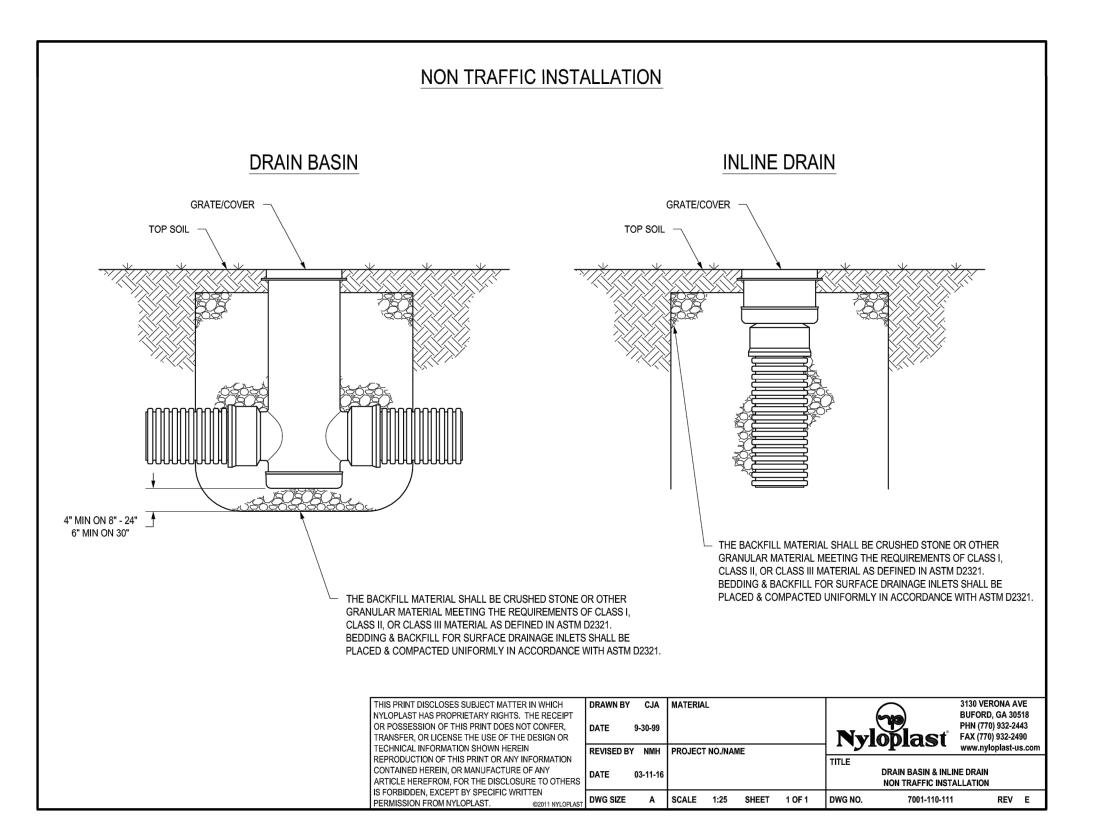




24" DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

24" DOME GRATE





DRAIN BASIN & INLINE DRAIN NON-TRAFFIC INSTALLATION

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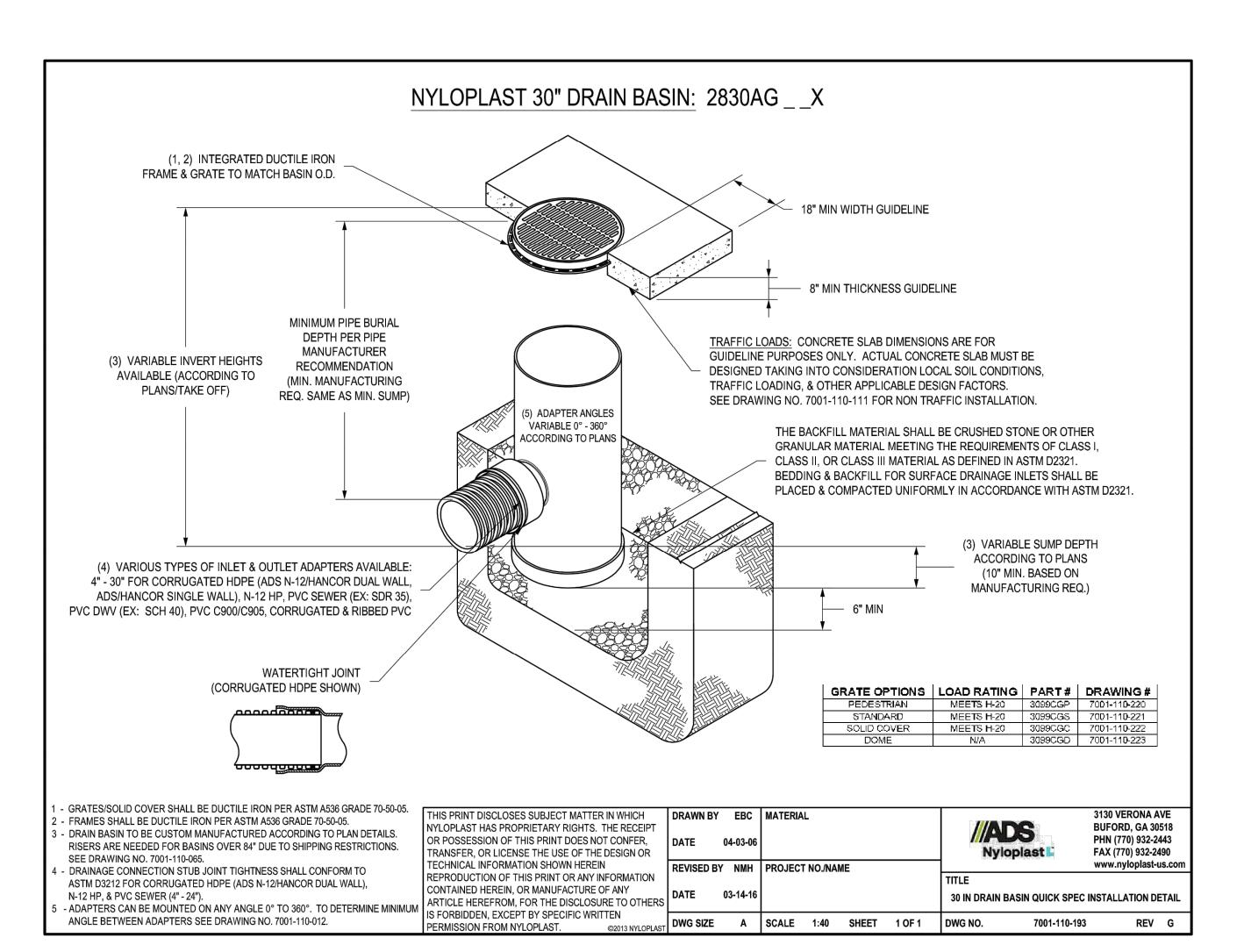
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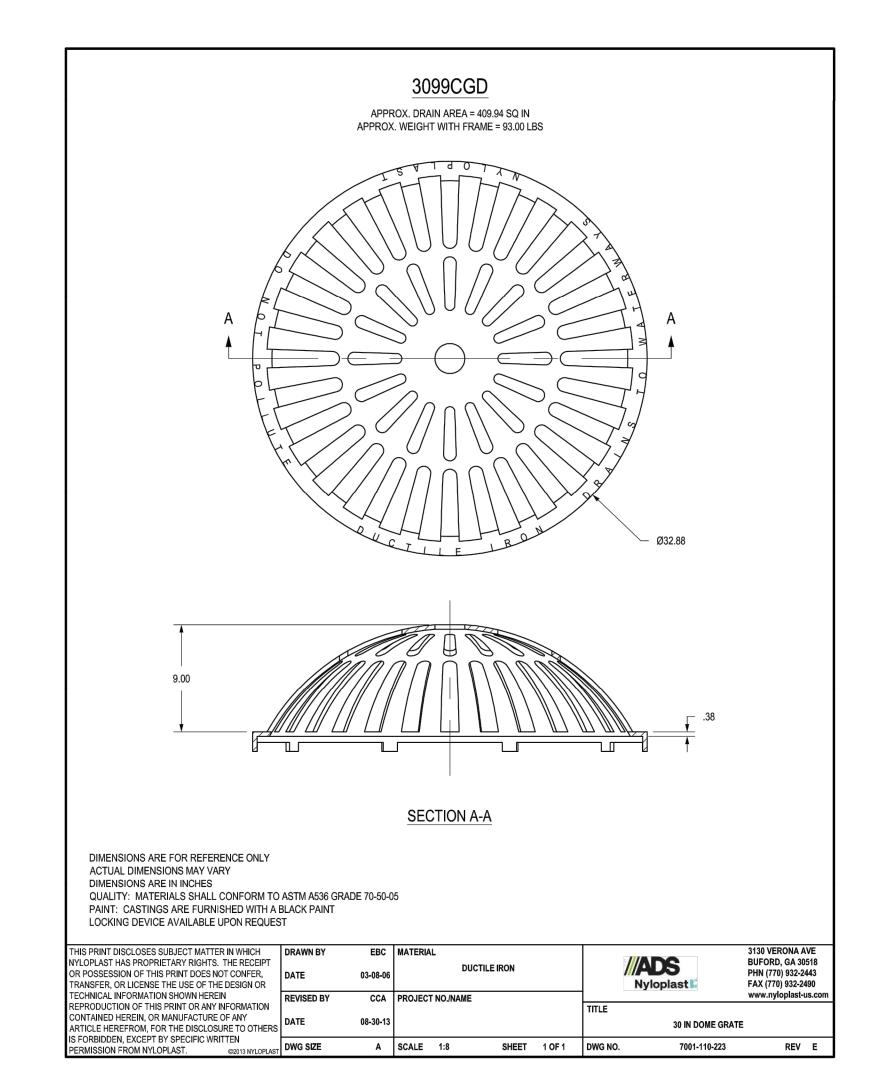
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STORMWATER DETAILS

24" SOLID COVER ASSEMBLY - TYPE B











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FIRE STATIC CITY OF LEE'S SUN

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> DERICK M. **HOLMES** NUMBER

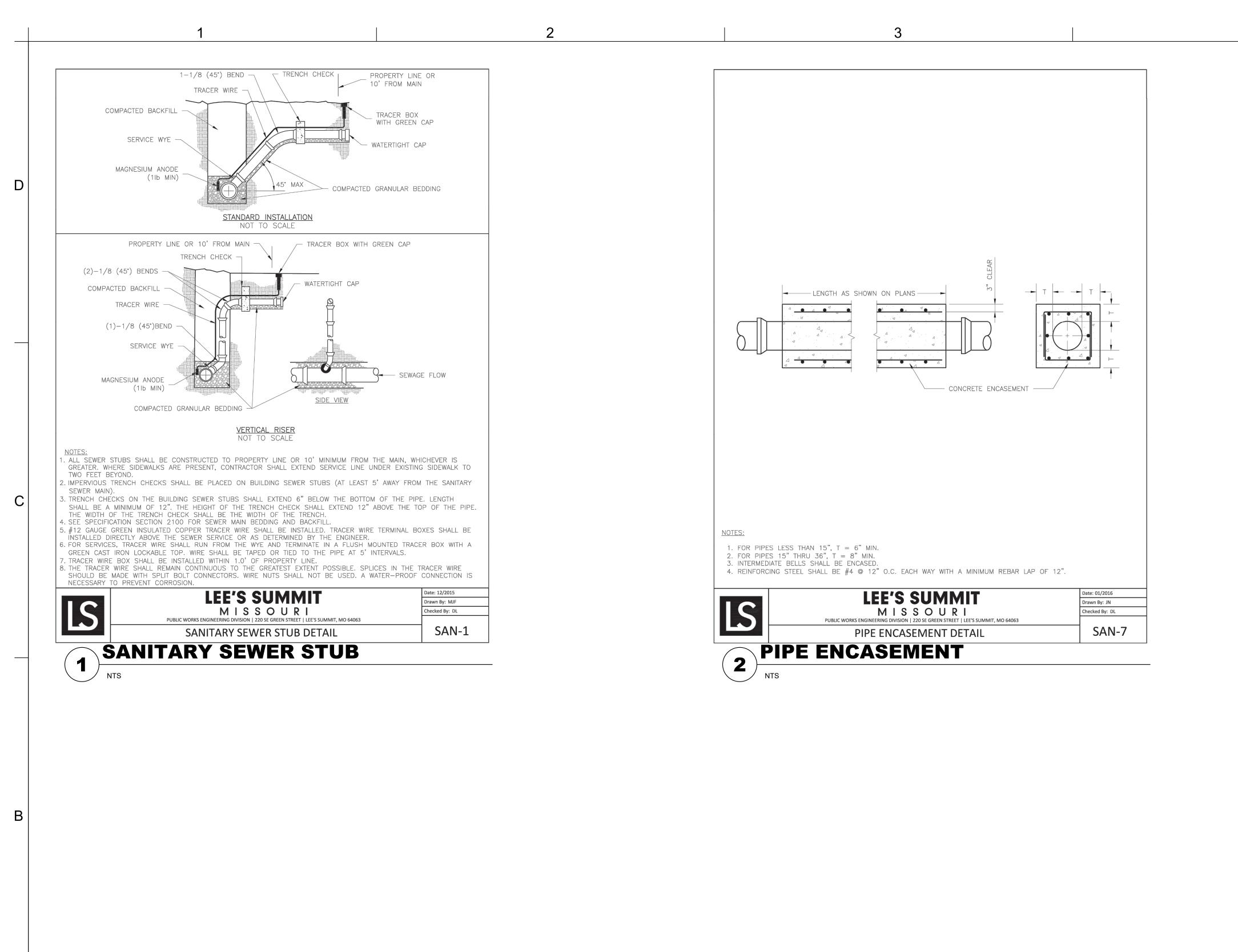
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2

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AENT DRAWINGS

1 04U6Z

FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY 1
LEE'S SUMMIT, MISSOURI

REVISIONS:

Description Date

DERICK M.

HOLMES
NUMBER
PE-2022005196

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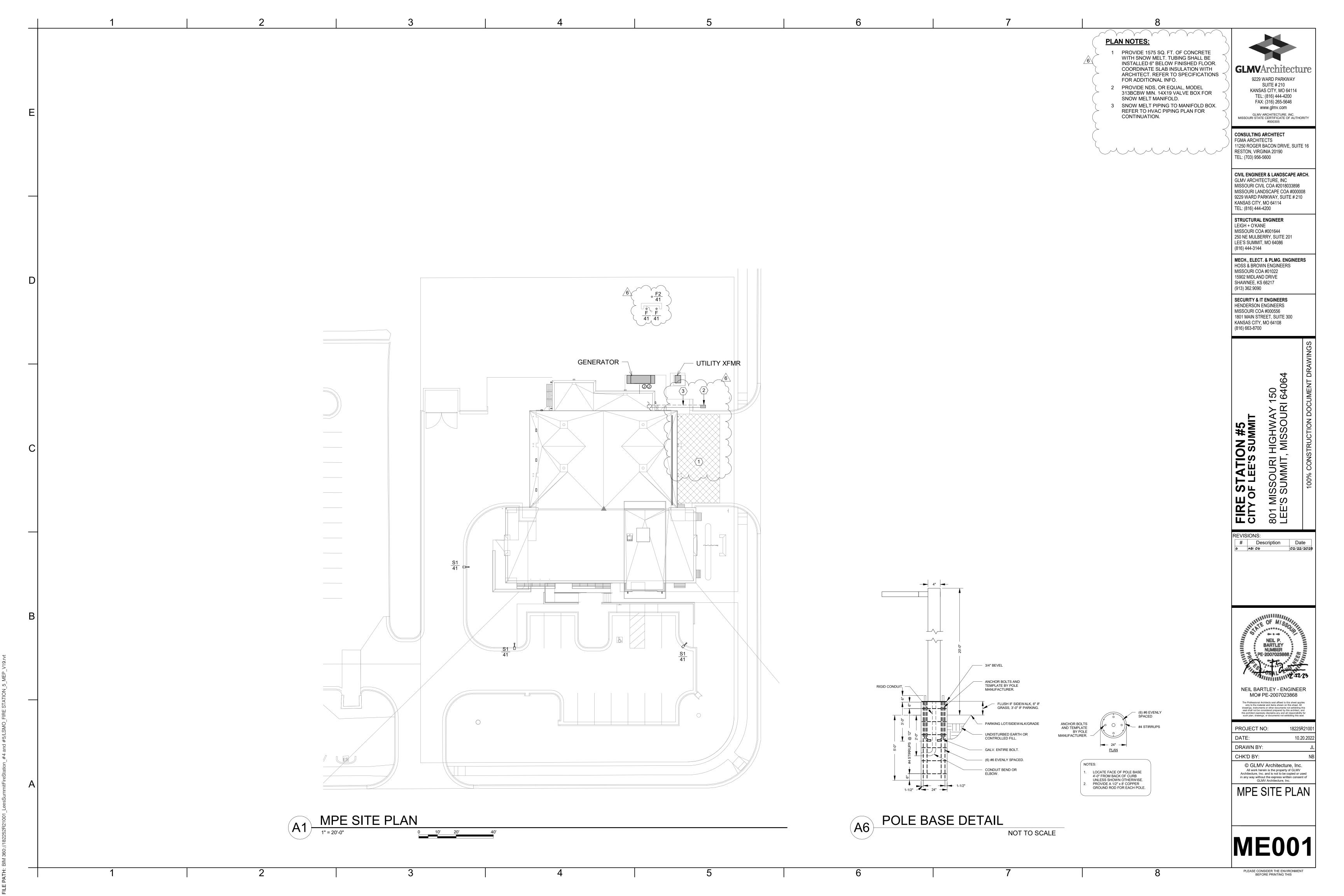
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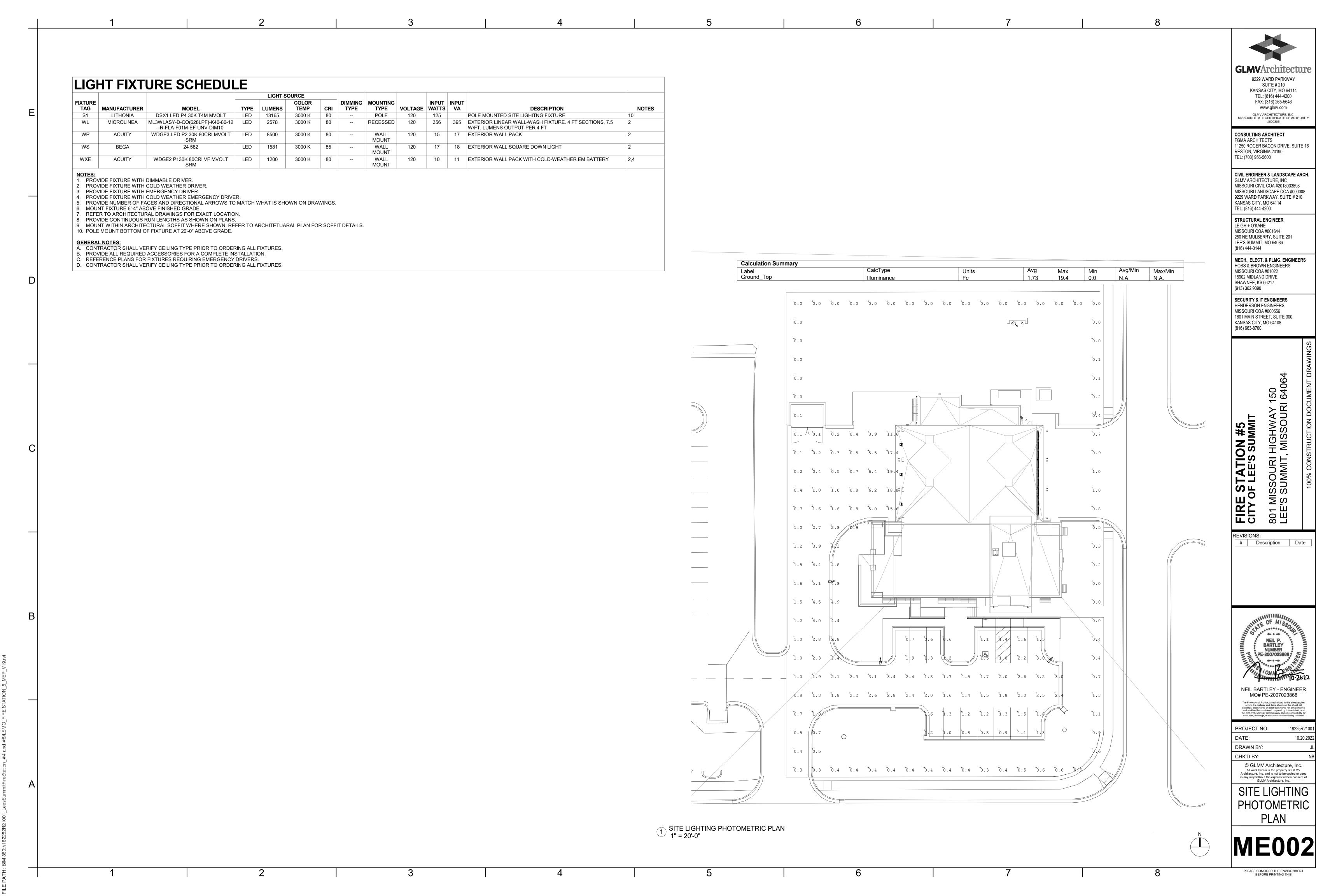
SANITARY SEWER DETAILS

C-540

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS

2





CULTIVATED EDGE

UNDISTURBED SUBGRADE

MIXTURE ON WHICH TO

SHRUB PLANTING

POSITION SHRUB -

GENERAL LANDSCAPE SITE NOTES

- 1. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL GIVE 48 HOURS ADVANCE NOTICE TO ALL THOSE COMPANIES/UTILITIES THAT HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
- 2. CONTRACTOR SHALL VERIFY ALL PLANT COUNTS, QUANTITIES AND AREAS AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT PRIOR TO
- 3. SEE PLANT SCHEDULE FOR PLANT LEGEND AND QUANTITIES.

ORDERING OR INSTALLING MATERIALS SPECIFIED.

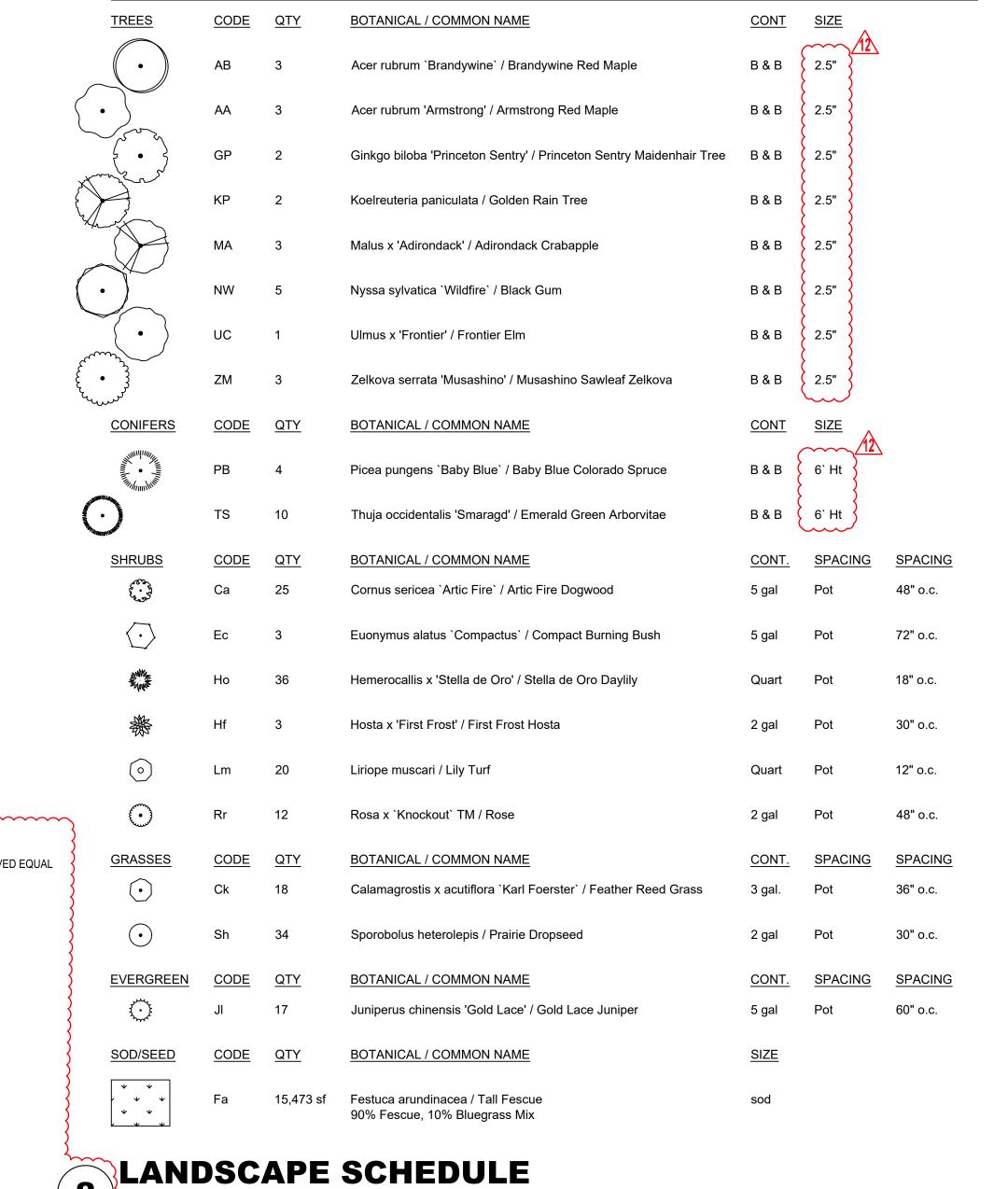
- 4. SYMBOLS INDICATED ON THE PLAN TAKE PRIORITY OVER WRITTEN QUANTITIES AND LABELS.
- 5. PLANTS CALLED OUT IN PLAN ARE CONSIDERED IN CLUSTERS EVEN IF NOT ATTACHED BY CONNECTING LINES. CALLOUTS HAVE TOTAL COUNTS NEEDED.
- 6. CONTRACTOR SHALL MAINTAIN THE LANDSCAPE UNTIL SUBSTANTIAL COMPLETION. MAINTENANCE WORK SHALL CONSIST OF APPLYING WATER, WEEDING, AND FERTILIZING.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR DISEASE AND PEST CONTROL DURING THE MAINTENANCE PERIOD.
- 8. CONTRACTOR TO VERIFY, WITH SOIL ANALYSIS, THE SOIL AMENDMENT NEEDED AND CONTACT THE LANDSCAPE ARCHITECT IF THERE ARE ANY INADEQUATE AMENITIES.
- 9. PLANT MATERIAL SHALL NOT BE DELIVERED TO THE SITE NOR INSTALLED WHEN TEMPERATURES ARE ABOVE 90°F OR BELOW 40°F AT THE TIME OF PLANTING AND FORECASTED FOR A PERIOD OF 2 WEEKS AFTER INSTALLATION.
- 10. CONTRACTOR TO PROVIDE A 1-YEAR WARRANTY ON ALL INSTALLED PLANTINGS FROM POINT OF SUBSTANTIAL COMPLETION.

PLANTING NOTES

- ALL PLANT MATERIAL SHALL BE OF EXCELLENT QUALITY, FREE OF DISEASE AND INFESTATION, AND TRUE TO TYPE, VARIETY, SIZE SPECIFIED, AND FORM PER THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, CURRENT VERSION),
- 2. PLANT MATERIAL SHALL BE PLANTED AND MAINTAINED TO ASNS SPECIFICATIONS.
- 3. CONTRACTOR SHALL VERIFY ALL LANDSCAPE MATERIAL QUANTITIES AND SHALL
- 4. NO SUBSTITUTIONS FOR VARIETY OR CULTIVAR SHALL BE ACCEPTED WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM LANDSCAPE ARCHITECT.
- 5. ALL TREES AND SHRUBS SHALL BE LAID OUT IN A UNIFORM AND CONSISTENT PATTERN, FOLLOWING THE LANDSCAPE PLAN ACCURATELY, PAYING ATTENTION TO EVEN SPACING IN THE ROW OR COVERAGE AREA OF THE INDIVIDUAL SPECIES AND HOW IT IS BEING USED.
- ALL PLANTING BEDS ABUTTING LAWN AREAS SHALL HAVE STEEL EDGING (SEE DETAIL FOR TYPE) INSTALLED AS THE BED EDGE RESTRAINT. NO STEEL EDGING SHALL BE
- ALL PLANTINGS SHALL BE THOROUGHLY WATERED IN WITH A GARDEN HOSE, TWICE, THE SAME DAY AS INSTALLATION TO ELIMINATE AIR POCKETS IN THE BACKFILL.
- ALLOW FOR VEHICLE BUMPER OVERHANG.
- 9. PROPOSED TREES SHALL NOT BE PLACED OVER EXISTING OR PROPOSED UTILITY LOCATIONS AND HAVE THEM MARKED DURING TREE PLANTING OPERATIONS. IF UTILITY IS DAMAGED DURING PLANTING, CONTRACTOR IS RESPONSIBLE FOR REPAIR OF THE DAMAGED UTILITY.
- ROCK MULCH OVER GÉOTEXTILE FABRIC.
- SEE DETAIL 6/L-100. MULCH SHALL BE A 3" DEEP LAYER OF BROWN, DOUBLE GROUND, HARDWOOD, 1" DIAMETER IN SIZE OR SMALLER INSTALLED AT THE CONCLUSION OF ALL PLANTING OPERATIONS.

- **GLMV**Architecture PUBLISHED BY THE AMERICAN NURSERYMEN'S ASSOCIATION. 9229 WARD PARKWAY
- REPORT ANY DISCREPANCIES IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
- INSTALLED BETWEEN ROCK MULCH AND PAVEMENT
- 8. NO PLANTINGS SHALL BE PLACED CLOSER THAN 3' FROM THE BACK OF THE CURB TO
- SERVICE LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND UTILITY NOTIFYING THE GENERAL CONTRACTOR AND OWNER OF UTILITY AND PAYING FOR
- 10. ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" DEEP LAYER OF MISSOURI RIVER ROCK (1/2" - 1 1/4" IN SIZE) AT THE CONCLUSION OF THE PLANTING OPERATIONS. PLACE
- 11. ALL TREES SHALL HAVE A 5'-0" DIAMETER MULCH RING WITH A CULTIVATED EDGE,

PLANT SCHEDULE



50 64(STATIC - LEE'S SU

SUITE # 210

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(913) 362-9090 PHONE

250 NE MURBERRY, SUITE 201

HOSS & BROWN ENGINEERS

SECURITY & IT ENGINEERS

1801 MAIN STREET, SUITE 300

HENDERSON ENGINEERS

MISSOURI COA # 000556

KANSAS CITY, MO 64108

(816) 663-8700 PHONE

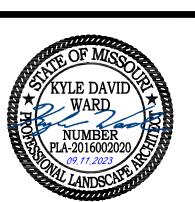
MECH., ELEC. & PLUMBING ENGINEERS

TEL: (816) 444-4200

LEIGH + O'KANE

FIRE CITY OF |REVISIONS: Description

11.22.2022 ASI 02 ASI 09 06.02.2022 ASI 12 09.11.2023



KYLE WARD - LANDSCAPE ARCHITEC MO# PLA-2016002020

PROJECT NO: 18225R21001 DATE: 10.26.2022 DRAWN BY: KDW CHK'D BY:

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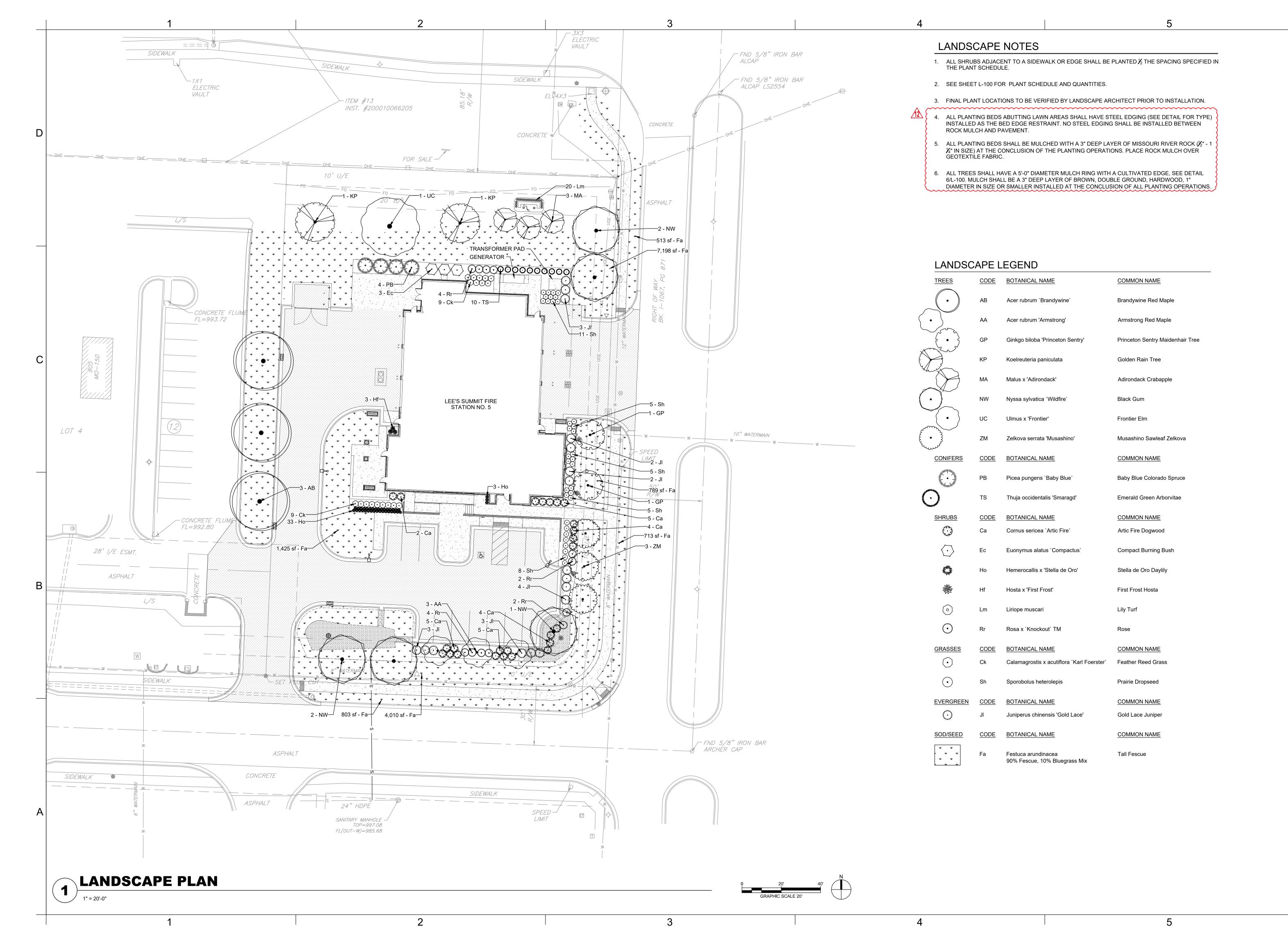
LANDSCAPE **SCHEDULE**

PLEASE CONSIDER THE ENVIRONMENT

STAKE, PER MANUFACTURER

- EXISTING SUBGRADE

STEEL EDGING





9229 WARD PARKWAY SUITE # 210 KANSAS CITY, MO 64114 TEL: (816) 444-4200 FAX: (316) 265-5646 www.glmv.com

GLMV ARCHITECTURE, INC. MISSOURI STATE CERTIFICATE OF AUTHORITY

CIVIL ENGINEER & LANDSCAPE ARCH.
GLMV ARCHITECTURE, INC
MISSOURI CIVIL COA #2018033898
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15902 MIDLAND DRIVE

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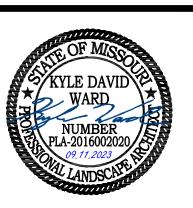
FIRE STATION #5
CITY OF LEE'S SUMMIT
801 MISSOURI HIGHWAY
LEE'S SUMMIT, MISSOURI

REVISIONS:

Description Date

9 ASI 09 06.02.2023

12 ASI 12 09.11.2023



KYLE WARD - LANDSCAPE ARCHITECT MO# PLA-2016002020

The Professional Landscape Architects seal affixed to this sheet appli on the the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this landscape architect, an this landscape architect expressly disclaims any and all responsibility

PROJECT NO:	18225R21001
DATE:	10.26.2022
DRAWN BY:	KDW
CHK'D BY:	CDW

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LANDSCAPE PLAN

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