

MATCH LINE - SEE SHEET C-4

SUBDIVISION: ARBOR ESTATES
OWNER: CITY OF LEE'S SUMMIT
ZONE: AG
USE: PUBLIC PARK

EXISTING BUTTERFLY GARDEN

STRUCTURES TO BE REMOVED AND RELOCATED

REV	DATE	DESCRIPTION
0	6-18-19	INITIAL ISSUE



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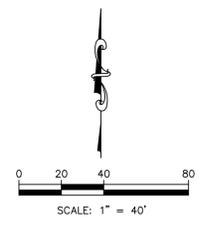
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

DEMOLITION NOTES:

- 1 TO REMAIN
- 2 REMOVE TREES
- 3 TREES TO REMAIN
- 5 REMOVE PIPE AND RIPRAP
- 7 SIGN TO BE RELOCATED
- 11 TO BE REMOVED BY ELECTRIC COMPANY
- 16 TO BE RELOCATED BY ELECTRIC COMPANY
- 44 CONTRACTOR TO REMOVE (SIDEWALK)
- 46 CONTRACTOR TO REMOVE PAVING AND CURBS TO EXISTING LOWENSTEIN PAVEMENT
- 47 CONTRACTOR TO REMOVE STRUCTURE, APPURTENANCES AND PAVING, COORDINATE WITH PARKS DEPARTMENT

LEGEND

NOT A PART OF DEMOLITION ACTIVITIES



DATUM BENCHMARK:
VERTICAL DATUM IS NAVD 88 ESTABLISHED USING OPUS PROJECTS ON PROJECT CONTROL.

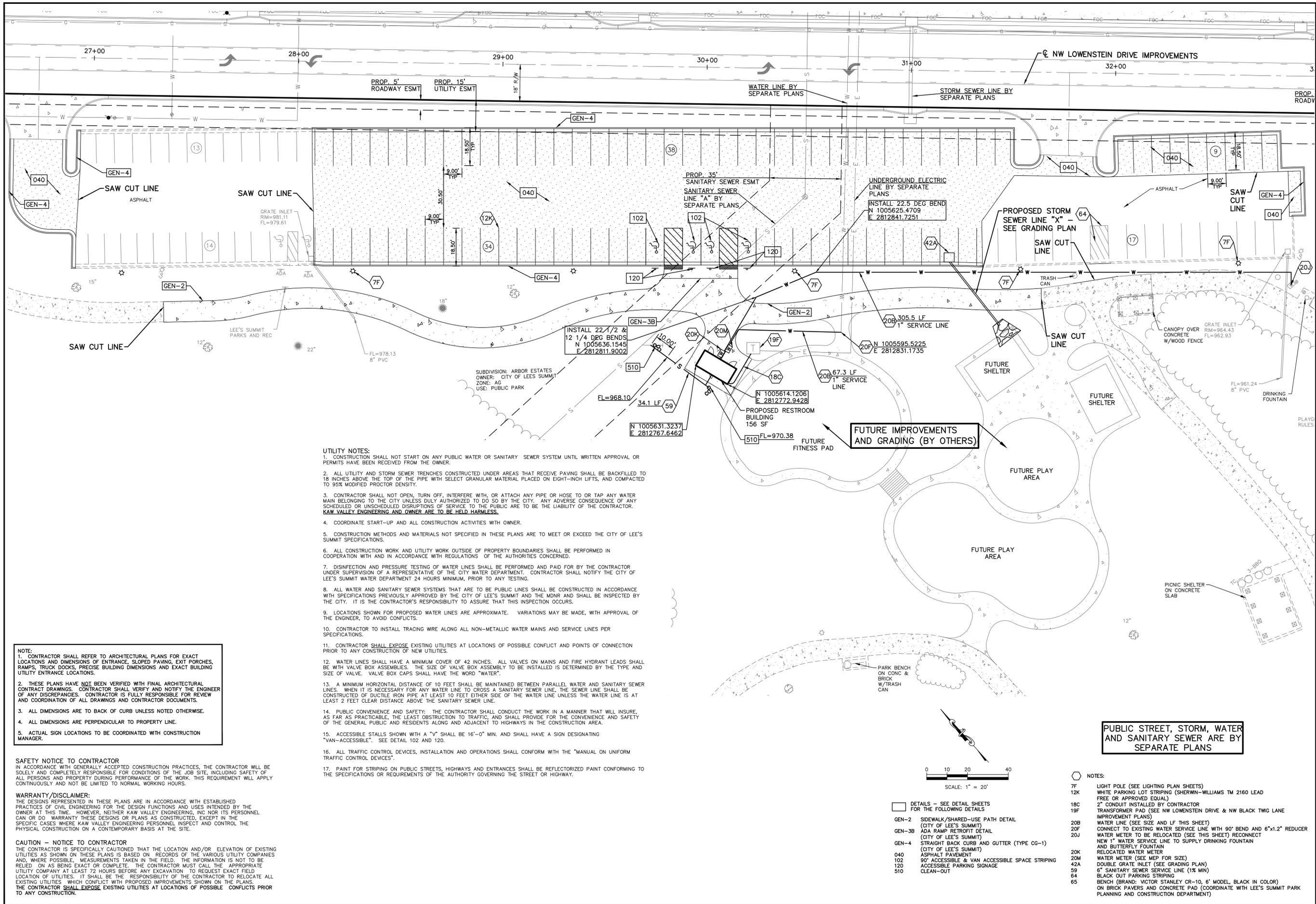
BENCHMARKS:
BM #1: CHISELED "SQUARE" ON TOP OF CURB POINT OF INTERSECTION OF WEST PARK PARKING LOT AT EAST DRIVE ENTRANCE. ELEV=984.97

BM #2: CHISELED "SQUARE" ON NORTHWEST CORNER AREA INLET, 25± EAST OF CURB LINE AND ON-LINE WITH SOUTH CURB OF LOWENSTEIN DRIVE AT 90° BEND IN ROAD. ELEV=970.98

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

LOWENSTEIN PARK IMPROVEMENTS
DEMOLITION PLAN

PROJ. NO.	A14_7067-1
DESIGNER	LDO
DRAWN BY	BKR
SHEET	7067-1P_DEMO
REV	0



- UTILITY NOTES:**
- CONSTRUCTION SHALL NOT START ON ANY PUBLIC WATER OR SANITARY SEWER SYSTEM UNTIL WRITTEN APPROVAL OR PERMITS HAVE BEEN RECEIVED FROM THE OWNER.
 - ALL UTILITY AND STORM SEWER TRENCHES CONSTRUCTED UNDER AREAS THAT RECEIVE PAVING SHALL BE BACKFILLED TO 18 INCHES ABOVE THE TOP OF THE PIPE WITH SELECT GRANULAR MATERIAL PLACED ON EIGHT-INCH LIFTS, AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
 - CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCE OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR. **KAW VALLEY ENGINEERING AND OWNER ARE TO BE HELD HARMLESS.**
 - COORDINATE START-UP AND ALL CONSTRUCTION ACTIVITIES WITH OWNER.
 - CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED THE CITY OF LEE'S SUMMIT SPECIFICATIONS.
 - ALL CONSTRUCTION WORK AND UTILITY WORK OUTSIDE OF PROPERTY BOUNDARIES SHALL BE PERFORMED IN COOPERATION WITH AND IN ACCORDANCE WITH REGULATIONS OF THE AUTHORITIES CONCERNED.
 - DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR UNDER SUPERVISION OF A REPRESENTATIVE OF THE CITY WATER DEPARTMENT. CONTRACTOR SHALL NOTIFY THE CITY OF LEE'S SUMMIT WATER DEPARTMENT 24 HOURS MINIMUM, PRIOR TO ANY TESTING.
 - ALL WATER AND SANITARY SEWER SYSTEMS THAT ARE TO BE PUBLIC LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS PREVIOUSLY APPROVED BY THE CITY OF LEE'S SUMMIT AND SHALL BE INSPECTED BY THE CITY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT THIS INSPECTION OCCURS.
 - LOCATIONS SHOWN FOR PROPOSED WATER LINES ARE APPROXIMATE. VARIATIONS MAY BE MADE, WITH APPROVAL OF THE ENGINEER, TO AVOID CONFLICTS.
 - CONTRACTOR TO INSTALL TRACING WIRE ALONG ALL NON-METALLIC WATER MAINS AND SERVICE LINES PER SPECIFICATIONS.
 - CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF NEW UTILITIES.
 - WATER LINES SHALL HAVE A MINIMUM COVER OF 42 INCHES. ALL VALVES ON MAINS AND FIRE HYDRANT LEADS SHALL BE WITH VALVE BOX ASSEMBLIES. THE SIZE OF VALVE BOX ASSEMBLY TO BE INSTALLED IS DETERMINED BY THE TYPE AND SIZE OF VALVE. VALVE BOX CAPS SHALL HAVE THE WORD "WATER".
 - A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. WHEN IT IS NECESSARY FOR ANY WATER LINE TO CROSS A SANITARY SEWER LINE, THE SEWER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE AT LEAST 10 FEET EITHER SIDE OF THE WATER LINE UNLESS THE WATER LINE IS AT LEAST 2 FEET CLEAR DISTANCE ABOVE THE SANITARY SEWER LINE.
 - PUBLIC CONVENIENCE AND SAFETY: THE CONTRACTOR SHALL CONDUCT THE WORK IN A MANNER THAT WILL INSURE, AS FAR AS PRACTICABLE, THE LEAST OBSTRUCTION TO TRAFFIC, AND SHALL PROVIDE FOR THE CONVENIENCE AND SAFETY OF THE GENERAL PUBLIC AND RESIDENTS ALONG AND ADJACENT TO HIGHWAYS IN THE CONSTRUCTION AREA.
 - ACCESSIBLE STALLS SHOWN WITH A "V" SHALL BE 16'-0" MIN. AND SHALL HAVE A SIGN DESIGNATING "VAN-ACCESSIBLE". SEE DETAIL 102 AND 120.
 - ALL TRAFFIC CONTROL DEVICES, INSTALLATION AND OPERATIONS SHALL CONFORM WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
 - PAINT FOR STRIPING ON PUBLIC STREETS, HIGHWAYS AND ENTRANCES SHALL BE REFLECTORIZED PAINT CONFORMING TO THE SPECIFICATIONS OR REQUIREMENTS OF THE AUTHORITY GOVERNING THE STREET OR HIGHWAY.

NOTE:

- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.
- ALL DIMENSIONS ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS ARE PERPENDICULAR TO PROPERTY LINE.
- ACTUAL SIGN LOCATIONS TO BE COORDINATED WITH CONSTRUCTION MANAGER.

SAFETY NOTICE TO CONTRACTOR
 IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

WARRANTY/DISCLAIMER:
 THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

CAUTION - NOTICE TO CONTRACTOR
 THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

PUBLIC STREET, STORM, WATER AND SANITARY SEWER ARE BY SEPARATE PLANS

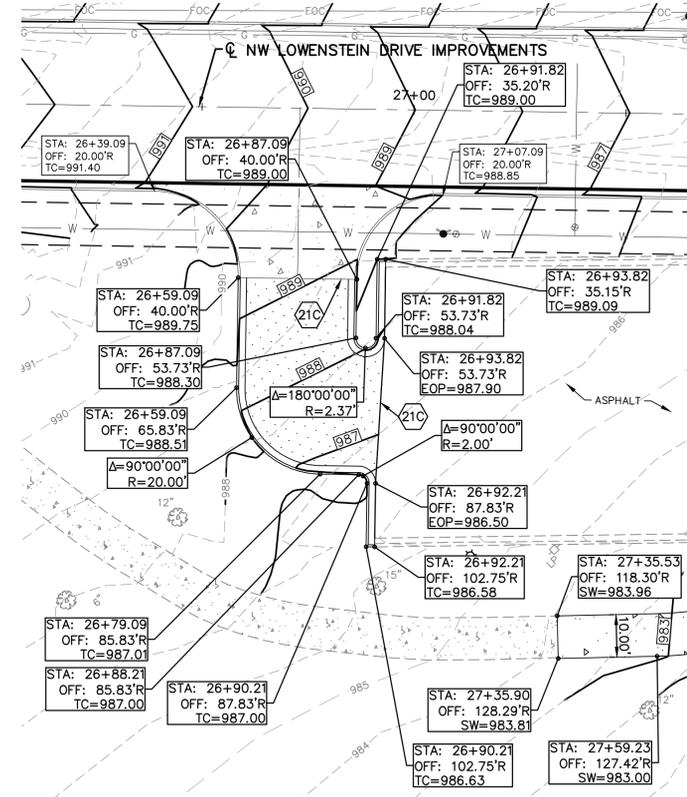
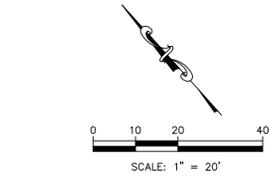
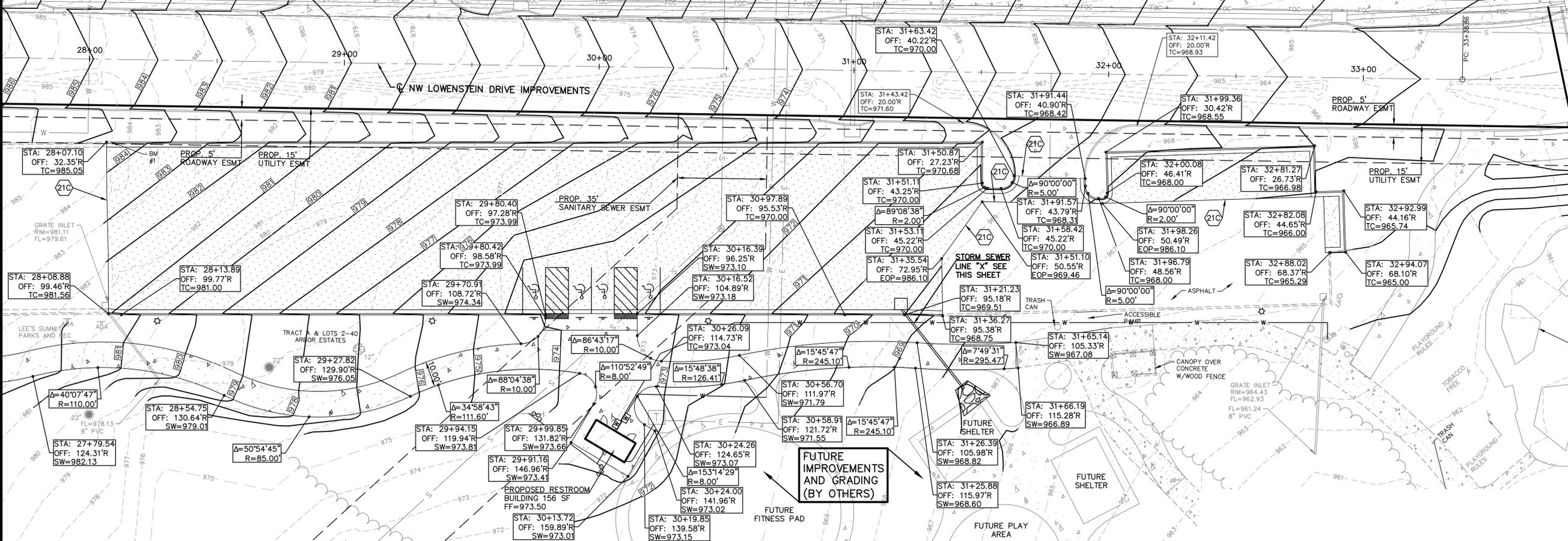


- DETAILS - SEE DETAIL SHEETS FOR THE FOLLOWING DETAILS
- GEN-2 SIDEWALK/SHARED-USE PATH DETAIL (CITY OF LEE'S SUMMIT)
 - GEN-3B ADA RAMP RETROFIT DETAIL (CITY OF LEE'S SUMMIT)
 - GEN-4 STRAIGHT BACK CURB AND GUTTER (TYPE CG-1) (CITY OF LEE'S SUMMIT)
 - 040 ASPHALT PAVEMENT
 - 102 90' ACCESSIBLE & VAN ACCESSIBLE SPACE STRIPING
 - 120 ACCESSIBLE PARKING SIGNAGE
 - 510 CLEAN-OUT

- NOTES:**
- 7F LIGHT POLE (SEE LIGHTING PLAN SHEETS)
 - 12K WHITE PARKING LOT STRIPING (SHERWIN-WILLIAMS TM 2160 LEAD FREE OR APPROVED EQUAL)
 - 18C 2" CONDUIT INSTALLED BY CONTRACTOR
 - 19F TRANSFORMER PAD (SEE NW LOWENSTEIN DRIVE & NW BLACK TWIG LANE IMPROVEMENT PLANS)
 - 20B WATER LINE (SEE SIZE AND LF THIS SHEET)
 - 20F CONNECT TO EXISTING WATER SERVICE LINE WITH 90° BEND AND 6"x1.2" REDUCER
 - 20J WATER METER TO BE RELOCATED (SEE THIS SHEET) RECONNECT NEW 1" WATER SERVICE LINE TO SUPPLY DRINKING FOUNTAIN AND BUTTERFLY FOUNTAIN
 - 20K RELOCATED WATER METER
 - 20M WATER METER (SEE MEP FOR SIZE)
 - 42A DOUBLE GRATE INLET (SEE GRADING PLAN)
 - 59 6" SANITARY SEWER SERVICE LINE (1% MIN)
 - 64 BLACK OUT PARKING STRIPING
 - 65 BENCH (BRAND: VICTOR STANLEY CR-10, 6" MODEL, BLACK IN COLOR) ON BRICK PAVERS AND CONCRETE PAD (COORDINATE WITH LEE'S SUMMIT PARK PLANNING AND CONSTRUCTION DEPARTMENT)

DDO	CHK	
DDO	BKR	
DDO	DSN	
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LEON D. OSBOURN ENGINEER MO # 021726		
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KAW VALLEY ENGINEERING KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF MISSOURI. CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19.		
STREETS OF WEST PRYOR NW QW PRYOR RD & NW LOWENSTEIN DR LEE'S SUMMIT, MISSOURI		
LOWENSTEIN PARK IMPROVEMENTS SITE AND UTILITY PLAN		
PROJ. NO.	A14 7067-1	
DESIGNER	LDO	DRAWN BY BKR
CFN	7067-1P-SP	
SHEET	C-6	REV 0

MATCH LINE THIS SHEET



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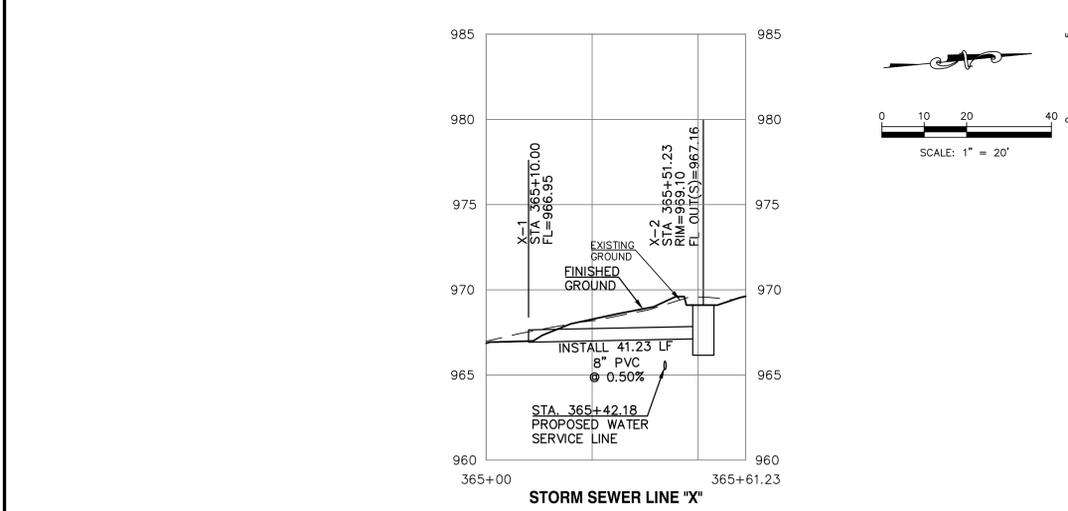
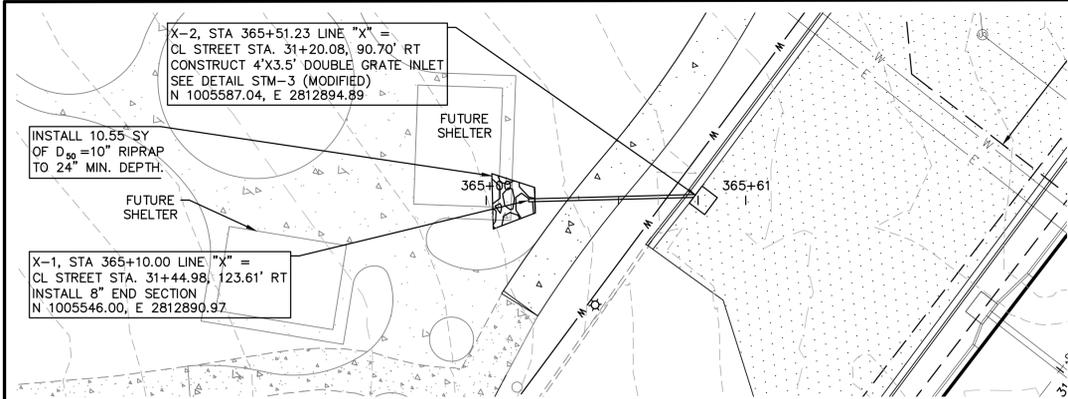
LEGEND (PROPOSED)

- TC TOP OF CURB
- SW SIDEWALK
- EOP EDGE OF PAVEMENT
- FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT

DETAILS - SEE DETAIL SHEETS NO. C-13 FOR THE FOLLOWING DETAILS
 STM-3 JUNCTION BOX DETAIL
 NOTES:
 21C MATCH EXISTING PAVEMENT ELEVATIONS

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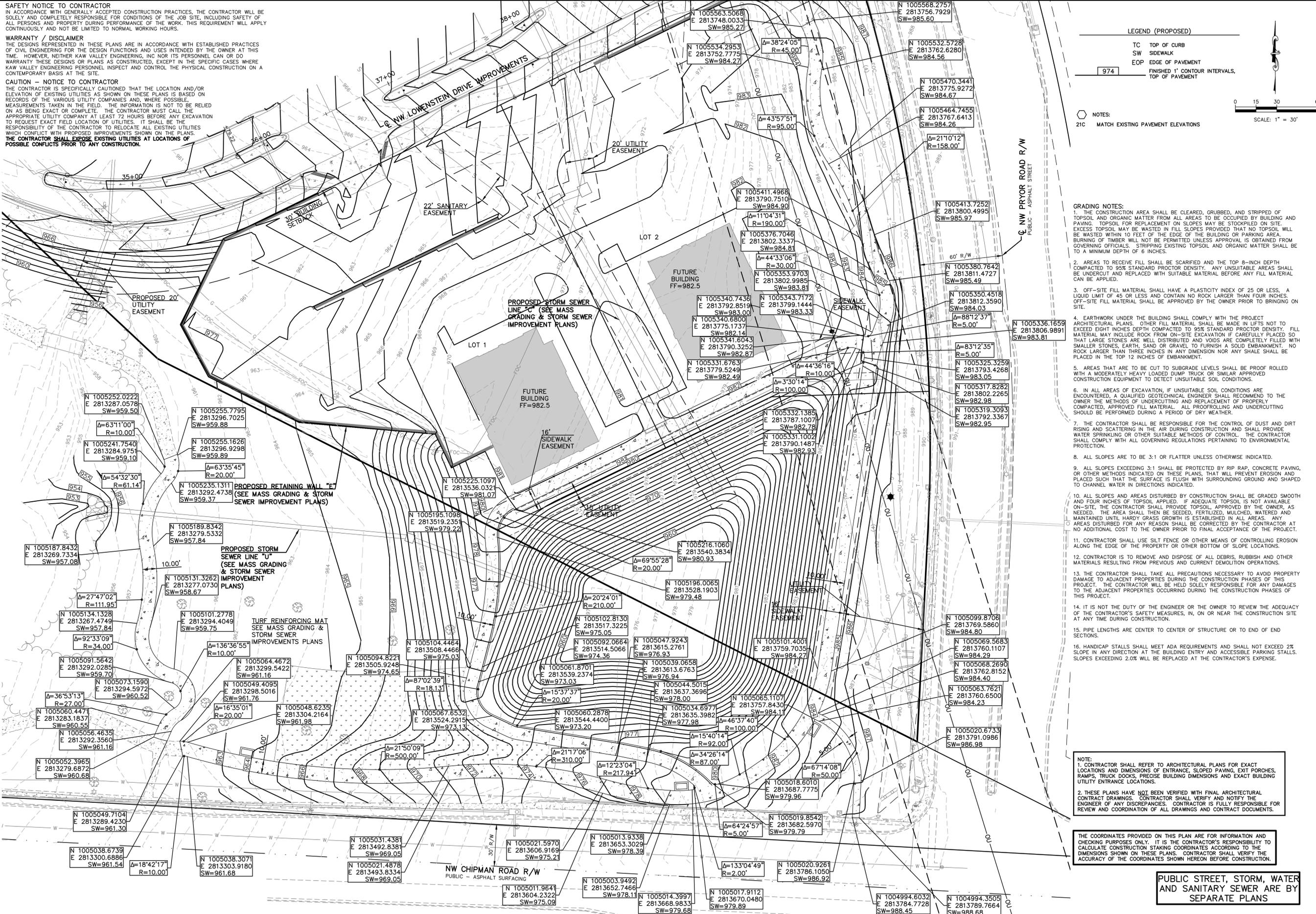
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STREETS OF WEST PRYOR NW QW PRYOR RD & NW LOWENSTEIN DR LEE'S SUMMIT, MISSOURI	
LOWENSTEIN PARK IMPROVEMENTS GRADING PLAN & STORM SEWER LINE X - PLAN & PROFILE	
PROJ. NO.	A14 7067-1
DESIGNER	LDO
DRAWN BY	BKR
CFN	7067-1P_GP
SHEET	0
C-8	0

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LEGEND (PROPOSED)

- TC TOP OF CURB
- SW SIDEWALK
- EOP EDGE OF PAVEMENT
- 974 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT

NOTES:

- 21C MATCH EXISTING PAVEMENT ELEVATIONS

SCALE: 1" = 30'

- GRADING NOTES:**
1. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY BUILDING AND PAVING. TOPSOIL FOR REPLACEMENT ON SLOPES MAY BE STOCKPILED ON SITE. EXCESS TOPSOIL MAY BE WASTED IN FILL SLOPES PROVIDED THAT NO TOPSOIL WILL BE WASTED WITHIN 10 FEET OF THE EDGE OF THE BUILDING OR PARKING AREA. BURNING OF TIMBER WILL NOT BE PERMITTED UNLESS APPROVAL IS OBTAINED FROM GOVERNING OFFICIALS. STRIPPING EXISTING TOPSOIL AND ORGANIC MATTER SHALL BE TO A MINIMUM DEPTH OF 6 INCHES.
 2. AREAS TO RECEIVE FILL SHALL BE SCARIFIED AND THE TOP 8-INCH DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
 3. OFF-SITE FILL MATERIAL SHALL HAVE A PLASTICITY INDEX OF 25 OR LESS, A LIQUID LIMIT OF 45 OR LESS AND CONTAIN NO ROCK LARGER THAN FOUR INCHES. OFF-SITE FILL MATERIAL SHALL BE APPROVED BY THE OWNER PRIOR TO BRINGING ON SITE.
 4. EARTHWORK UNDER THE BUILDING SHALL COMPLY WITH THE PROJECT ARCHITECTURAL PLANS. OTHER FILL MATERIAL SHALL BE MADE IN LIFTS NOT TO EXCEED EIGHT INCHES DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. FILL MATERIAL MAY INCLUDE ROCK FROM ON-SITE EXCAVATION IF CAREFULLY PLACED SO THAT LARGE STONES ARE WELL DISTRIBUTED AND VOIDS ARE COMPLETELY FILLED WITH SMALLER STONES, EARTH, SAND OR GRAVEL TO FURNISH A SOLID EMBANKMENT. NO ROCK LARGER THAN THREE INCHES IN ANY DIMENSION NOR ANY SHALE SHALL BE PLACED IN THE TOP 12 INCHES OF EMBANKMENT.
 5. AREAS THAT ARE TO BE CUT TO SUBGRADE LEVELS SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS.
 6. IN ALL AREAS OF EXCAVATION, IF UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED, A QUALIFIED GEOTECHNICAL ENGINEER SHALL RECOMMEND TO THE OWNER THE METHODS OF UNDERCUTTING AND REPLACEMENT OF PROPERLY COMPACTED, APPROVED FILL MATERIAL. ALL PROOFROLLING AND UNDERCUTTING SHOULD BE PERFORMED DURING A PERIOD OF DRY WEATHER.
 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
 8. ALL SLOPES ARE TO BE 3:1 OR FLATTER UNLESS OTHERWISE INDICATED.
 9. ALL SLOPES EXCEEDING 3:1 SHALL BE PROTECTED BY RIP RAP, CONCRETE PAVING, OR OTHER METHODS INDICATED ON THESE PLANS, THAT WILL PREVENT EROSION AND PLACED SUCH THAT THE SURFACE IS FLUSH WITH SURROUNDING GROUND AND SHAPED TO CHANNEL WATER IN DIRECTIONS INDICATED.
 10. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND FOUR INCHES OF TOPSOIL APPLIED, IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON-SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
 11. CONTRACTOR SHALL USE SILT FENCE OR OTHER MEANS OF CONTROLLING EROSION ALONG THE EDGE OF THE PROPERTY OR OTHER BOTTOM OF SLOPE LOCATIONS.
 12. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS.
 13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
 14. IT IS NOT THE DUTY OF THE ENGINEER OR THE OWNER TO REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE AT ANY TIME DURING CONSTRUCTION.
 15. PIPE LENGTHS ARE CENTER TO CENTER OF STRUCTURE OR TO END OF END SECTIONS.
 16. HANDICAP STALLS SHALL MEET ADA REQUIREMENTS AND SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION AT THE BUILDING ENTRY AND ACCESSIBLE PARKING STALLS. SLOPES EXCEEDING 2.0% WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NOTE:

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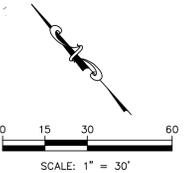
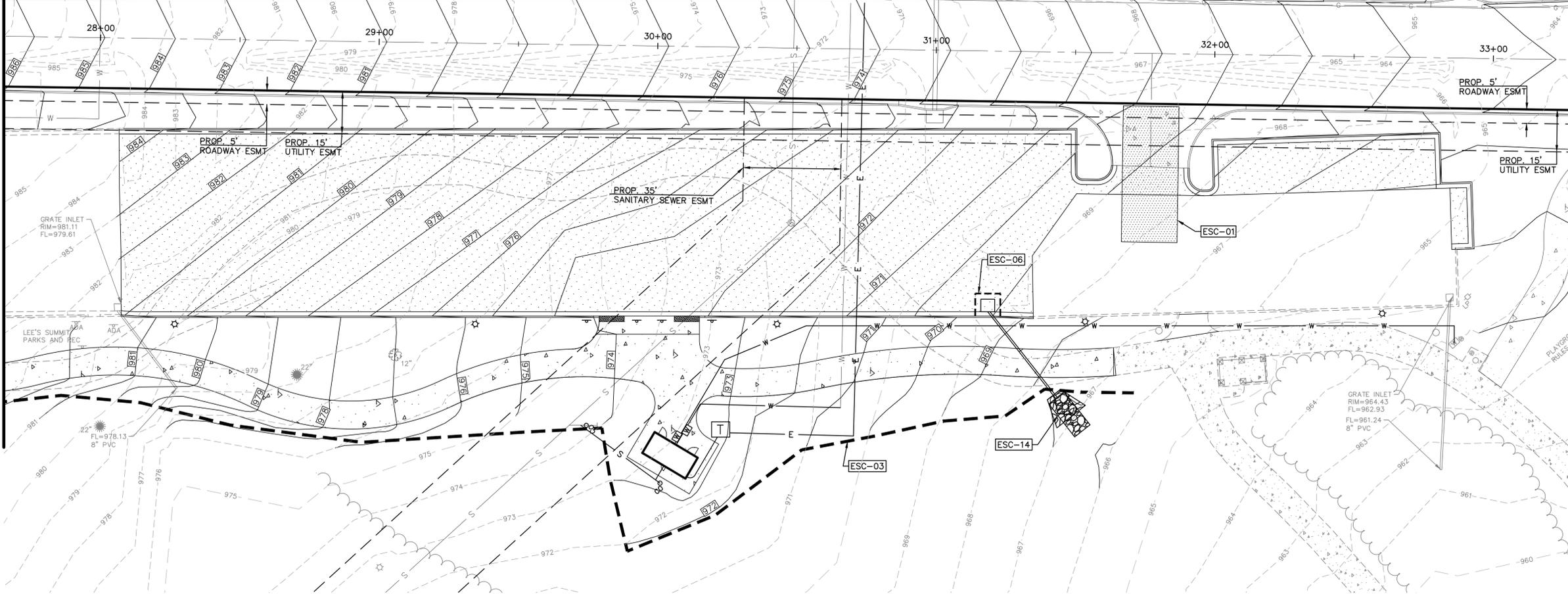
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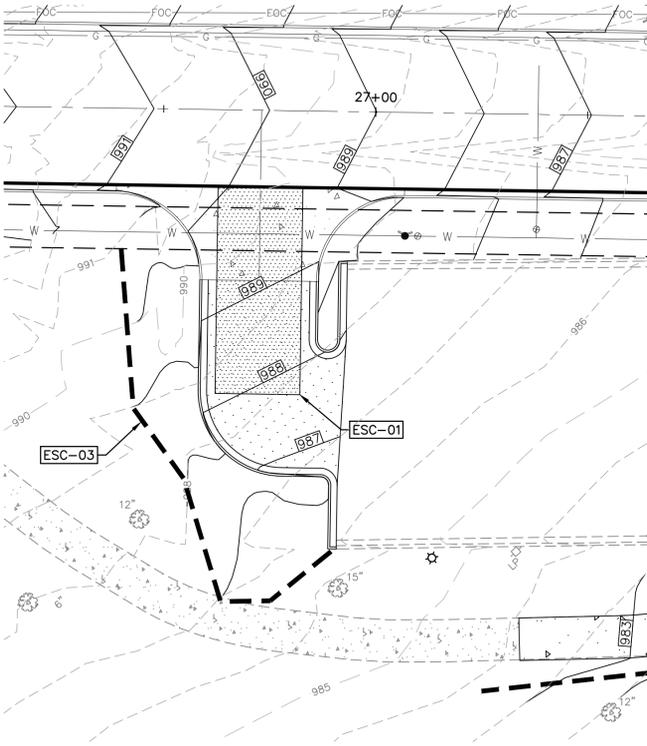
STREETS OF WEST PRYOR
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 LEE'S SUMMIT, MISSOURI

LOWENSTEIN PARK IMPROVEMENTS
 GRADING PLAN

MATCH LINE THIS SHEET



CONTRACTOR TO COORDINATE EROSION CONTROL WITH MASS GRADING CONSTRUCTION IN PHASES



MATCH LINE THIS SHEET

GENERAL NOTES:

1. PROPERTY LINE IS LIMITS OF CONSTRUCTION EXCEPT AS SHOWN.
2. THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING EARTHWORK OPERATIONS.
3. THE CONTRACTOR SHALL MAINTAIN ALL SILT CONTROL MEASURES DURING CONSTRUCTION.
4. ALL SILT SHALL REMAIN ON SITE AND SURROUNDING STREETS SHALL BE KEPT CLEAR OF ALL MUD AND DEBRIS.
5. A SEDIMENTATION BARRIER IS TO BE INSTALLED AS SHOWN.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE SEDIMENTATION BARRIERS MAINTAINED AS NEEDED TO PREVENT SEDIMENTATION BYPASS OF THE BARRIER.
7. SLOPES ARE TO BE LEFT IN A ROUGH CONDITION DURING GRADING.
8. CURB INLET SEDIMENTATION BARRIERS ARE TO BE INSTALLED AROUND INLETS AND WEIRS WHERE SEDIMENTATION IS A CONCERN. INLET BARRIERS SHALL BE EITHER BLOCK AND GRAVEL, OR SECURED STRAW BALES, OR SILT FENCE.
9. SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS.
10. RIPRAP IS TO BE INSTALLED AT AREAS OF CONCENTRATED FLOW (I.E. CULVERT OUTLETS).
11. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL AS HE/SHE DEEMS NECESSARY.
12. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR AS NECESSARY TO INSTALL AND MAINTAIN ADEQUATE EROSION AND SILTATION CONTROLS REQUIRED TO PREVENT SOIL EROSION FROM LEAVING THE PROJECT SITE. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT METHODS UTILIZED ARE ADEQUATE AND COMPLY WITH REQUIREMENTS OF THE SPECIFICATIONS AND GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
13. TEMPORARY SEDIMENT FENCE TO REMAIN UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
14. MUD AND DEBRIS SHALL BE CLEANED UP AT THE CONCLUSION OF EACH WORKING DAY, OR AFTER EACH RAINFALL IF SILT IS PRESENT.
15. INSPECTION, MAINTENANCE AND REPAIR OF EROSION CONTROL DEVICES SHALL BE ON GOING THROUGHOUT THE LIFE OF BUILDING CONSTRUCTION TO KEEP THE DEVICES IN OPERABLE CONDITION AT ALL TIMES. ADDITIONAL MEASURES SHALL BE INSTALLED AS REQUIRED BY ACTUAL FIELD CONDITIONS AND/OR GOVERNING INSPECTION AGENCIES.
16. INSTALL CONSTRUCTION ENTRANCE AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING THE SITE AND AS SHOWN ON PLANS.
17. AT COMPLETION OF SITE GRADING AND OTHER RELATED CONSTRUCTION ACTIVITIES, ALL DISTURBED AREAS WITHIN THE PROJECT SITE SHALL BE SEEDED, SODDED, OR LANDSCAPED AS SHOWN ON THE LANDSCAPE PLAN WITHIN 14 DAYS.
18. TOPSOIL IS TO BE PLACED IN AREAS UNSUITABLE FOR VEGETATIVE GROWTH.
19. STRIP TOPSOIL PRIOR TO EXCAVATION, STOCKPILE AND SPREAD ONTO DISKED SUBGRADE (4" MIN) A THICKNESS OF 4 INCHES.

20. ROCK LINING (RIPRAP) SHALL BE DURABLE STONE CONTAINING A COMBINED TOTAL OF NOT MORE THAN 10 PERCENT OF EARTH, SAND, SHALE AND NON-DURABLE ROCK. AT LEAST 60 PERCENT OF THE MASS SHALL BE OF PIECES HAVING A MINIMUM WEIGHT OF 150 POUNDS OR MORE PER CUBIC FOOT.
21. THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR RESOLVING COMPLAINTS IN THE EVENT THAT COMPLAINTS OR DAMAGE CLAIMS ARE FILED DUE TO DAMAGES OCCURRING ADJACENT TO OR DOWNSTREAM FROM PROPERTY BY SEDIMENT RESULTING FROM EROSION ON THE PROJECT SITE.
22. GOOD HOUSEKEEPING PRACTICES SHALL BE MAINTAINED ON SITE TO KEEP SOLID WASTE FROM ENTRY INTO WATERS.
23. ALL FUELING FACILITIES PRESENT ON SITE SHALL ADHERE TO APPLICABLE FEDERAL AND STATE REQUIREMENTS CONCERNING UNDERGROUND STORAGE, ABOVE GROUND STORAGE AND DISPENSERS, INCLUDING SPILL PREVENTION, CONTROL AND COUNTER MEASURES.
24. RIGHT OF WAY TO BE STABILIZED AS REQUIRED BY APWA SECTION 2400.
25. EROSION CONTROL IS TO BE PLACED IN PHASING AS CONSTRUCTION PROGRESSES.
26. MINIMAL WASHING OF CONCRETE EQUIPMENT ALLOWED, CHUTE ETC. CONCRETE WASHOUT OF THE DRUM IS NOT ALLOWED. ANY PIT/WASHOUT AREA NEEDS TO BE MAINTAINED IN A NON-DISCHARGING MANNER AND ANY WASTE RESIDUE WILL NEED TO BE CLEANED OUT AND REMOVED AT THE END OF PROJECT.
27. EROSION CONTROL SEDIMENT FENCE TO BE INSTALLED 1'-0" BEHIND CURB & GUTTER UPON COMPLETION OF BACKFILL OF CURB IN ALL AREAS WHERE SLOPES FROM LOT DRAIN TOWARDS CURB. UPON COMPLETION OF FINAL GRADING THE TOES OF ALL EMBANKMENTS IN EXCESS OF TWO FEET IN HEIGHT WILL HAVE EROSION CONTROL SEDIMENT FENCE INSTALLED.

□ DETAILS - SEE EROSION CONTROL DETAIL SHEETS FOR THE FOLLOWING DETAILS

- ESC-01 CONSTRUCTION ENTRANCE DETAIL
- ESC-03 SILT FENCE
- ESC-06 CURB INLET PROTECTION
- ESC-14 OUTLET PROTECTION

EROSION & PROPOSED IMPROVEMENTS LEGEND:

- - - - - 970 - - - - - EXISTING GROUND CONTOUR (1' INTERVALS)
- 970 — — — — — PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- — — — — SILT FENCE
- — — — — INLET PROTECTION

0	6-18-19	INITIAL ISSUE	LDO	BKR	LDO
		REV	DATE	DESCRIPTION	DSN
					DWN
					CHK



LEON D. OSBOURN
ENGINEER
MO # 021726

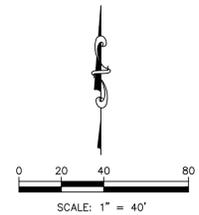
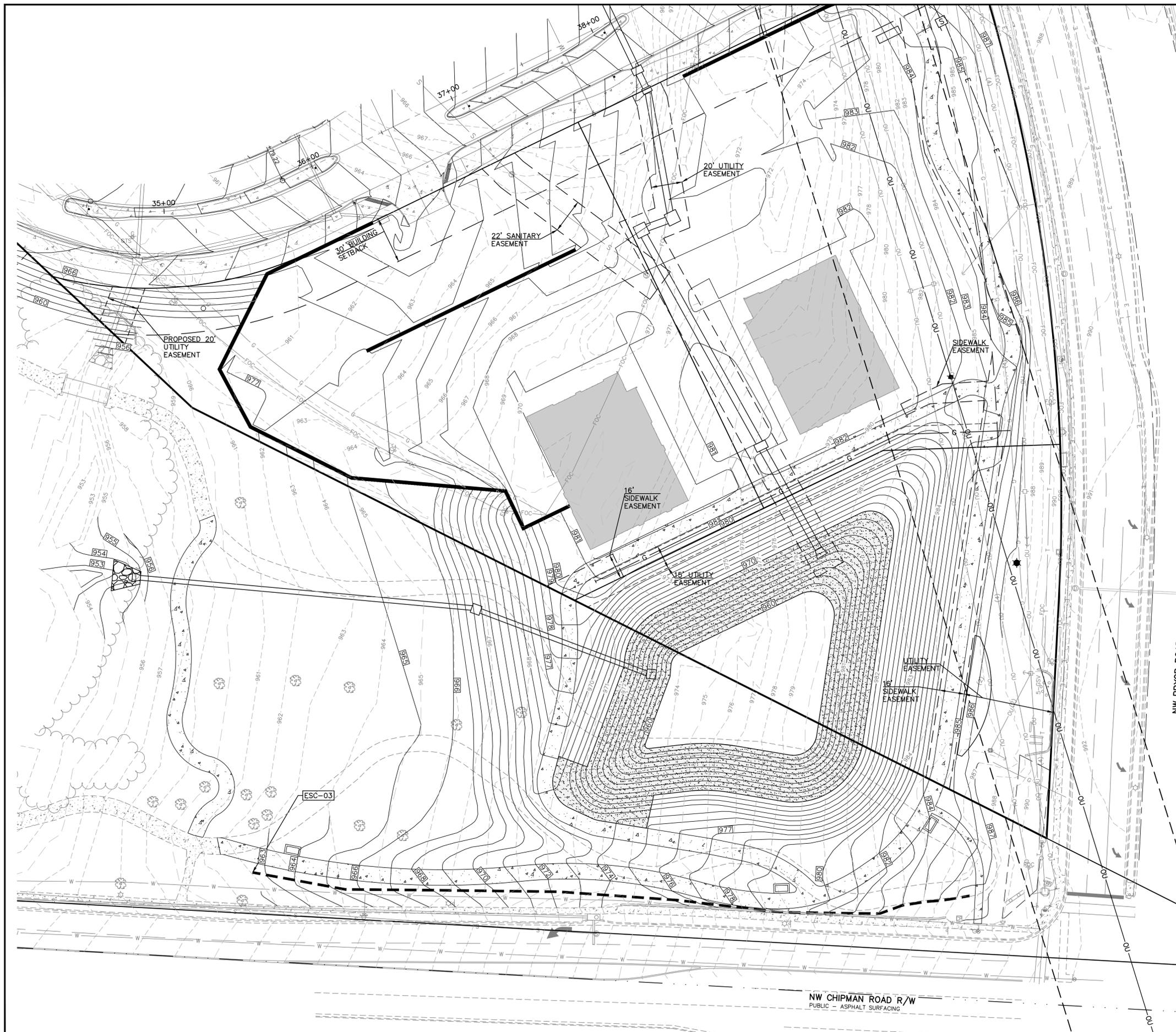
2319 N. JACKSON | P.O. BOX 1304
JUNCTION CITY, KANSAS 66441
PH. (785) 762-5040 | FAX (785) 762-7744
j@kveeng.com | www.kveeng.com

KAW VALLEY ENGINEERING

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF MISSOURI UNDER CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

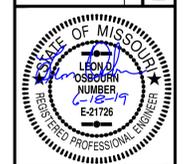
STREETS OF WEST PRYOR		LOWENSTEIN PARK IMPROVEMENTS	
NWQ NW PRYOR RD & NW LOWENSTEIN DR		EROSION CONTROL PLAN	
LEE'S SUMMIT, MISSOURI			
PROJ. NO.	A14-7067-1	DESIGNER	LDO
		DRAWN BY	BKR
CFN	7067-1P_ECP	SHEET	REV
C-10			0

PUBLIC STREET, STORM, WATER AND SANITARY SEWER ARE BY SEPARATE PLANS



- DETAILS - SEE EROSION CONTROL DETAIL SHEETS FOR THE FOLLOWING DETAILS
 ESC-01 CONSTRUCTION ENTRANCE DETAIL
 ESC-03 SILT FENCE
 ESC-06 CURB INLET PROTECTION
 ESC-14 OUTLET PROTECTION
- EROSION & PROPOSED IMPROVEMENTS LEGEND:**
- 970- EXISTING GROUND CONTOUR (1' INTERVALS)
 - 970- PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
 - SILT FENCE
 - INLET PROTECTION

REV	DATE	DESCRIPTION	LDO	BKR	LDO	CHK
0	6-18-19	INITIAL ISSUE				



LEON D. OSBOURN
 ENGINEER
 MO # 021726

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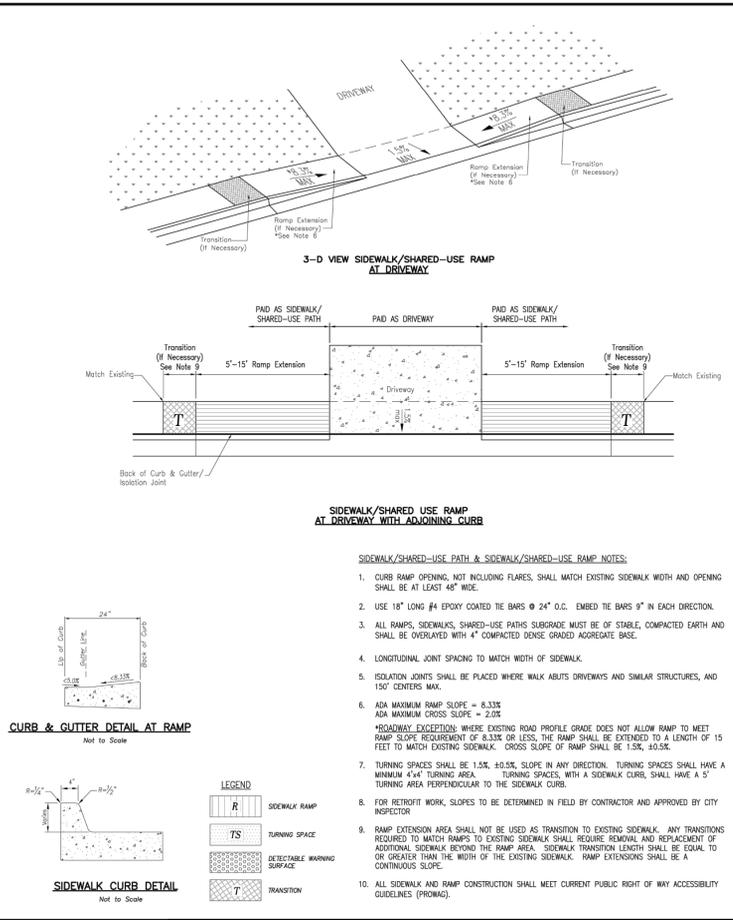
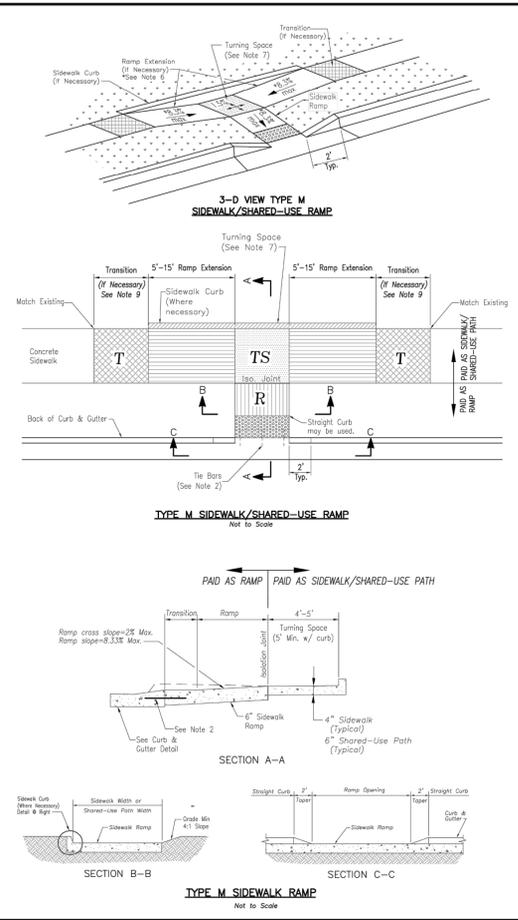
KAW VALLEY ENGINEERING
 KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN MISSOURI UNDER THE SUPERVISION OF LEON D. OSBOURN, LICENSED PROFESSIONAL ENGINEER, LICENSE NUMBER E-21726, EXPIRES 12/31/19.

STREETS OF WEST PRYOR
 NW & NW PRYOR RD & NW LOWENSTEIN DR
 LEE'S SUMMIT, MISSOURI
LOWENSTEIN PARK IMPROVEMENTS
EROSION CONTROL PLAN

PROJ. NO. A14 7067-1
 DESIGNER LDO DRAWN BY BKR
 CFN 7067-1P_ECP
 SHEET C-11 REV 0

PUBLIC STREET, STORM, WATER AND SANITARY SEWER ARE BY SEPARATE PLANS

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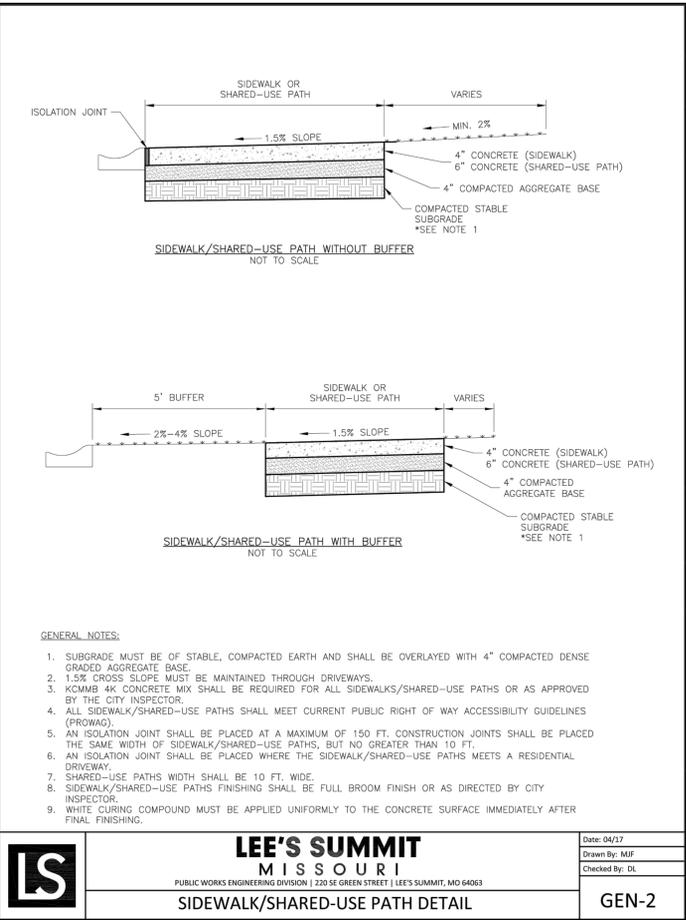


LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 1201 SE GREEN STREET | LEE'S SUMMIT, MO 64683

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
ADA RAMP RETROFIT DETAIL

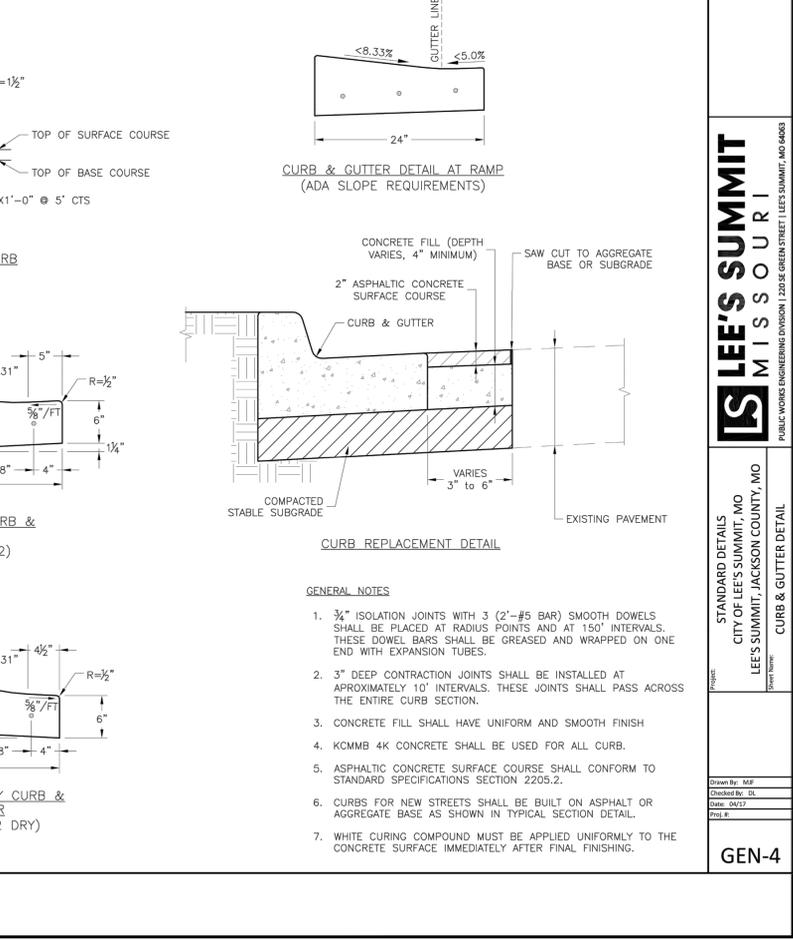
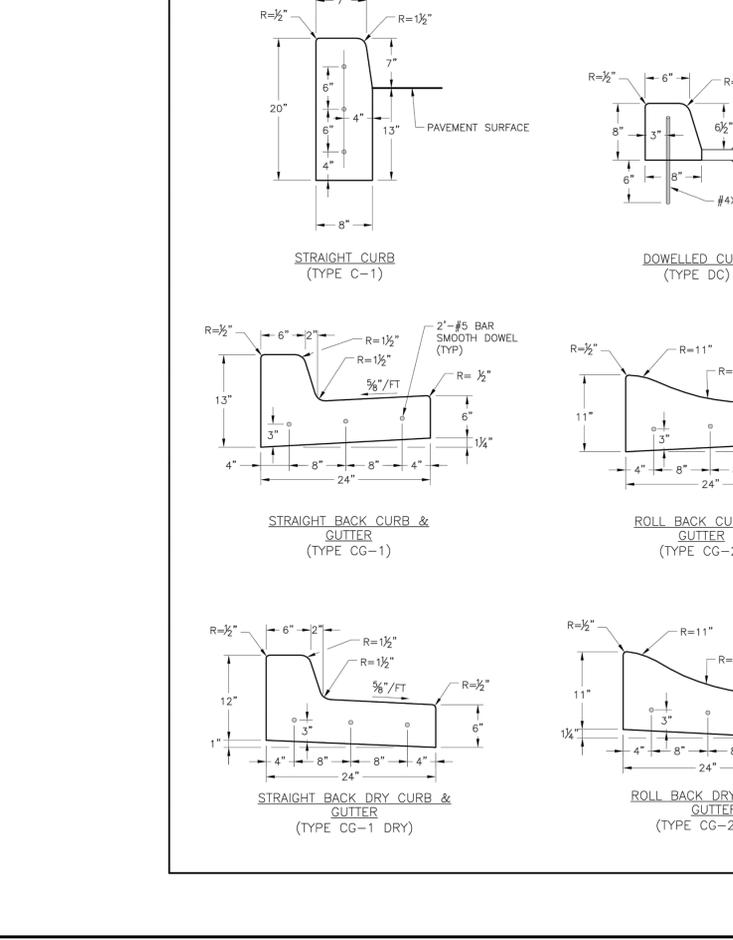
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #

GEN-3B



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REV	DATE	DESCRIPTION	
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			BKR
			DWN
			CHK

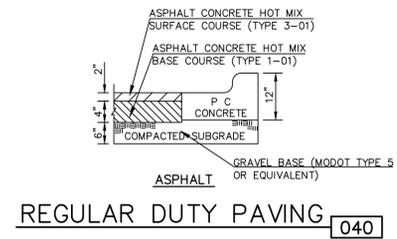
STATE OF MISSOURI
LEON D. OSBOURN
ENGINEER
MO # 021726



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JUNCTION CITY, KANSAS 66441
PH. (785) 762-5040 | FAX (785) 762-7744
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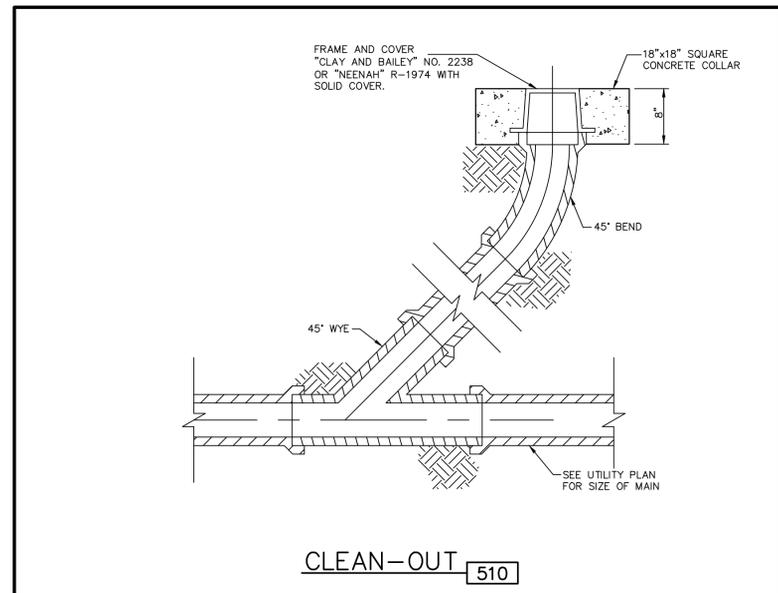
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/19

PROJ. NO.	A14-7067-1
DESIGNER	LDL
DRAWN BY	BKR
CFN	
7067-1P_DET	
SHEET	REV
C-12	0

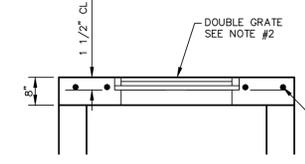


REGULAR DUTY PAVING 040

1. FLEXIBLE PAVEMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR STATE ROAD & BRIDGE CONSTRUCTION.



CLEAN-OUT 510



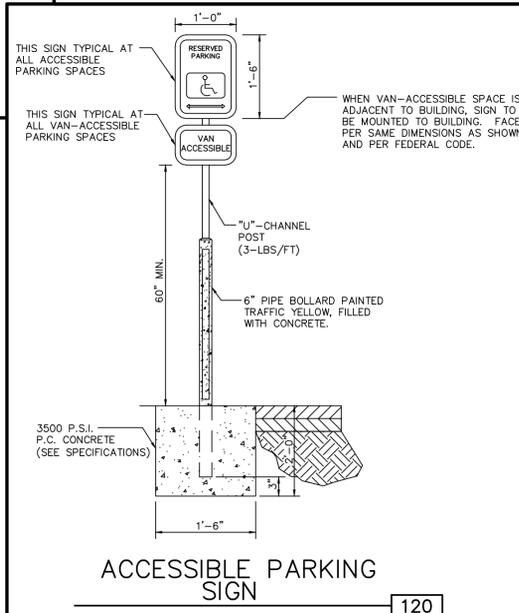
ALL CONCRETE: F'C = 3500 P.S.I.
 NOTE:
 1. L AND W BARS SHALL BE #606\"/>

ALTERNATE TOP TO STM-3 FOR DOUBLE GRATE INLET

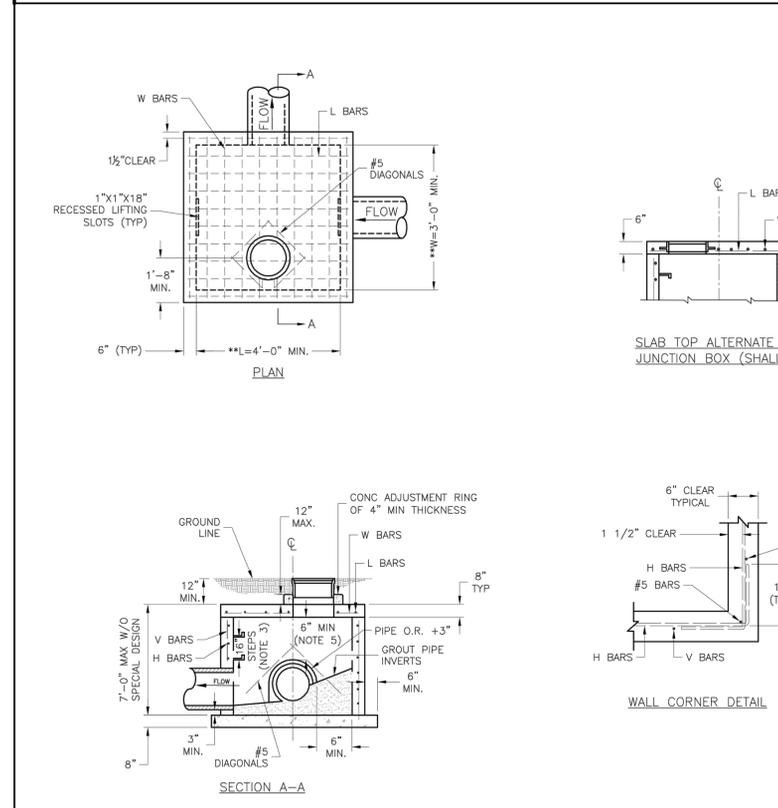
L OR W	S BARS
≤ 4'	#406"
4'-6'	#506"
6'-8'	#606"

H	W BARS
≤ 5'	#4012"
5'-8'	#508"
8'-12'	#606"

MIN. BOX SIZE:
 3.5' X 4.0' FOR SINGLE GRATE &
 4.0' X 5.5' FOR DOUBLE GRATE



ACCESSIBLE PARKING SIGN 120



SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

WALL CORNER DETAIL

SECTION A-A

** INCREASE IN MULTIPLES OF 6\"/>

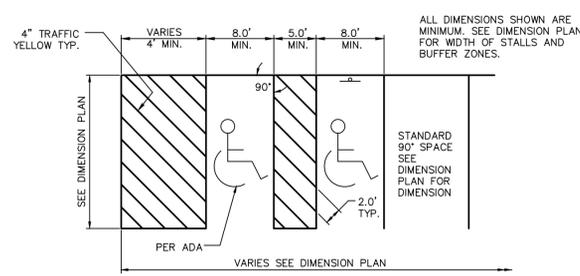
REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6

- GENERAL NOTES:**
1. LOCATE RING AND COVER ON BLANK WALL.
 2. USE 3/8\"/>
 3. STEPS REQUIRED AT 16\"/>
 4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6\"/>
 5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOXOUT.
 6. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
 7. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
 8. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

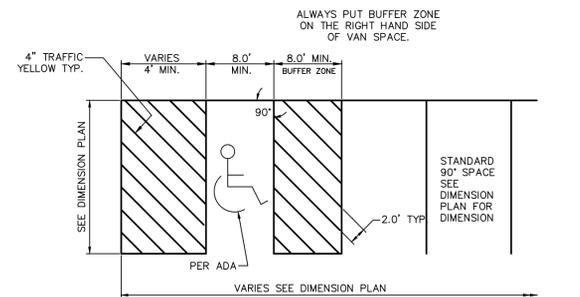
LEE'S SUMMIT MISSOURI
 PUBLIC WORKS ENGINEERING DIVISION | 220 S. GREEN STREET | LEE'S SUMMIT, MO 64083

STM-3
 STANDARD DETAILS
 CITY OF LEE'S SUMMIT, MO
 LEE'S SUMMIT, JACKSON COUNTY, MO



90° ACCESSIBLE SPACE STRIPING 102

NOTE: PARKING SPACES AND ACCESS ISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 IN ALL DIRECTIONS



90° ACCESSIBLE & VAN ACCESSIBLE SPACE STRIPING 102

0	6-18-19	INITIAL ISSUE		LDO	BKR	LDO	CHK
1		REV	DATE	DESCRIPTION			

LEON D. OSBOURN
 ENGINEER
 MO # 021726

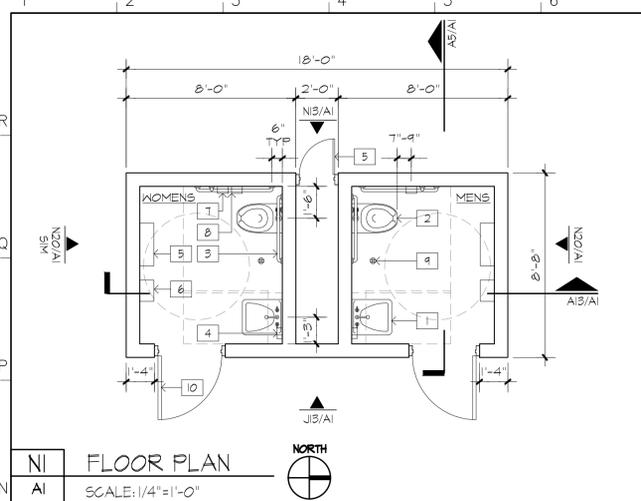
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 JUNCTION CITY, KANSAS 66441
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KAW VALLEY ENGINEERING
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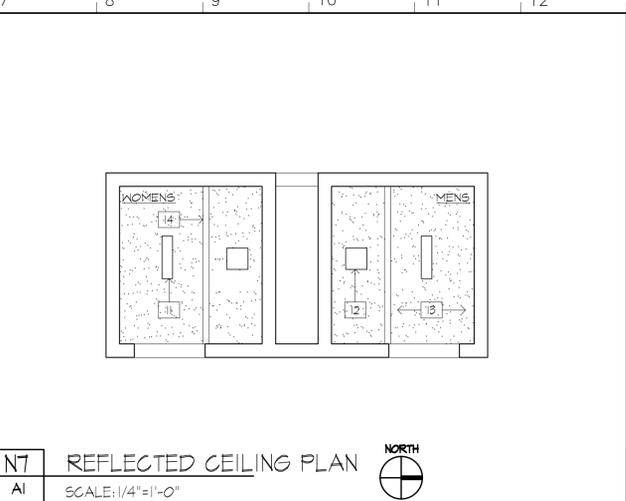
STREETS OF WEST PRYOR
 NW Q NW PRYOR RD & NW LOWENSTEIN DR
 LEE'S SUMMIT, MISSOURI

LOWENSTEIN PARK IMPROVEMENTS
 DETAIL SHEET

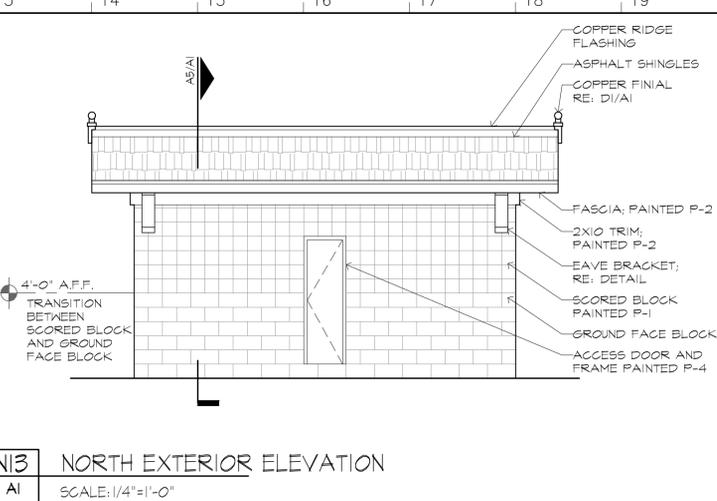
PROJ. NO. **A14-7067-1**
 DESIGNER **LDO** DRAWN BY **BKR**
 CFN
7067-1P_DET
 SHEET **C-13** REV **0**



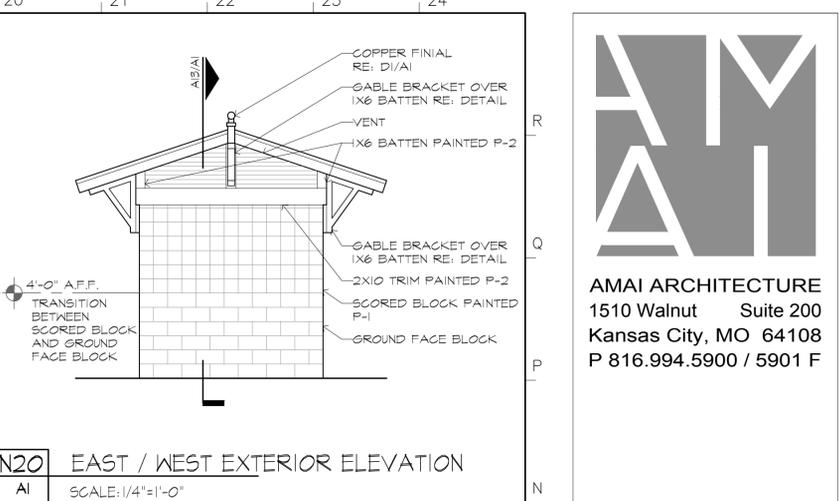
NI FLOOR PLAN
 AI SCALE: 1/4"=1'-0"



N7 REFLECTED CEILING PLAN
 AI SCALE: 1/4"=1'-0"



N13 NORTH EXTERIOR ELEVATION
 AI SCALE: 1/4"=1'-0"

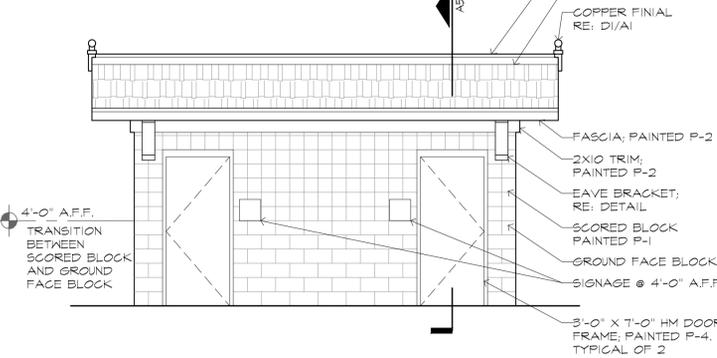


N20 EAST / WEST EXTERIOR ELEVATION
 AI SCALE: 1/4"=1'-0"

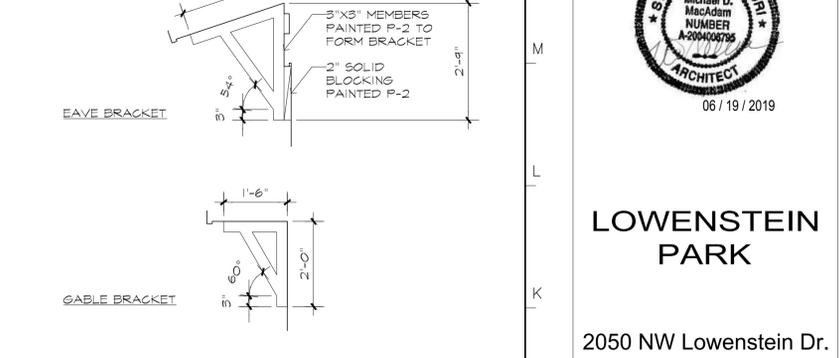
- LI FINISHES**
 AI SCALE: NOT TO SCALE
- P-1 PAINT AS SELECTED BY THE CITY OF LEE'S SUMMIT
 - P-2 PAINT AS SELECTED BY THE CITY OF LEE'S SUMMIT
 - P-3 PAINT AS SELECTED BY THE CITY OF LEE'S SUMMIT
 - P-4 PAINT AS SELECTED BY THE CITY OF LEE'S SUMMIT
 - P-5 PAINT AS SELECTED BY THE CITY OF LEE'S SUMMIT
 - P-6 PAINT AS SELECTED BY THE CITY OF LEE'S SUMMIT

- J5 PLAN / RCP NOTES**
 AI SCALE: NOT TO SCALE
1. WALL HUNG LAVATORY (TYP. OF 2)
 2. WALL HUNG WATER CLOSET (TYP. OF 2)
 3. ADAAG COMPLIANT GRAB BARS (TYP. OF 2 SETS)
 4. WALL HUNG SOAP DISPENSER (TYP. OF 2)
 5. WALL HUNG BABY CHANGING STATION (TYP. OF 2)
 6. HAND DRYER (TYP. OF 2)
 7. TISSUE PAPER DISPENSER (TYP. OF 2)
 8. SANITARY NAPKIN DISPOSAL
 9. FLOOR DRAIN (TYP. OF 2)
 10. 3'-0" X 7'-0" HM DOOR AND FRAME PAINTED P-4, WITH HARDWARE SET NO. 1 (TYP. OF 2)
 11. SURFACE MOUNTED LIGHT FIXTURE (TYP. OF 2)
 12. VENTILATION FAN (TYP. OF 2)
 13. MDO PLYWOOD CEILING PAINTED P-6
 14. 1 X 4 BATTEN TO CONCEAL PLYWOOD JOINT
 15. 1'-8" X 5'-10" HM DOOR AND FRAME PAINTED P-4, WITH HARDWARE SET NO. 2

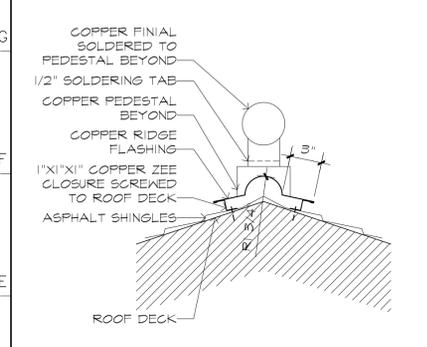
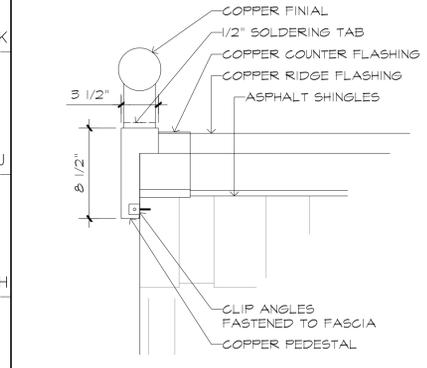
- J9 HARDWARE SCHEDULE**
 AI SCALE: NOT TO SCALE
- HARDWARE SET NO. 1 (TOILETS):**
- 1.5 PAIR HINGES
 - PUSH / PULL PLATES
 - DEADBOLT WITH OCCUPANCY INDICATOR
 - LATCH GUARD
 - CLOSER
 - DOOR BOTTOM
- HARDWARE SET NO. 2 (UTILITY):**
- 1.5 PAIR HINGES
 - STORAGE FUNCTION LOCKSET
 - OVERHEAD STOP WITH HOLD OPEN
 - DOOR BOTTOM



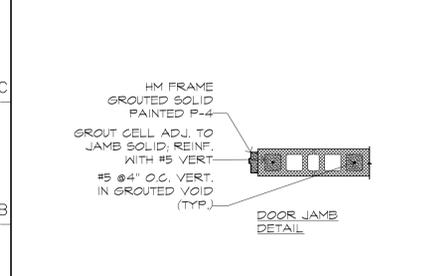
J13 SOUTH EXTERIOR ELEVATION
 AI SCALE: 1/4"=1'-0"



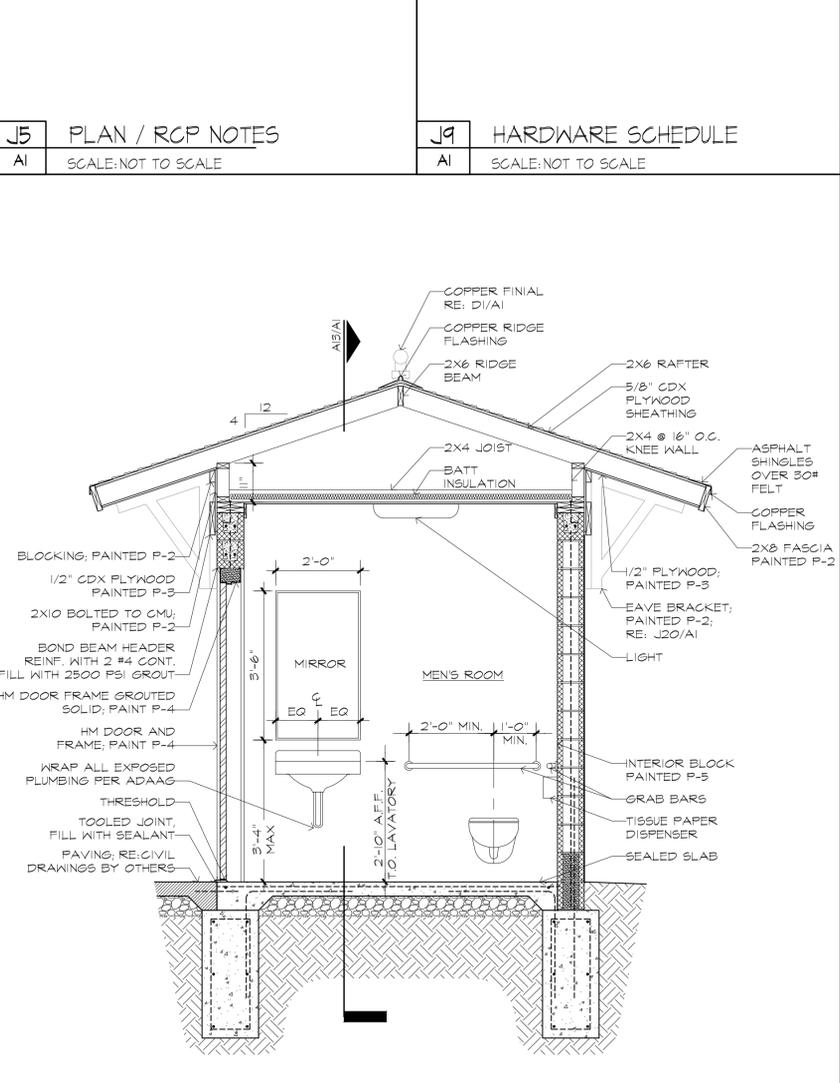
J20 BRACKET DETAILS
 AI SCALE: 1/2"=1'-0"



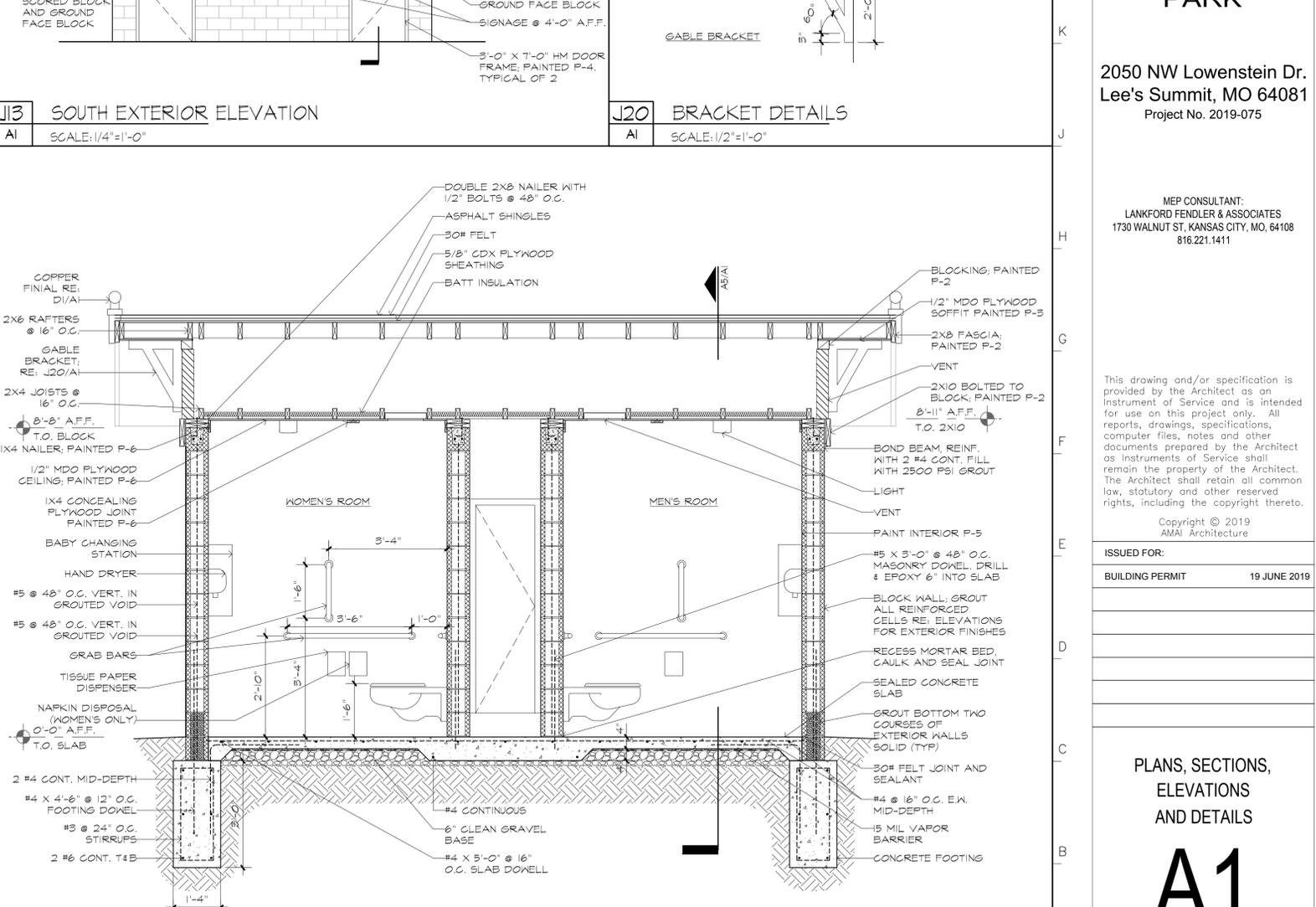
DI FINIAL AND FLASHING DETAIL
 AI SCALE: 1/2"=1'-0"



AI DOOR JAMB
 AI SCALE: 1/2"=1'-0"



A5 CROSS SECTION
 AI SCALE: 1/2"=1'-0"



A13 LONGITUDINAL SECTION
 AI SCALE: 1/2"=1'-0"



AMAI ARCHITECTURE
 1510 Walnut Suite 200
 Kansas City, MO 64108
 P 816.994.5900 / 5901 F



LOWENSTEIN PARK

2050 NW Lowenstein Dr.
 Lee's Summit, MO 64081
 Project No. 2019-075

MEP CONSULTANT:
 LANKFORD FENDLER & ASSOCIATES
 1730 WALNUT ST., KANSAS CITY, MO. 64108
 816.221.1411

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ISSUED FOR:

BUILDING PERMIT 19 JUNE 2019

PLANS, SECTIONS,
 ELEVATIONS
 AND DETAILS

A1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
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22, 23 & 26 - 1
SECTION 22, 23 AND 26 - GENERAL PROVISIONS

- 1.0 DESCRIPTION:
- A. Divisions 22, 23 and 26 shall be governed by all applicable provisions of the Contract Document.
- B. The Contractor shall furnish, install and connect all materials, equipment, apparatuses, and incidentals required for a complete and working installation. For all systems shown and required, the Contractor shall supply all necessary labor, equipment, tools, insurance, and tax services, and shall assume full responsibility for all obligations associated with completion of work as provided by the Contract Documents.
- 2.0 STANDARDS, REGULATIONS AND CODES:
- A. Work shall comply with the edition of the applicable standards, regulations and codes currently in force of all Federal, State and local authorities having jurisdiction. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specifications and/or drawings shall govern. In the absence of other applicable local codes, acceptable to the Architect/Engineer, the International Set of Codes and the National Electrical Code shall apply to this work.
- B. The Contractor shall comply with rules and regulations of public utilities and municipal departments affected by connections of services. The Contractor shall pay all fees associated there with.
- C. The Contractor shall be licensed to perform associated work in the municipality in which the project is located.
- D. All products and types of construction shall meet or exceed the latest edition of applicable standards of manufacturer, testing, performance and installation.
- E. Where indicated or required, comply with all provisions of the ADA and/or the ABA Accessibility Guidelines.
- F. Where indicated or required, comply with all applicable provisions of energy and ventilation codes in force at the local jurisdiction.
- 3.0 LOCAL CONDITIONS:
- A. The Contractor shall carefully examine the local conditions and existing installations and shall become thoroughly familiar with all existing conditions which may affect associated work. The Contractor shall locate all existing utilities and protect them during the execution of the work.
- B. The Contractor shall examine all project drawings and specifications to become familiar with the type of construction, materials, and equipment, to be used for all work and how it will affect the installation of this contract.
- C. By the act of submitting a bid, the Contractor will be deemed to have made such examination, to have accepted such conditions, to have made allowance therefore, and included all costs in his proposal. Failure to determine existing conditions will not be considered a basis for the granting of additional compensation.
- 4.0 WORKMANSHIP:
- A. All work performed under this Contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the Owner's Representative. The complete installation shall function as designed and intended with respect to efficiency, capacity, and noise level, etc.
- 5.0 CUTTING AND PATCHING:
- A. All necessary cutting, drilling and patching shall be provided by this Contractor. Structural members shall not be disturbed without prior approval of the Owner's Representative. All areas disturbed by work performed under this Contract shall be neatly repaired and refinished to the condition of adjoining surfaces in a manner suitable to the Owner's Representative.
- 6.0 OPERATION DURING CONSTRUCTION:
- A. The Contractor is responsible for the installation and operation, service and maintenance of all new equipment during construction and prior to acceptance by the Owner of the completed project. Warranty periods shall not commence until final acceptance by the Owner or Owner Representative.
- B. The Contractor shall provide, at his own expense, all temporary utilities required to provide for and protect the work and as necessary to maintain an adequate work force unless use of existing facilities is specifically permitted.
- 7.0 SAFETY REGULATIONS:
- A. All work shall be performed in compliance with all applicable governing safety regulations, including OSHA regulations. Provide safety lights, guards and signs required.
- 8.0 HOUSEKEEPING:
- A. The Contractor shall be responsible for keeping stocks of material and equipment stored on the premises in a neat and orderly manner.
- B. The Contractor shall clean and maintain their specific portions of the work as specified in the General Conditions.
- C. The Contractor shall remove from the premises all waste material present as a result of his work.
- 9.0 GRAPHIC REPRESENTATION AND JOB CONDITIONS:
- A. The Drawings shall serve as working drawings for the general layout of the various items of equipment; are diagrammatic unless specifically dimensioned, and do not necessarily indicate every required item.
- B. Architectural and Structural drawings take precedence over all other drawings in the representation of the general construction work; any conflicts shall be resolved prior to commencing work. Failure to do so shall not be considered a basis for the granting of additional compensation.
- C. Arrange work in a neat, well organized manner. Coordinate work with other trades involved, prior to commencing work.
- 10.0 GUARANTEES/WARRANTY:
- A. The Contractor shall guarantee/warranty all work performed, including labor, materials and equipment furnished under this contract, against defects in materials and workmanship for a period of one year from the date of the Owner's Representative Final Acceptance of the work, or as noted in each section.
- 11.0 SUBSTITUTIONS:
- A. Materials, products and equipment described in the Bidding Documents established a standard of quality to be met by any proposed substitution.
- B. Contractor's bids shall be based on the material mentioned or specified, and any proposals for substitution shall be made in writing to the Architect/Engineer allowing adequate time for appropriate action. The products of other manufacturers may be accepted, if in the opinion of the Architect/Engineer, the substitute material is of quality as good or better than the material specified, and will serve with equal efficiency and dependability, the purpose for which the items specified were intended. The burden of proof of equality is upon the proposer.
- C. Refer to Division 1 requirements for additional substitution procedures.
- D. Wherever substitutions alter the design or space requirements, the Contractor shall be responsible for and include all associated cost items of the revised design and or construction work required by his or other trades affected by the proposed substitution.
- 12.0 SHOP DRAWINGS AND PRODUCT DATA:
- A. The checking of shop drawings is a gratuitous assistance and in no way relieves the Contractor of responsibility for deviations from the Contract Documents.
- B. Shop drawings and catalog data on all major items of equipment and apparatus, and such other illustrative materials as may be considered necessary by the Owner's Representative shall be submitted by the Contractor in adequate time to prevent delay and changes during construction.
- C. Refer to Architectural Documents for additional shop drawing submission procedures.
- 13.0 OPERATING AND MAINTENANCE BROCHURE:
- A. On completion of the project, the Contractor shall provide manuals electronically (PDF format unless otherwise instructed) containing operating, service and lubrication instructions, and parts lists for all major equipment and manufacturer's warranties or warranties.
- 14.0 RECORD DRAWINGS:
- A. On completion of the project, the Contractor shall submit two (2) new sets of blue line prints (unless otherwise instructed) with all field changes neatly noted. The original routing and layout shall be clearly marked out.
- B. Refer to Architectural Documents for additional record drawing submission procedures.
- 15.0 FOUNDATIONS AND SUPPORTS:
- A. The Contractor shall provide concrete bases, hangers and foundations for all machinery and equipment specified or shown in this contract, including fans, air conditioning units, pumps, motors, electrical gear, etc., unless specifically noted otherwise.
- B. All hangers, brackets, clamps, etc., shall be of standard weight steel. Perforated strap hangers shall not be used in any work. When two (2) or more pipes or conduits are run parallel, or where ducts interfere with the proper location of hangers, they may be supported on trapeze hangers. Other hangers shall be hinged ring malleable iron, by Grinnell or Fee and Mason or approved equal with rods and hanger adjusters for adequate size to carry the loads imposed. All piping, ductwork and conduit systems shall each be independently supported from other systems and from equipment so that no weight is born by equipment.
- C. The Contractor shall take all precautions against excessive noise or vibration by isolating the various items of equipment from the building structure. Provide flexible connectors where indicated and at all rotating equipment and for equipment mounted on vibration isolators.

END OF SECTION 22, 23 AND 26

230100 - 2
SECTION 230100 - HEATING, VENTILATION AND AIR CONDITIONING

- 1.0 SCOPE:
- A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the heating, ventilating, and air conditioning systems and other items herein listed and as described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect/Engineer.
- 2.0 SHEET METAL:
- A. Provide ductwork shown with necessary dampers and other duct accessories. Ducts shall be new prime grade galvanized steel sheets constructed per ASHRAE and SMACNA Standards. Duct system(s) installation shall be in accordance with SMACNA Duct Construction Standards Manual and industry standards. Provide round or rectangular duct as indicated.
- B. Fabricate for the pressure and SMACNA seal class required by the application.
Leakage class minimum requirements are:
1. Up thru 2" WG pressure - rectangular - Class 24.
Seal class minimum requirements are:
1. Up thru 2" WG pressure - class A for all duct joints.
- 3.0 GRILLES, REGISTERS, INLETS AND OUTLETS:
- A. All exhaust grilles shall be as scheduled on the drawings. Commercial quality - E.H. Price or acceptable equal by Trius, Carnes, Krueger or Nalor.
- B. Louvers shall be Greenheck, 4" deep AMCA certified extruded aluminum drainable blade with bird screen, finish as noted on drawings or acceptable equal by Ruskin, Carnes, American Warming and Ventilating, Louvers and Dampers, Nalor.
- 4.0 FANS:
- A. Fans shall be as scheduled with all required accessories including vibration isolators, hangers, rate of rise thermostats, etc. Commercial quality fans shall be AMCA rated by Greenheck or acceptable equal by Cook, Acme, Carnes, Penn Barry.
- 5.0 EQUIPMENT AND PIPE LABELS:
- A. Equipment labels shall be provided for all mechanical equipment and shall be self adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label shall indicate drawing designation or unique equipment number.
- C. Warning labels shall be self-adhesive engraved plastic or preprinted plastic as required by application with white lettering on red background provided at locations as required by code or where hazards to personnel exist.
- 6.0 TESTING AND ADJUSTING:
- A. Contractor shall operate and test the air conditioning and ventilation systems and instruct the Owner in its operation. Perform a series of general capacity and operating tests. The tests shall demonstrate the specified capacities of various pieces of equipment.

END OF SECTION 230100



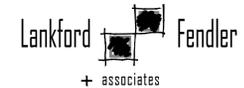
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SEAL

LOWENSTEIN
PARK

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Project No. 2019-075



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ISSUED FOR:
BUILDING PERMIT 19 JUNE 2019

SPECIFICATIONS

MEP1

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220100 - 7
SECTION 220100 - PLUMBING

260100 - 5
SECTION 260100 - ELECTRICAL

1.0 SCOPE:

A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation and to provide complete working systems of the Plumbing Systems, including hot and cold water, waste and vent, storm drainage, fixtures, equipment and other items described in these Specifications, as illustrated in the accompanying drawings, or as directed by the Architect/Engineer.

B. Extend piping systems as indicated on contract documents or to point of connection as follows:
1. 5'-0" from exterior building wall lines unless otherwise indicated on drawings.

2.0 PIPING, FITTINGS AND VALVES:

A. Domestic cold water underground --
1. Pipes, copper -- type "K", soft temper, wrought copper fittings, silver solder joints, 1/2" thru 3".
2. Water piping installed interior/exterior to the building shall be a minimum of 48" below grade.

B. Domestic water, interior, above ground -
1. Pipe, copper tube -
a. 2" and Smaller - Type "L" hard temper, wrought or cast copper fittings, Lead free 95/5 or Eagle Hard Silvalbite or "CB" solder or roll grooved mechanical joints, pressure seal joint fittings with EPDM O-ring seals.

2. Water piping 2" and smaller may be cross-linked high density 100% virgin polyethylene, PEX-a, flexible tubing. Piping shall be tested and certified by UL and NSF for potable water use. PEX-a piping shall be rated at 180F at 100 PSIG.
a. Minimum bend radius shall be 6 times the pipe outside diameter.

b. Necessary joints shall be made with compression, expansion or crimp fittings approved for use with flexible tubing.
c. Manifolds for branch piping shall be permitted and shall be copper tube.
d. Upsize PEX-a piping 1 pipe size to minimize fitting pressure drop where restrictive fittings are using in lieu of full flow fittings.

e. Support all PEX-a piping systems in accordance with manufacturer recommendations. Support spacing shall not exceed 32".
f. Stubouts to fixtures or equipment shall be rigid copper, anchored to substrate.
g. Piping within 5' of water heaters shall be copper.

h. PEX-a systems shall be insulated throughout as specified for copper systems.
i. PEX-a piping systems may be installed in return air plenums only when installed in accordance with the mechanical code and manufacturer's listing requirements. In addition to other insulation requirements, PEX-a piping installed in plenums shall be fully enclosed uninterrupted with hanger and shields exterior to insulation throughout its length with insulation material listed and labeled for installation within a plenum. Insulation shall be noncombustible meeting flame rating not more than 25 and smoke rating not more than 50 when tested in accordance with ASTM E-84.

j. PEX-a piping shall be Uponor AquaPEX or acceptable equivalent by Viega or Rehau.
3. Valves -
a. 1/4 turn Service -
1/2" thru 2" - Nibco 585-66-LF lead free, 600 PSIG, full port, stainless steel ball and stem.

4. Securely anchor, with adequate provisions for expansion and contraction. Grade lines, free of traps, to low point at cut-off and drain valve. Provide valves where indicated on the drawings, where required by code or required for service.
5. Hot and cold supply lines to have manufactured pre-charged piston type water hammer arrestors at each and every fixture or group or battery of fixtures to prevent water hammer, sized as shown or per manufacturer's recommendation. An arrestor shall be required at each solenoid actuated quick closing valve. Sioux Chief, JR Smith or equal. Provide access panel where required.

6. At contractor option, flexible stainless steel braided hose, 125 PSIG rated, with non-toxic liner and compression fittings may be used in lieu of chrome plated brass riser tube.
C. Sanitary sewer, vent, interior --
1. Pipe -- Cast iron hubless with no-hub mechanical joint; solid wall schedule 40 PVC, ABS with solvent cement joints; vents may be galvanized malleable iron.

2. All drainage shall be graded per code, with piping 3" and 4" not less than 1/4" per foot unless noted otherwise. Larger piping may be sloped at 1/8" per foot.
D. Sanitary sewer, vent, below grade --
1. Pipe -- Cast iron hubless with no-hub mechanical joint; solid wall schedule 40 PVC, ABS with solvent cement joints.

2. All drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise. 3" and 4" piping shall be sloped at 1/4" per foot where possible and where required by local codes.
3.0 CLEANOUTS AND TRAP SEALS:
A. Provide cleanout at the base of each stack or riser, at ends of runs greater than 10', each 135 degree aggregate change of direction in horizontal piping, where indicated on the drawings or as required by code. Plugs, extra heavy cast brass, screwed. Scoiated tops in unfinished areas, carpet markets in carpet floors, tile top in the floors, stainless steel cover in finished walls. Cleanouts same size as pipe up to 4" diameter, 4" cleanouts for larger pipe unless otherwise noted. Cleanouts outside the building extend to grade and terminate with X.H. soil pipe cleanout set in 12" square 6" thick concrete pad.

B. Where trap primers are not specified provide all floor and hub drains with trap seal with EPDM diaphragm, Rectorseal SS series, Provent Proset or acceptable equal.
4.0 FLASHINGS, ESCUTCHEONS AND UV PROTECTION:
A. Flash all pipes and vents extending through roof. Flashing details shall be in accordance with roof manufacturer's requirements.

B. Provide escutcheons at all penetrations of exposed walls and ceilings. Escutcheons shall be chrome plated metal in occupied areas, prime paint finish for unoccupied areas unless otherwise noted. Escutcheons for exterior or moist areas shall be brass.
C. Plastic piping without UV inhibitors which is exposed to UV radiation from sunlight shall be protected by coating with a UV resistant paint.
5.0 UNIONS:
A. Provide between each item of equipment and its service valve. Copper to ferrous pipe connections shall have isolation coupling or union.

6.0 CROSS- CONNECTIONS AND INTERCONNECTIONS:
A. No plumbing device or piping shall be installed which will provide cross-connection or interconnection between a distributing supply or waste so as to make possible the backflow or back-siphonage of polluted water into the potable water supply system. Where the possibility of back-siphonage exists, water supply to the fixture shall be introduced through a suitable vacuum breaker in non-pressurized systems and a reduced pressure type back-flow preventer in pressurized systems or as otherwise required by the authority having jurisdiction. Installed backflow preventers must be approved through the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

7.0 PLUMBING EQUIPMENT:
A. Water heaters shall be as scheduled or by acceptable equivalent by one of the following:
Water Heaters, Tankless Electric: Eemax, Siebel, Chronomite, Hubbell.
8.0 INSULATION:
A. Insulate all cold water piping above the ground, Owens Corning or acceptable equal.
B. Cold water piping insulation: 1" fiber glass sectional pipe covering with universal vapor barrier jacket.
C. Seal all joints on cold water insulation to maintain vapor barrier.
D. Insulation shall run continuously thru hangers and supports without interruption.
E. Pipe insulation shall conform to the International Energy Conservation Code.

9.0 PIPE SUPPORTS AND ROUTING:
A. Provide adjustable hangers, inserts, brackets, rolls, clamps, guides, flexible connectors, supplementary steel, etc., as required for proper support of all pipe lines. Unistrut may be used for support of multiple pipes. Hangers shall be designed to allow for expansion and contraction of pipe lines and shall be of adequate size to permit covering when required. Provide protective saddles and blocking where supporting insulated piping to prevent crushing insulation. Install building attachment at required locations for proper piping support. Space attachment within maximum piping span length indicated in MSS SP-69.
B. Each piping system shall be independently supported with no piping bearing on another and installed such that no weight of piping is borne by the equipment.
C. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes, and so that maximum pipe deflections allowed by ANSI B31 are not exceeded.
D. Piping shall be routed parallel to building lines, coordinated with building structure and other trades. Adjust pipe routing and drop locations with necessary pipe offsets to accommodate beams and other obstructions.

10.0 EQUIPMENT AND PIPE LABELS:

A. Equipment labels shall be provided for all plumbing equipment and shall be self adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label shall indicate drawing designation or unique equipment number.
B. Pipe labels for domestic water, waste, and vent piping shall be preprinted, color-coded, with 1-1/2" lettering indicating service, and showing flow direction, locate pipe labels where exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and locations as follows:
1. Near each valve and control device.
2. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
3. At access doors, and similar access points that permit view of concealed piping.
4. Near major equipment items and other points of origination and termination.

11.0 PROTECTION OF WORK
A. Protection
1. Protect and cover piping and fixture waste and water openings to prevent entry of dirt and debris.
2. Cover and protect fixtures and plumbing equipment to prevent damage.
12.0 TEST, ADJUSTMENTS AND CLEANING:
A. Soil, waste and vent piping testing:
1. Fill with water to the top of the highest vent line extending through roof, but not less than 10 feet water column, and allow to remain for a period of two hours.

B. Water line testing:
1. Water piping shall be purged and tested with compressed air or water at 50 PSIG above the operating pressure but not to exceed the pressure rating of piping system materials for a period of 2 hours with no measurable pressure drop.
C. After successful testing, sterilize water system with an approved solution in accordance with local health officials.
D. Contractor to submit all test data and other documentation for record.

13.0 MANUFACTURERS:
A. Fixtures, equipment and accessories are specified by manufacturer's numbers as to the type and quality required. Specified manufacturers and approved equal manufacturers are as follows:

FIXTURE, ITEM OR EQUIPMENT	SPECIFIED	APPROVED EQUAL	MANUFACTURER	MANUFACTURER
Vitreous China Fixtures	American Standard		Kohler	
Zurn	Toto		Zurn	
Supply Faucets & Trim	Chicago Faucets		T & S Brass	
	Elkay		Sloan	
	Kohler		Watts	
	Zurn		Zurn	
Flush Valves	Sloan		Zurn	
	Toto		Bemis	
	Beneco		Olsonite	
	Toto		Toto	
	Josam		Wade	
	Watts		Zurn	
	Zurn		Dearborn Brass	
	ProFlo		Jones Stephens	
	Watts		Watts	
	Jones Stephens		Watts	
	Watts		JR Smith	
	Josam		Zurn	
	Zurn		Plumberex	
	Plumberex		Josam	
	Wade		Watts	
	Watts		Zurn	
	Zurn			

14.0 FIXTURE BRANCHES:
A. Size as shown on drawings and diagrams, but not less than the following:

	WASTE	VENT	COLD	HOT
1. Water Closet (Flush Valve)	4"	2"	1"	----
2. Lavatory	1-1/2"	1-1/2"	1/2"	1/2"
3. Hose Bibb	----	----	3/4"	3/4"
4. Floor or Equipment Drain	2"	1-1/2"	----	----

Minimum waste or vent size below slab on grade shall be 2".
15.0 PLUMBING FIXTURES:
A. "WC-1" Water Closet, Wall Mounted Flush Valve (ADA compliant)
American-Standard 2257.001 "Afwall" white vitreous china, high efficiency, direct fed siphon jet action, elongated bowl, wall hung, 1-1/2" top spud.
Flush Valve:
Sloan "Ecos" 111-1-28 (1.28 gpf) hardwired operated electronic sensor diaphragm flush valve with manual release, vacuum breaker and angle stop.
Accessories: Church 9500ssc white open front seat less cover with self sustaining check hinges, and J. R. Smith water closet support. Provide Sloan EL-154 120/24V transformer for up to 8 flush valves.
Note: Mount fixture rim 17" above finished floor and flush valve to wide side of fixture.

B. "L-1" Lavatory, Wall Hung (ADA Compliant)
American-Standard 0355.012 (4" centers) Lucerne" Vitreous china, 20" x 18", front overflow, integral back.
Faucet:
Chicago Faucets model E-tronic 116.707.AB.1 deck mounted, single hole ceramic disc mixing faucet with 6-5/8" spout with electronic sensor and vandal resistant non-aerating outlet (0.35 gpm).
Accessories: Provide Leonard 170-LF lead free bronze thermostatic mixing valve with 0.25 gpm minimum flow rate, integral check valves, discharge set at 105 F, mounted downstream of fixture stops, with hot and cold water piped to valve, tempered water to lavatory. Chicago Faucets model 327-XCP grid drain, 1-1/4" x 1-1/2" 17 GA, semi-cast brass p-trap with cleanout, chrome-plated risers with loose key angle stops and J.R. Smith concealed arm lavatory support. Provide with fully molded flexible vinyl insulation kit cover trap, supplies and stops, Tubro E-Z LAV GUARD. Provide with 12 volt AC transformer.
Note: Mount fixture rim 34" above finished floor.

C. "FD-1" Floor Drain, General Purpose
J.R. Smith 2005YA-NB, round top or 2005YB-NB, square top (in ceramic tile floors), DUCO cast iron body with flashing collar, adjustable strainer head, outlet size per plans, nickel bronze strainer, seepage openings and trap primer connection.
D. "HB-1" Hose Bibb, Interior
Woodford 26 faucet, chrome plated brass, 3/4" inlet and hose connection, mounting flange, integral ASSE double check backflow preventer, metal wheel handle.

END OF SECTION 220100

1.0 SCOPE:

A. The work included under this contract consists of the furnishing of all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the electrical systems and other items herein listed, all as directed by the Architect or Engineer, which work is comprised of, but not limited to the following principal items:

1. Electrical system for light and power:
a. Electrical service and distribution system revisions.
b. Switches and panelboards.
c. Systems of conduit, conductors, and boxes.
d. Receptacles and wiring devices.
e. Lighting fixtures and lamps.
f. Power service to the various motors.
g. Complete lighting and power systems.
h. All systems, wiring and conduit as required.

2. Control wiring and electrical installation and connections for items in other contracts as may be listed in the drawings.
3. Empty conduit and boxes for future installation of telephone wiring and miscellaneous systems.
4. Rough-in and final connection to equipment furnished by others.
B. Raceway wiring systems shall be concealed in all finished parts of the building, where possible. Where the raceways are exposed, they shall be run parallel with the building walls in a neat and workmanlike manner. Should it appear necessary to expose any conduit or wiring in finished spaces, it shall be brought to the Architect's attention immediately and this Contractor shall rearrange associated work as directed to facilitate an approved installation. Contractor to coordinate with mechanical trades to avoid ductwork and piping.
C. Contractor is responsible to provide liaison with electrical and communication companies. The Contractor shall provide and install all required equipment and connect as required to complete an operating service to the building.

2.0 RACEWAYS:
A. All electrical conductors are to be installed in metal raceways, unless specifically specified or noted otherwise. Galvanized steel or intermediate steel conduit as permitted by code. No conduit smaller than 3/4" to be used. Use set screw or compression type fittings. Provide flexible conduit connection for final connection to each motor not to exceed 3' in length and recessed lighting fixtures not to exceed 6' in length. Provide pull wires in all empty conduit systems. Identify terminus of each pull wire. All exposed raceways shall be installed with runs parallel and/or perpendicular with building walls. Fasten all rigid/non-flexible conduit every 8' and 2' from each box. Conduit shall be EMT where not subject to mechanical damage as permitted by National Electric Code (N.E.C.). EMT connectors and couplings 4" and smaller shall be compression type. Type MC Cable is not permitted.
B. Conduit bushings shall be provided and installed inside all disconnects, pull boxes, panelboards, switchboard or similar type equipment and where permitted by National Electric Code (N.E.C.).
C. Schedule 40 conduit can be used for underground installation and where permitted by National Electric Code (N.E.C.).

3.0 WIRES AND CABLES:
A. Electrical conductors, soft annealed copper with conductivity 98% of that of pure, stranded copper, 90 degree -600V insulation and equal to General Cable Company. Wire and cable for all feeders, subfeeders, motor circuits and high ambient location type shall be THHN. All other branch circuit wiring shall be type XHHN or THHN. Minimum wire size shall be #12 gauge AWG. Control wiring may be #14 gauge.
B. For conductors #4 or smaller use the following color-code:
• 120/240V, 1-phase: black, red, white.
• Green shall be used for ground wire conductor.
• Contractor shall use the following color designations and be consistent throughout the project. Color designation for switch legs and or travelers: Violet, Pink or Purple may be used.

C. For conductors larger than #4, Field-Applied, Color-Coding Conductor Tape can be applied in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate banks to avoid obscuring factory cable markings. When using black insulated conductors, contractor shall color-code conductor inside all pullbox or similar type enclosures.
D. Conductor Material Applications:
a. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
b. Branch Circuits: Copper; Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

E. Conductor insulation and multi-conductor cable application and wiring methods:
a. Service Entrance: Type THWN-2, single conductors in raceway.
b. Exposed Feeders: Type THHN, single conductors in raceway.
c. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN, single conductors in raceway.
d. Feeders Concealed below Slabs-on-Grade, and Underground: Type THWN-2, single conductors in raceway.
e. Exposed Branch Circuits, Including in Crawlspace: Type THHN, single conductors in raceway.
f. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN, single conductors in raceway.
g. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN-2, single conductors in raceway.

4.0 GROUNDING:
A. Ground all electrical apparatus in accordance with N.E.C. and as specified herein. Provide a separate grounding conductor for all lighting, receptacle and equipment circuits. All cabinets, switchboards, equipment cases, motor frames, interior metal cold water piping systems, and system neutral conductors shall be effectively grounded. Use solderless pressure type connectors, no perforated strap connectors will be allowed. Ensure continuous bond where flexible conduit is used. Provide bonding jumper inside all flexible conduit. Grounding per N.E.C. 250, and any local requirements.
5.0 SPLICE AND TAPS:
A. Make splices at junction boxes, pull boxes, or outlet boxes only.
6.0 CABINETS, JUNCTION AND PULL BOXES:
A. Flush or surface mounted as indicated on drawings. Provide where shown on drawings and where required by code. Construct of cold gauge steel for flush surface mounting.

7.0 OUTLET BOXES:
A. General Electric, Appleton, Steel City or Raco hot dipped galvanized steel boxes, or equal. Install at terminal of each conduit run, each outlet, or device. Provide size, type and design to suit structural conditions. Adequate to accommodate size and number of raceways, conductors, device or fixture served. Provide plaster rings or covers on boxes where required on exposed work, use approved cast ferrous alloy outlet, junction boxes and fittings. Fixture or device cover shall completely conceal the size outlet box used. Install 3/8" fixture stud for lighting fixtures where required. Locate ceiling outlets to work with architectural features as directed. Switches installed 48" above floor on strike side of door as finally hung. Receptacles and telephone outlets, 18" above finished floor unless otherwise noted. Verify all outlet locations on job with Architect.

8.0 PANELBOARDS:
A. Panel boards are as indicated on the drawings. Main lugs only unless noted or specified otherwise. Provide typewritten schedule of circuits in index cardholder. Provide with hinged door and hinged cover. All circuit breakers shall be bolt-on molded case and have positive "trip" indication. Breakers used on existing panels shall match existing units and shall be labeled to have positive "trip" indication. Breakers shall be labeled to indicate suite number and use. Panelboards shall be General Electric, Square D, Siemens or Eaton/Cutler Hammer. All single pole circuit breakers shall be "switch duty rated". Panelboards shall be fully rated. Series rated panels are not permitted.

9.0 DISCONNECT SWITCHES:
A. Heavy duty NEMA type "HD" - same manufacturer as panelboards. Plastic nameplate properly engraved with name of equipment served, secured to switch cover. Fuses shall be Bussmann of sizes and types scheduled.
10.0 MOTOR AND CONTROL WIRING AND CONNECTIONS:
A. This Contractor to provide all necessary conduit, boxes and supports to equipment furnished by Owner and as indicated on drawings. Provide a disconnect switch and starter if required.

11.0 LABELING:

A. Contractor shall label each and every j-box above ceiling with a permanent marker with panel and circuit number.
B. Outlets, adhesive film label, machine printed clear background with black letters, by thermal transfer or equivalent process. Minimum letter height shall be 7/8 inch. Face plate shall be labeled with panel and circuit number.
C. Interior equipment self-adhesive, engraved, laminated acrylic or melamine label: adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).
D. Exterior equipment: Stenciled or engraved, laminated acrylic or melamine label: punched or drilled for screw mounting. White letters on a black background. Minimum letter height shall be 1 inch (25 mm).

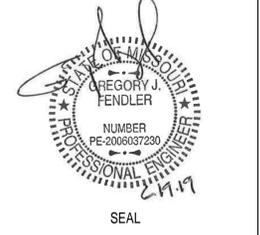
12.0 WIRING DEVICES:
A. Duplex receptacles shall be Hubbell #5352-X grounding type, 20A, 125V; G.F.C.I. shall be Hubbell GF-5352-X, 20A, 125V; duplex, G.F.C.I. TYPE. Isolated ground receptacles shall be orange in color, Hubbell IG-5352, 20A, 125V; duplex. Isolated ground receptacles shall be equipped with a Hubbell IGP-8 plate, orange in color inscribed "Isolated Ground". Wall toggle switches shall be Hubbell Number 1221-X and Number 1223-X for single pole and three way types respectively. Other switch, receptacle, and outlet device variations shall be by Hubbell of "Spec. Grade" quality. Equivalent devices of P & S or Leviton will be acceptable in lieu of the above listed devices. Contractor to verify color of devices with Architect before purchase. Provide stainless steel cover plates to mate and match device for each outlet.
B. All wiring devices shall be gray in color.
C. Motion sensor: contractor shall verify with owner for proper time delay settings.

13.0 LIGHTING FIXTURES:
A. This Contractor shall furnish and install complete, unless otherwise specified, a lighting fixture on each and every lighting outlet shown on the drawings of each type scheduled by letter and description. All fixtures shall be equipped with lamps as scheduled or specified herein. All fixtures installed in suspended ceilings must be securely fastened to framing members per NEC 410-36b and local earthquake code requirements.

END OF SECTION 260100



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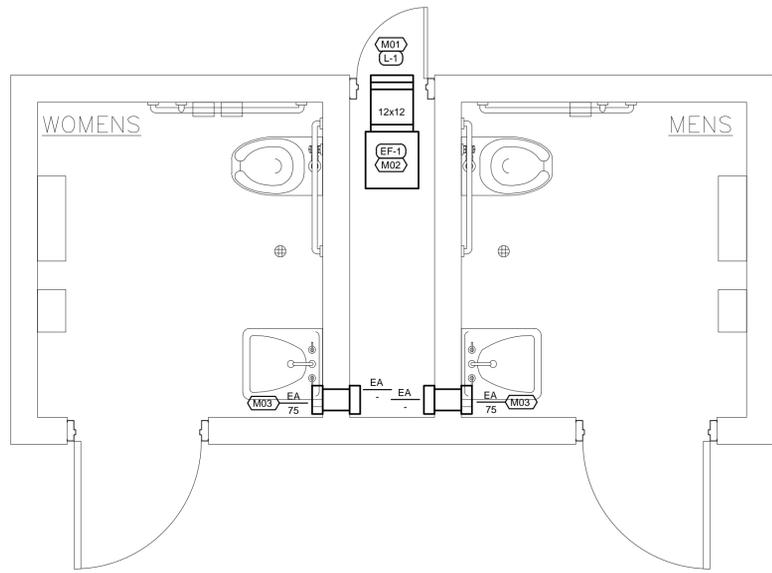
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SPECIFICATIONS

MEP2



FLOOR PLAN-MECHANICAL

SCALE: 1/2"=1'-0"



FLOOR PLAN NOTES

- PROVIDE 12"x12" DUCT TO 12"x12" LOUVER.
- PROVIDE INLINE EXHAUST FAN SUSPENDED FROM STRUCTURE UTILIZING ALL THREAD RODS. INTERLOCK EXHAUST FAN WITH RESTROOM LIGHTS. ADJUST SPEED CONTROLLER TO PROVIDE 75 CFM EXHAUST FROM EACH RESTROOM.
- INSTALL EXHAUST GRILLE IN WALL BELOW SINK. COORDINATE EXACT LOCATION WITH ARCHITECT.

GENERAL NOTES (TYPICAL ALL SHEETS)

- MECHANICAL CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.
- COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.
- INSTALL ELASTOMERIC JOINT SEALER AROUND ALL DUCTS, PIPES, ETC. PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BEARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

MECHANICAL SYMBOLS

- OR — NEW DUCTWORK
- WALL MOUNTED DIFFUSER/GRILLE
- EF-1 EQUIPMENT TYPE AND DESIGNATION
- SA — MARK NO. SUPPLY (S.), RETURN (R.), EXHAUST (E.)
- 200 — CFM

FAN SCHEDULE

MARK NO.	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	RPM	DRIVE	ELECTRICAL			HPI WATTS	NOTES
							VOLT	ø	HZ		
EF-1	GREENHECK	SQ-70-G	INLINE	150	1300	DIRECT	120	1	60	1/30	1

NOTES: 1. PROVIDE WITH DISCONNECT SWITCH, SPEED CONTROLLER, COUNTER-BALANCED BACKDRAFT DAMPER, HANGING RUBBER VIBRATION ISOLATORS AND INLET SCREEN.

DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE SIZE (IN)	NECK SIZE (IN)	FRAME TYPE	FINISH	NOTES
EA	PRICE	60	6x6	6x6	SURFACE	WHITE	

NOTES:

LOUVER SCHEDULE

MARK NO.	MANUFACTURER	MODEL	AIRFLOW (CFM)	WIDTH (IN)	HEIGHT (IN)	FREE AREA (FT.)	MAXIMUM S.P. DROP	NOTES
L-1	GREENHECK	EDK-402	150	12	12	0.3	0.054	1,2,3

NOTES: 1. PROVIDE WITH BIRDSCREEN.
2. COORDINATE LOUVER SIZE AND JAMB WITH ARCHITECT. CONTRACTOR TO VERIFY.
3. COLOR AND FINISH TO BE SELECTED BY ARCHITECT.



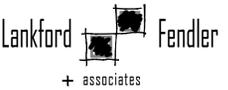
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1730 Walnut Street Kansas City, Missouri 64108
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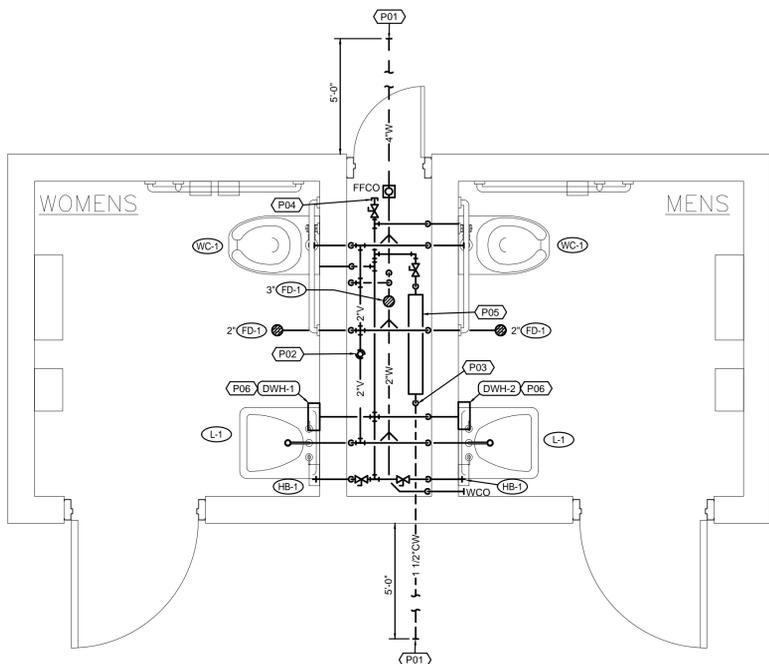
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MECHANICAL
PLAN / DETAILS / NOTES /
SCHEDULES / SYMBOLS

M1



FLOOR PLAN-PLUMBING
SCALE: 1/2"=1'-0"

FLOOR PLAN NOTES

- SEE CIVIL DRAWINGS FOR CONTINUATION.
- 2" VENT UP TO 3" VENT THRU ROOF.
- PROVIDE DRAIN DOWN VALVE FOR WINTERIZATION OF BATHROOM AT LOW POINT.
- PROVIDE WITH AIR CHARGE FITTING FOR WINTERIZATION OF BATHROOM.
- 1" REDUCED PRESSURE BACKFLOW PREVENTER. WATTS 919 OR EQUAL. RE: DETAIL.
- INSTALL TANKLESS ELECTRIC WATER HEATER BELOW LAVATORY. CONNECT 1/2" COLD WATER PIPING TO WATER HEATER AND CONNECT TEMPERED WATER TO FAUCET. RE: DETAIL.

GENERAL NOTES (TYPICAL ALL SHEETS)

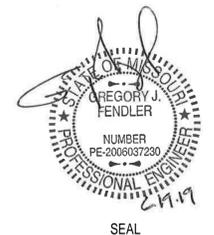
- PLUMBING CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.
- COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.
- INSTALL ELASTOMERIC JOINT SEALER AROUND ALL PIPES PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT BY OTHERS. VERIFY CONNECTIONS SIZES AND REQUIREMENTS.
- PLUMBING CONTRACTOR SHALL PROVIDE PRO-SET SYSTEMS 'TRAP GUARD' IN ALL FLOOR DRAIN TRAPS WITHIN PROJECT SCOPE OF WORK.
- UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

PLUMBING SYMBOLS

—	NEW PIPING
— CW —	COLD WATER
— V —	SANITARY VENT ABOVE GROUND/FLOOR
- - - V - - -	SANITARY VENT BELOW GROUND/FLOOR
— W —	SANITARY WASTE ABOVE GROUND/FLOOR
- - - W - - -	SANITARY WASTE BELOW GROUND/FLOOR
— X —	SHUT OFF VALVE
■ OR ●	FLOOR DRAIN OR EQMT FLOOR DRAIN
—○—	PIPE DROP/PIPE RISE
—○—	BOTTOM OUTLET TEE
—○—	TOP OUTLET TEE
WCO—	WALL CLEAN OUT
○→ HB	HOSE BIBB
■ FFCO	FINISHED FLOOR CLEANOUT
⊕ VTR	SANITARY VENT THROUGH ROOF
(DWH-1)	EQUIPMENT TYPE AND DESIGNATION
(L-1)	PLUMBING FIXTURE DESIGNATION



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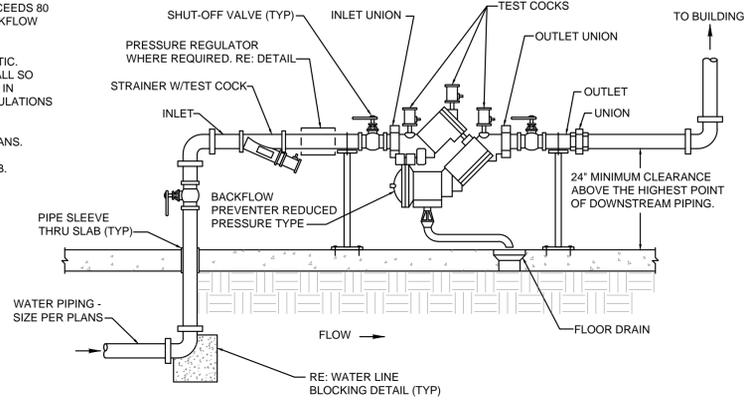
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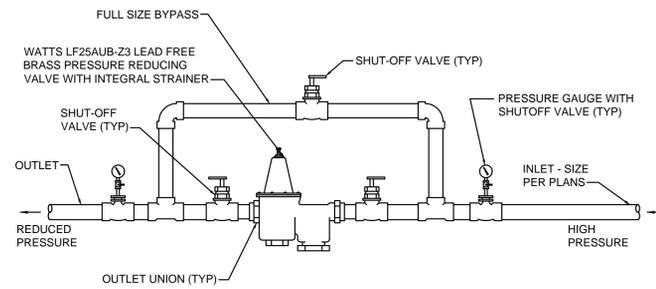
PLUMBING
PLAN / NOTES /
SYMBOLS

P1

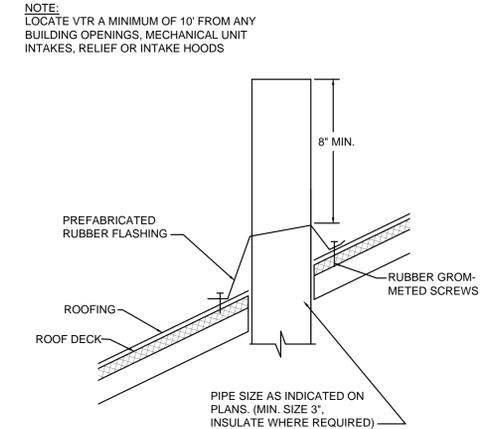
- NOTES:
1. PROVIDE PRESSURE REGULATOR, SET TO 75 PSI WHERE SOURCE PRESSURE EXCEEDS 80 PSI. INSTALL DOWNSTREAM OF BACKFLOW PREVENTER OUTLET. RE: DETAIL
 2. ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS. INSTALL SO BFP CAN BE SERVICED AND TESTED IN ACCORDANCE W/ ALL RULES & REGULATIONS OF LOCAL AUTHORITIES.
 3. ROUTE DRAIN AS INDICATED ON PLANS.
 4. SUPPORT AS REQUIRED FROM SLAB.



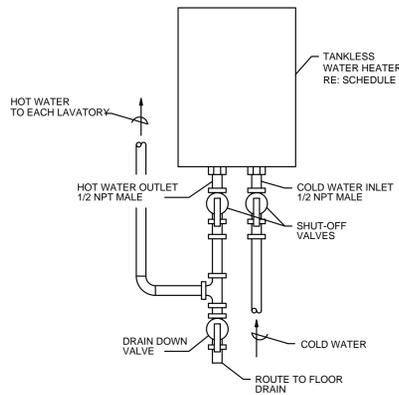
INTERIOR BACKFLOW PREVENTER DETAIL
NO SCALE (FOR PIPE SIZES 2" OR LESS)



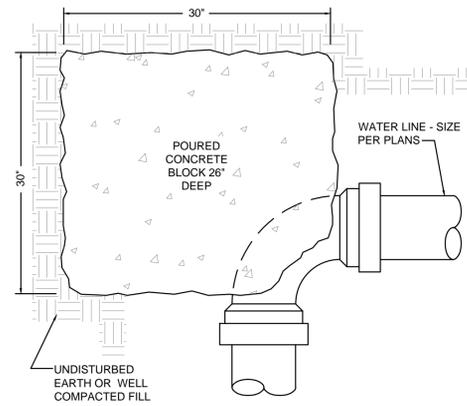
PRESSURE REDUCING VALVE DETAIL
NO SCALE



VENT THRU ROOF DETAIL
NO SCALE



TANKLESS WATER HEATER DETAIL
NO SCALE

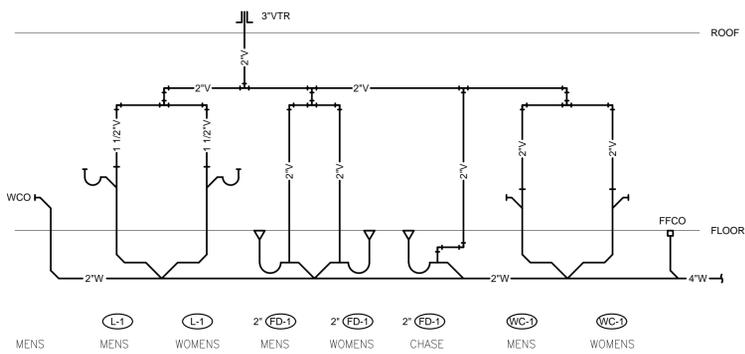


WATER LINE BLOCKING DETAIL
NO SCALE

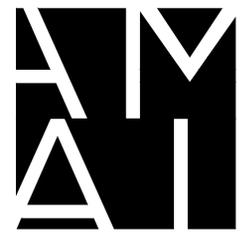
WATER HEATER SCHEDULE (TANKLESS)

MARK NO.	MANUFACTURER	MODEL NO.	MINIMUM FLOW, GPM	RECOVERY (GPM @ 80 F)	INPUT (KW)	ELECTRICAL			NOTES
						VOLT	ø	HZ	
DWH-1	EEMX	SP48	0.5	0.05	4.8	240	1	60	1
DWH-2	EEMX	SP48	0.5	0.05	4.8	240	1	60	1

NOTES: 1. PROVIDE WITH NICHROME ELEMENT, HIGH LIMIT SHUTOFF WITH AUTOMATIC RESET, AND MOUNTING HARDWARE.
*HEATING KW IS NET CAPACITY AT VOLTAGE AND PHASE INDICATED.



WASTE AND VENT RISER
SCALE: NTS



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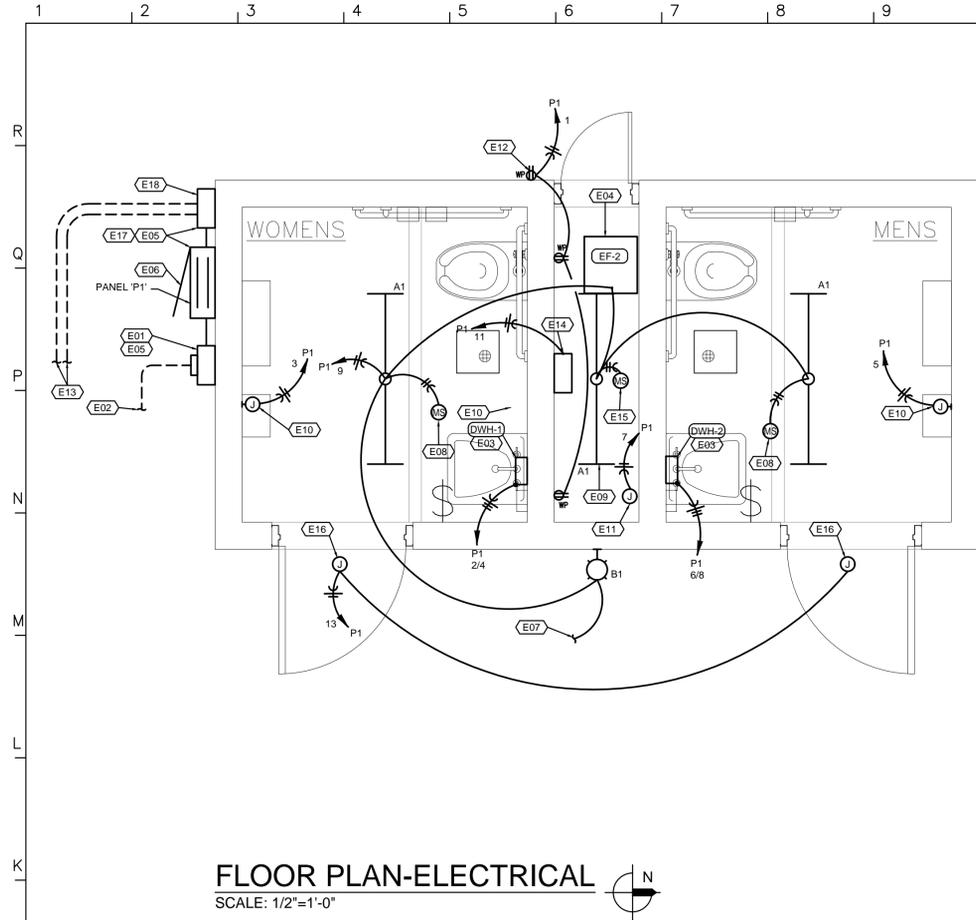
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PLUMBING DETAILS /
SCHEDULES / RISER

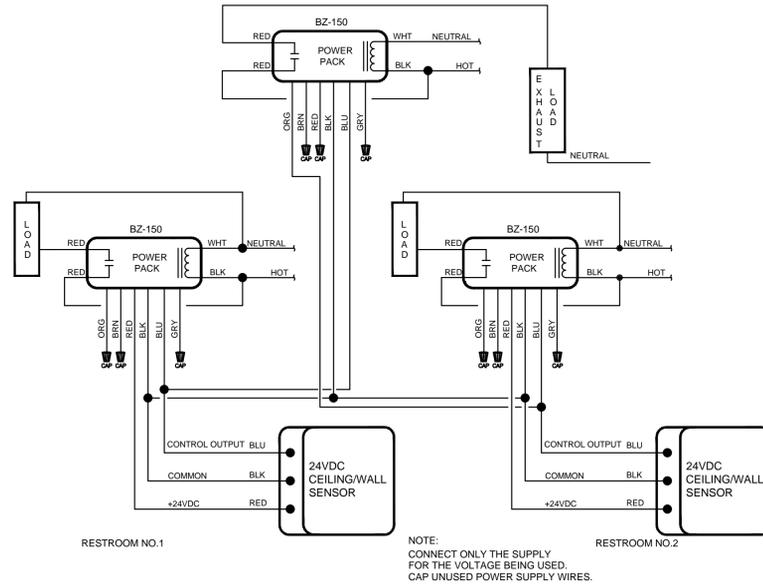
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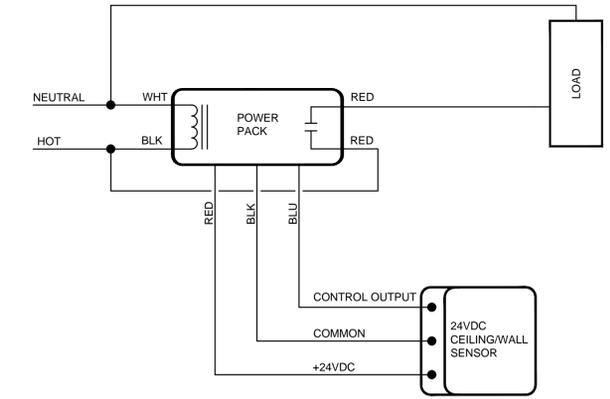
FLOOR PLAN-ELECTRICAL
SCALE: 1/2"=1'-0"

FLOOR PLAN NOTES

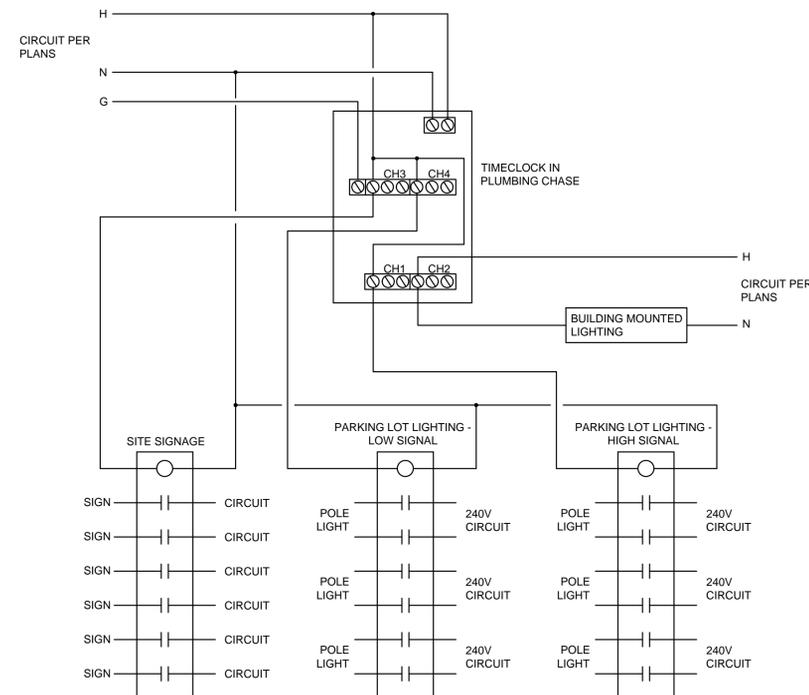
- UTILITY METER. RE: RISER DIAGRAM FOR ADDITIONAL INFORMATION.
- RE: CIVIL PLAN FOR CONTINUATION OF SECONDARY CONDUCTORS FROM UTILITY TRANSFORMER.
- MAKE POWER CONNECTION TO WATER HEATER. PROVIDE BREAKER IN PANEL WITH LOCKABLE PROVISIONS IN THE 'OFF' POSITION FOR USE AS EQUIPMENT DISCONNECT.
- MAKE REQUIRED CONNECTION TO EXHAUST FAN WITH INTEGRAL DISCONNECT SWITCH. EXHAUST FAN TO TURN ON WITH BATHROOM LIGHTING.
- MOUNT ELECTRICAL GEAR TO MASONRY WALL USING UNISTRUT BACKING.
- PROVIDE (2) 2" SPARE CONDUITS OUT OF PANEL P1 TO UNDERGROUND. CAP AT TERMINUS AND WEATHERPROOF INCOMING CONDUIT AT PANEL. ADDITIONALLY, PROVIDE (1) 2" SPARE CONDUIT INTO PLUMBING CHASE.
- WIRE THROUGH (1) CHANNEL OF 4-CHANNEL TIMECLOCK.
- RE: COMMON EXHAUST FAN OCCUPANCY SENSOR CONTROL DETAIL FOR OCCUPANCY SENSORS IN RESTROOMS AND EXHAUST FAN CONTROL.
- FIELD COORDINATE EXACT MOUNTING OF WALL MOUNTED LIGHT FIXTURE IN PLUMBING CHASE.
- MAKE POWER CONNECTION TO ELECTRIC HAND DRYER. COORDINATE ROUGH-IN HEIGHT WITH ARCHITECTURAL ELEVATION.
- MAKE POWER CONNECTION TO LOW VOLTAGE TRANSFORMERS FOR HARD WIRED PLUMBING FIXTURE SENSORS. PROVIDE LOW VOLTAGE WIRING FROM TRANSFORMERS TO EACH SENSOR. COORDINATE WITH PLUMBING CONTRACTOR.
- EXTERIOR WP RECEPTACLE TO BE PROVIDED WITH LOCKABLE COVER.
- RE: CIVIL DRAWINGS FOR CIRCUITS TO PARKING LOT LIGHTING AND SITE SIGNAGE. RE: PANEL SCHEDULE FOR QUANTITY AND CONFIGURATION OF BRANCH CIRCUITS. EXACT CONDUIT AND CIRCUIT ROUTING PER CIVIL DRAWINGS.
- NEW 4-CHANNEL TIMER SWITCH TO BE TORK DZS400BP. COORDINATE TIME SCHEDULING WITH OWNER. PROVIDE LINE VOLTAGE POWER AS REQUIRED BY MANUFACTURER. INTERCONNECT WITH CONTACTORS MOUNTED TO EXTERIOR OF BUILDING. RE: DETAIL.
- RE: STANDALONE OCCUPANCY SENSOR DETAIL FOR LIGHT IN PLUMBING CHASE.
- POWER TO POWERED DOOR LOCK SYSTEM. CONFIRM POWER REQUIREMENTS AND ROUGH-IN REQUIREMENTS WITH OWNER.
- MOUNT EQUIPMENT WITHIN VANDAL RESISTANT, LOCKABLE, NEMA 3R HOFFMAN ENCLOSURE.
- PROVIDE CONTACTORS WITHIN ENCLOSURE FOR SWITCHING PARKING LOT LIGHTS AND SIGN LIGHTS. SIGNAL TO BE FROM TIMECLOCK MOUNTED IN PLUMBING CHASE. RE: DETAIL.



RESTROOM OCCUPANCY SENSOR CONTROL - COMMON EXHAUST FAN
NO SCALE

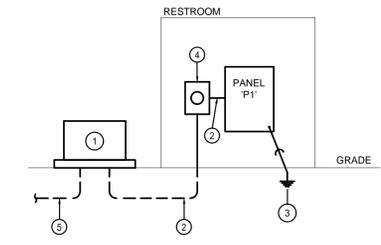


STANDALONE OCCUPANCY SENSOR DETAIL
NO SCALE



- CONTACTORS:**
- COIL TO BE 120V RATED.
 - RELAYS TO BE MECHANICALLY HELD, 250V, 20A.
 - TYPICAL ALL CONTACTORS.

EXTERIOR LIGHTING CONTROL DIAGRAM
NO SCALE



ELECTRICAL RISER DIAGRAM
NOT TO SCALE

RISER PLAN NOTES

- NEW UTILITY TRANSFORMER. ELECTRICAL CONTRACTOR TO PROVIDE CONCRETE PAD PER UTILITY REQUIREMENTS. RE: CIVIL PLANS FOR EXACT LOCATION.
- 200A SERVICE CONDUCTORS, INCREASED SIZE FOR VOLTAGE DROP: (3) #250 (Cu) IN 2" CONDUIT. RE: CIVIL PLANS FOR ROUTING.
- PROVIDE GROUNDING ELECTRODE IN ACCORDANCE WITH NEC. GROUNDING ELECTRODE CONDUCTOR TO BE (1) #6. RE: GROUNDING DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR TO PROVIDE UTILITY APPROVED METER SOCKET.
- PRIMARY CONDUIT PER CIVIL DRAWINGS.



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ELECTRICAL
PLAN / DETAILS

E1

NEW PANELBOARD P1 SCHEDULE															
SERVICE: 240/120 VOLT, 1-PHASE, 3-WIRE AMP: 200 AMP MAINS: MCB / 200 AMP MAIN BREAKER					RATING: VERIFY A.I.C. LOCATION: RESTROOM SERVICE RATED NEMA 3R										
MOUNTING: SURFACE															
REV NO.	NOTE NO.	LOAD CRT#	DESCRIPTION	BRKR P	AMP	LOAD KVA A	B	LOAD CRT#	DESCRIPTION	BRKR P	AMP	LOAD KVA A	B	NOTE NO.	REV NO.
		1	REC. CONVENIENCE OUTLETS	1	20	0.54		2	WATER HEATER	2	30	2.4		2	
		3	HAND DRYER	1	20		1.5	4							
		5	HAND DRYER	1	20	1.5		6	WATER HEATER	2	30	2.4	2.4	2	
		7	PLUMBING FIXTURE SENSORS	1	20		0.1	8							
		9	LIGHTING AND EXHAUST FAN	1	20	0.29		10	PARKING LOT LIGHTING #1 - HIGH	2	20	1		1.3	
		11	TIMECLOCK	1	20		0.5	12						1.3	
		13	DOOR LOCK POWER	1	20	0.5		14	PARKING LOT LIGHTING #1 - LOW	2	20			1.3	
		3	15	SITE SIGNAGE - NORTH	1	20		1	16					1.3	
		3	17	SITE SIGNAGE - NORTH	1	20	1		18	PARKING LOT LIGHTING #2 - HIGH	2	20	1		1.3
		3	19	SITE SIGNAGE - NORTH	1	20		1	20					1.3	
		3	21	SITE SIGNAGE - MIDDLE	1	20	1		22	PARKING LOT LIGHTING #2 - LOW	2	20			1.3
		3	23	SITE SIGNAGE - SOUTH	1	20		1	24					1.3	
		3	25	SITE SIGNAGE - SOUTH	1	20	1		26	PARKING LOT LIGHTING #3 - HIGH	2	20	1		1.3
		27	SPARE	1	20			28						1.3	
		29	SPARE	1	20			30	PARKING LOT LIGHTING #3 - LOW	2	20			1.3	
		31	SPARE	1	20			32						1.3	
		33	SPARE	1	20			34	SPARE	1	20				
		35	PROVISION					36	PROVISION						
		37	PROVISION					38	PROVISION						
		39	PROVISION					40	PROVISION						
		41	PROVISION					42	PROVISION						
TOTAL:					5.83	5.1						TOTAL:	7.8	7.8	
KVA / PHASE TOTAL:					5.83	5.1						TOTAL:	13.63	12.9	
AMP / PHASE TOTAL:					114	108						TOTAL:	114	108	

- NOTES:
- LOADS ARE NON-COINCIDENTAL AND CANNOT RUN AT THE SAME TIME. THE LARGER LOAD HAS BEEN INCLUDED.
 - BREAKER TO BE LOCKABLE IN THE 'OFF' POSITION.
 - ROUTE CIRCUIT THROUGH CONTACTOR.

REV:

GENERAL NOTE:
CONDUIT & CONDUIT SIZING CHART FOR SIZING OF BRANCH CIRCUITS AND OR FEEDERS AT OR BELOW 100 AMPS

TOTAL CONNECTED LOAD:	26.53	KVA
TOTAL CONNECTED CURRENT:	110.54	AMPS
LIGHTS @ 125%:	15.36	KVA
RECEPTACLES @ 100%:	0.54	KVA
RECEPTACLES @ 50%:	0.00	KVA
LARGEST MOTOR LOAD @ 125%:	0.00	KVA
CONTINUOUS LOAD @ 125%:	0.75	KVA
OTHER AND NON-CONTINUOUS LOADS @ 100%:	15.50	KVA
TOTAL DEMAND LOAD:	32.15	KVA
POWER FACTOR:	0.95	% PF
TOTAL DEMAND CURRENT:	141.02	AMPS

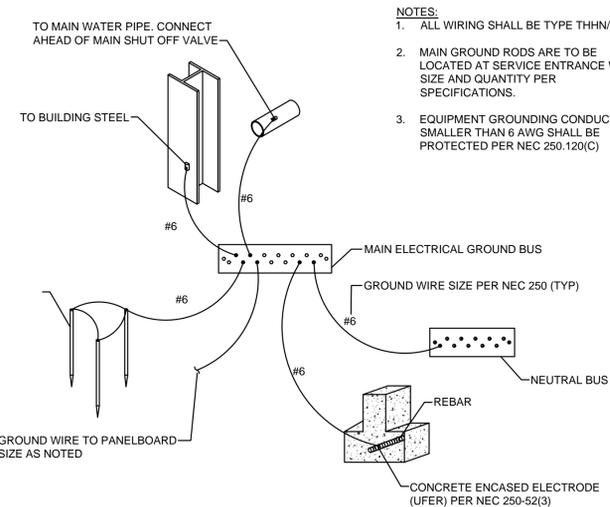
BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART*						
OVERCURRENT PROTECTION DEVICE RATING (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND. CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 4 WIRE + GND. CONDUIT SIZE
15	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
20	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
25	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
30	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
35	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
40	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
45	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
50	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
60	4 AWG	10 AWG	1"	1"	1"	1-1/4"
70	4 AWG	8 AWG	1"	1"	1"	1-1/4"
80	3 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
90	2 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
100	1 AWG	8 AWG	1-1/4"	1-1/2"	1-1/2"	1-1/2"

- * = UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 * = UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL BRANCH CIRCUITS AND FEEDERS TO BE PROVIDED WITH A NEUTRAL WIRE.
 * = ALL CONDUCTORS SIZED ON THE POWER RISER DIAGRAM OR IN BRANCH CIRCUIT CONDUCTOR TABLE ARE BASED ON 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY OR CABLE. CONDUCTORS SHALL BE DERATED IN ACCORDANCE WITH THE NEC IF 4 OR MORE CONDUCTORS ARE PLACED IN A RACEWAY OR CABLE.

LIGHT FIXTURE SCHEDULE					
TYPE	MANUFACTURER	LAMPS	WATTS VOLTS	DESCRIPTION	NOTES
A1	BEGHELLI BS100LED-4-HT-LO-WT35-120-277V OR APPROVED EQUAL	LED 3500K, 83+ CRI 5,730 LUMENS	50W 120V	NOMINAL 6" X 50" VAPORTIGHT FIXTURE, INTEGRAL DRIVER, SURFACE MOUNT KIT.	
B1	LUMINIS LIGHTING SY602-LZW18R1-120V-xxx-2K3-LSL2 OR APPROVED EQUAL	LED 3000K, 80 CRI 2,997 LUMENS	40W 120V	NOMINAL 6" DIAMETER WALL-MOUNTED UPDOWN LIGHT, EXTRUDED ALUMINUM BODY, TEMPERED GLASS LENS, INTEGRAL DRIVER, ADJUSTABLE LIGHT MODULE, LINEAR SPREAD LENS. VERIFY FINISH WITH ARCHITECT.	

- SUBSTITUTION NOTES:
THE LIGHTING DESIGN FOR THIS PROJECT IS BASED UPON THE MANUFACTURERS SPECIFIED. IF AN ADDITIONAL SUBSTITUTION IS DESIRED BY THE CONTRACTOR, A SUBSTITUTION REQUEST SUBMITTAL MUST BE PROVIDED AS FOLLOWS:
- SUBSTITUTION REQUEST MUST BE RECEIVED BY THE ENGINEER IN WRITING 10 DAYS PRIOR TO BID. FAILURE TO SUBMIT CONSTITUTES A GUARANTEE TO SUPPLY THE SPECIFIED FIXTURES.
 - INFORMATION IS TO BE SUPPLIED COMPARING PHOTOMETRY, (WITH FLOOR PLANS INDICATING POINT BY POINT CALCULATIONS) DIMENSIONS, MATERIAL COMPOSITION, FINISH, VISUAL APPEARANCE AS WELL AS THE 'CONTRACTOR NET' PRICING. SAMPLES ARE TO BE PROVIDED UPON REQUEST.
 - GREAT CARE, TIME AND EXPENSE HAVE BEEN USED TO PROVIDE OUR CLIENT WITH THE LIGHTING AND CONTROLS SYSTEM. THEREFORE, FOR EACH AND EVERY TYPE OF FIXTURE OFFERED AS AN UNSOLICITED ALTERNATE, A \$500.00 FEE WILL BE CHARGED TO THE CONTRACTOR FOR REVIEW OF THE ALTERNATE FIXTURE. THIS CHARGE IS IN NO WAY A GUARANTEE OF APPROVAL, BUT IS SOLELY TO COMPENSATE THE ENGINEER FOR TIME SPENT VALIDATING EQUALITY AND COMPATIBILITY WITH THE PROJECT REQUIREMENTS. THIS REIMBURSEMENT MUST BE RECEIVED BY THE ENGINEER PRIOR TO ANY REVIEW COMMENCING.
 - PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED.
 - MANUFACTURER'S REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING FOR SPECIFIED LIGHTING FIXTURES.
 - LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.

- GENERAL NOTE:
- ELECTRICAL CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING ANY LIGHT FIXTURES.
 - ELECTRICAL CONTRACTOR SHALL COORDINATE DIMMING DRIVERS/BALLASTS WITH DIMMING SWITCHES/SYSTEMS AND SHALL INCLUDE ALL REQUIRED CONTROL WIRING.
 - UNLESS OTHERWISE INDICATED, ALL POLE BASES, POLES, AND SITE LUMINAIRES ARE TO BE FURNISHED AND INSTALLED BY E.C.



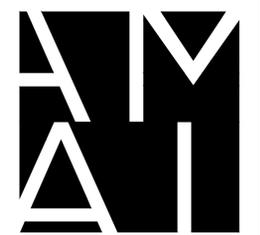
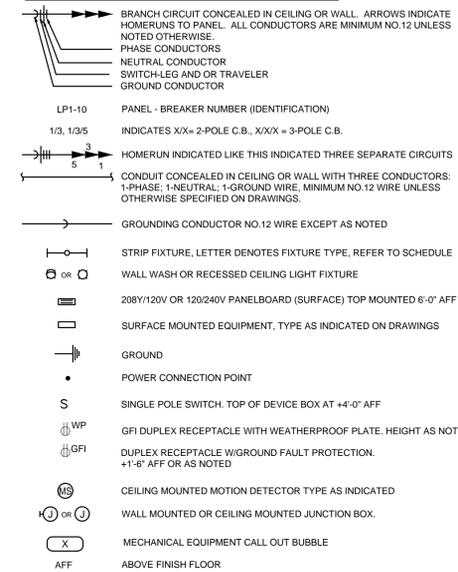
- NOTES:
- ALL WIRING SHALL BE TYPE THHN/THWN
 - MAIN GROUND RODS ARE TO BE LOCATED AT SERVICE ENTRANCE WITH SIZE AND QUANTITY PER SPECIFICATIONS.
 - EQUIPMENT GROUNDING CONDUCTORS SMALLER THAN 6 AWG SHALL BE PROTECTED PER NEC 250.120(C)

MAIN SERVICE ENTRANCE GROUNDING DETAIL
NO SCALE

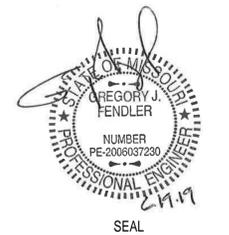
GENERAL NOTES (TYPICAL ALL SHEETS)

- REFER TO ARCHITECT'S REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF LIGHT FIXTURES, SPEAKER AND F.A. DEVICES IN THE CEILING SYSTEM.
- REFER TO ARCHITECTURAL DETAILS AND ELEVATIONS FOR COORDINATION OF LOCATION OF ALL WIRING DEVICES BEFORE ROUGH-IN OF J-BOXES.
- REFER TO ARCHITECTURAL PLANS FOR DETAIL OF ALL CONDUIT THRU ROOF PENETRATIONS.
- ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR.
- PROVIDE UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY FOR EACH PANELBOARD WHICH CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.
- CONTRACTOR TO REFERENCE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING OF BRANCH CIRCUITS AND OR FEEDERS AT OR BELOW 100AMPS.
- SUPPORT ALL LIGHT FIXTURES WITH A MINIMUM OF (4) 12 GA. HANGER WIRES TO STRUCTURE ABOVE.
- CONDUIT SHALL BE USED FOR CONDUCTORS WHERE REQUIRED BY N.E.C.
- CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND SIZE WIRE ACCORDINGLY, PER N.E.C.
- UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

ELECTRICAL SYMBOLS



AMAI ARCHITECTURE
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Kansas City, MO 64108
P 816.994.5900 / 5901 F



LOWENSTEIN PARK

2050 NW Lowenstein Dr.
Lee's Summit, MO 64081
Project No. 2019-075



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ISSUED FOR:
BUILDING PERMIT 19 JUNE 2019

ELECTRICAL
DETAILS / NOTES
SCHEDULES / SYMBOLS

E2



PLAN NOTES:

- ① NEW POLE MOUNTED LIGHT FIXTURE SHALL BE INSTALLED IN APPROXIMATE LOCATION SHOWN. RE: LIGHTING FIXTURE SCHEDULE ON SHEET SL-2.
- ② ROUTE EACH LIGHT FIXTURE HOMERUN (TWO TOTAL) TO 240V, 20A CIRCUIT BREAKER IN RESTROOM ELECTRICAL PANEL. CIRCUIT SHALL BE RAN THROUGH LIGHTING CONTROL PANEL. RE: RESTROOM BUILDING PLANS FOR ADDITIONAL INFORMATION.
- ③ POLE MOUNTED LIGHT FIXTURE HAS DUAL CIRCUITS TO ALLOW FOR DIMMING CONTROL. CONNECT BOTH CIRCUITS TO DESIGNATED DRIVER.

FEEDER SCHEDULE:

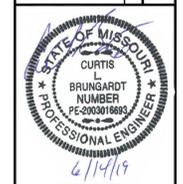
- ① (2) SETS: (2) #10 AWG, (1) #10 AWG GROUND IN 1-1/2" CONDUIT

CALCULATION SUMMARY

AREA	AVE	MAX	MIN	MAX/MIN	AVE/MIN
PARKING LOT	1.88	6.6	0.5	13.20	3.76

NOTES
1) N/A

REV	DATE	DESCRIPTION	CLB	CHK
0	6-14-19	CONSTRUCTION DOCUMENTS	AWN	DWN



CURTIS L. BRUNGARDT
ENGINEER
MO # 2003016693

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KAW VALLEY ENGINEERING

STREETS OF WEST PRYOR
NWQ NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

LOWENSTEIN PARK IMPROVEMENTS
SITE LIGHTING

PROJ. NO.	A14-7067-1
DESIGNER	AWN
DRAWN BY	AWN
CFN	5419-3 SL1
SHEET	SL-1
REV	A

InSite Group
DEDICATION. DESIRE. INTEGRITY.

19470 E. 100th Street, Ste. 4, Lenexa, KS 66150
866.238.3377 | www.insitegroup.net

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ISG PROJECT NUMBER
16-5419-3

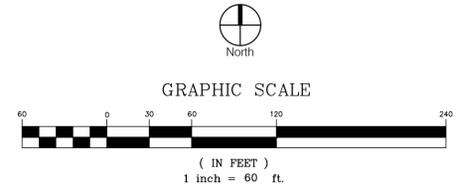
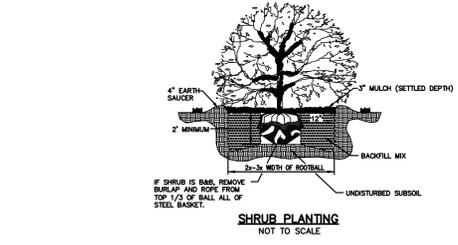
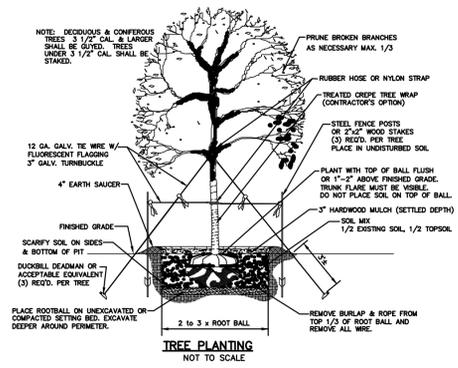
1 PHOTOMETRIC PLAN
SCALE: 1:30



- LANDSCAPING NOTES:**
1. LOCATE ALL UTILITIES BEFORE LANDSCAPE CONSTRUCTION BEGINS.
 2. NOTIFY OWNER REPRESENTATIVE OF ANY LAYOUT DISCREPANCIES.
 3. ALL EXTERIOR GROUND WITHIN THE LIMITS OF THE CONTRACT, EXCEPT FOR SURFACES OCCUPIED BY BUILDINGS, STRUCTURES, PAVING, AND AS DIRECTED ON THE DRAWINGS AS UNDISTURBED, SHALL BE FILLED WITH SIX INCHES (6") OF TOPSOIL.
 4. ALL DISTURBED AREAS NOT DESIGNATED FOR OTHER PLANTING SHALL BE SODDED. SOD SHALL CONSIST OF 90% TURF TYPE TALL FESCUE 10% BLUEGRASS.
 5. QUANTITIES INDICATED IN PLANT LIST ARE FOR CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR PLANT QUANTITIES AS ILLUSTRATED ON THE PLAN.
 6. SHREDDED HARDWOOD MULCH SHALL BE USED AS THREE INCH (3") TOP DRESSING IN ALL PLANT BEDS AND AROUND ALL TREES. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO THE OUTSIDE EDGE OF SAUCER OR LANDSCAPE ISLAND (SEE PLANTING DETAILS).
 7. FERTILIZE ALL PLANTS AT THE TIME OF PLANTING WITH TIME-RELEASE FERTILIZER (3-4 SLOW-RELEASE TABLETS/PELLETS).
 8. IF LEANING OCCURS WITHIN ONE YEAR, TREES SHALL BE RE-STAKED (SEE PLANTING DETAILS).
 9. CONTRACTOR SHALL STAKE ALL PLANT MATERIALS PRIOR TO INSTALLATION FOR THE PURPOSE OF DETERMINING CONFLICTS WITH ROCK, UTILITIES, ETC. NO PLANTS CAN BE PLANTED DIRECTLY ON ROCK OR UTILITIES. NOTIFY ARCHITECT/ENGINEER/OWNER AT ONCE IF ANY CONFLICTS OCCUR. CONTRACTOR WILL BE REQUIRED TO ADJUST PLANT LOCATIONS AT NO ADDITIONAL COST.
 10. CONTRACTOR IS RESPONSIBLE FOR WATERING ALL SOD UNTIL ROOTS HAVE KNITTED INTO SOIL AND OWNER HAS OCCUPIED THE BUILDING.
 11. PROVIDE "GATOR" BAGS ON ALL TREES. REFILL AS NECESSARY UNTIL OWNER ACCEPTS THE INSTALLATION.
 12. ALL TREES SHALL BE 3" CALIPER, EVERGREEN TREES SHALL BE 8' TALL AND SHRUBS SHALL BE 18" HEIGHT AT TIME OF PLANTING

PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/REMARKS
TREES				
CSM	7	ACER SACHARUM 'AUTUMN SPLENDOR'	CADDO SUGAR MAPLE	3" CAL. B&B
LP	4	PLATANUS x ACERIFOLIA	LONDON PLANETREE	3" CAL. B&B
RO	7	QUERCUS RUBRA	RED OAK	3" CAL. B&B
RB	1	CERCIS CANADENSIS 'OKLAHOMA'	OKLAHOMA REDBUD	1.5" CAL. B&B
NS	9	PICEA ABIES	NORWAY SPRUCE	6' HT. B&B



3	6/17/18	LOWENSTEIN PARK REVISIONS	DSN	DWN	CHK
2	6/19/18	CITY SUBMITTAL			
1	6/18/18	CITY SUBMITTAL			
	REV	DATE	DESCRIPTION		

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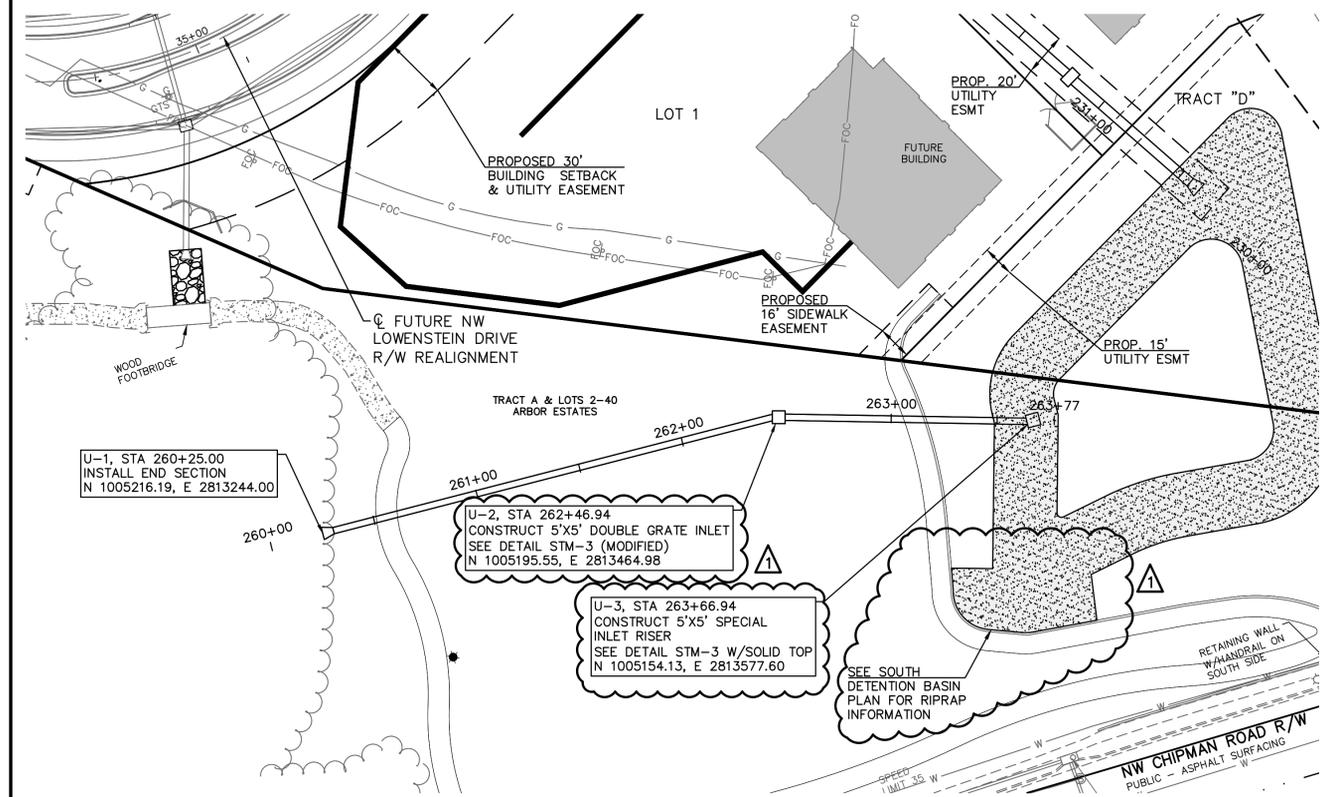
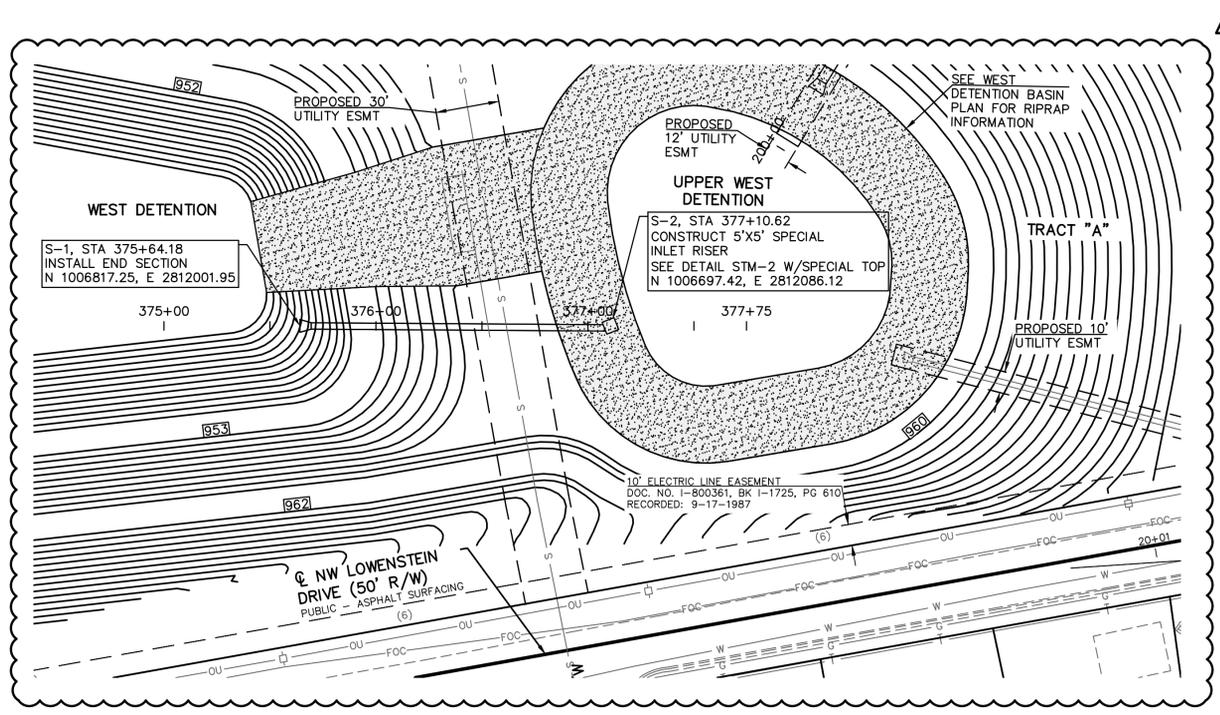
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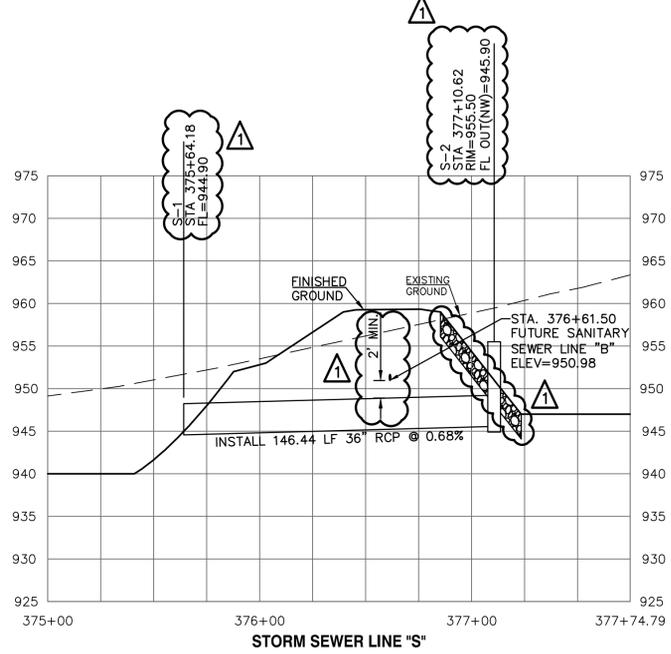
STREETS OF WEST PRYOR
 NWQ NW PRYOR ROAD & NW LOWENSTEIN DRIVE
 LEE'S SUMMIT, MISSOURI

PRELIMINARY DEVELOPMENT PLAN

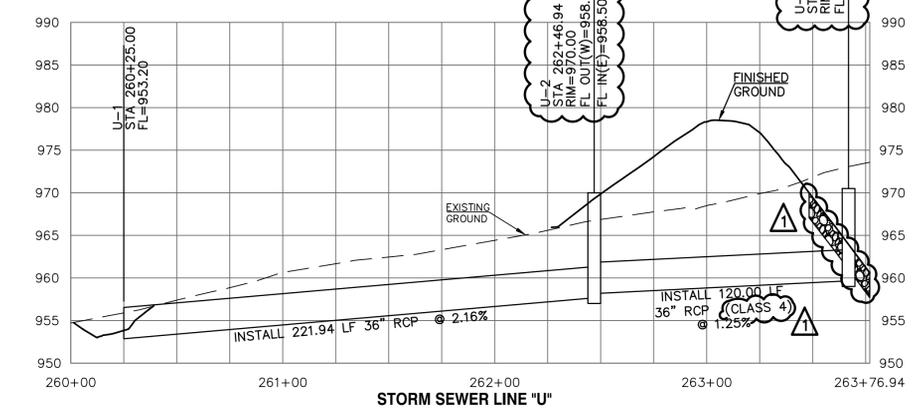
PROJ. NO. _____
 DESIGNER: VSR
 DRAWN BY: KLS
 SHEET: L 2.01
 REV: _____



STRUCTURE S-2
RISER CONTROL ELEMENTS:
TRASH RACK AND GRATE INLET, IN RISER TOP, 5'X5' OPENING,
WEIR EL 955.50, TRASH RACK EL=956.17



STRUCTURE U-3
RISER CONTROL ELEMENTS:
1 - 2.5" DIA ORIFICE OPENINGS AT EL 966.0, NORTH FACE
2 - 8" DIA ORIFICE OPENINGS AT EL 968.0, SOUTH FACE 1-8" DIA.
ORIFICE OPENING AT EL968.0, WEST FACE
1 - 36" W X 18" H RECT. OPENING AT EL 970.0, NORTH FACE
SOLID TOP INLET, RIM ELEV=973.0



ADDED ESMTS

ALL RCP SHALL BE CLASS 3 EXCEPT WHERE INDICATED OTHERWISE.

PUBLIC STREET, STORM AND WATER ARE BY SEPARATE PLANS

ALL PROPOSED STORM LINES ARE PRIVATE UNLESS NOTED OTHERWISE

PROJ. NO.	A14 7067-1
DESIGNER	LDO
DRAWN BY	JT
CFN	
7067-1G_DPP	
SHEET	REV
C-30	1

REV	DATE	DESCRIPTION
1	5-18-19	REVISED PER CITY COMMENTS
0	12-16-19	INITIAL ISSUE

LDO	JT	LDO	CHK
LDO	JT	LDO	CHK
DSN	DWN	CHK	CHK

STATE OF MISSOURI
LEON D. OSBOURN
REGISTERED PROFESSIONAL ENGINEER
NUMBER 621726

LEON D. OSBOURN
ENGINEER
MO # 021726

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STREETS OF WEST PRYOR
NW Q NW PRYOR RD & NW LOWENSTEIN DR
LEE'S SUMMIT, MISSOURI

MASS GRADING & STORM SEWER IMPROVEMENTS
STORM SEWER LINES & U-PLAN AND PROFILE