



KAW VALLEY ENGINEERING, INC.

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Web: www.kveng.com

Address: 14700 West 114th Terrace
Lenexa, KS 66215

September 9, 2022

C20D0496-1

Mr. Kyle Gorrell
Lee's Summit School District
302 SE Transport Road
Lee's Summit, Missouri 64081

**RE: STORM WATER MANGEMENT
LEE'S SUMMIT HIGH SCHOOL ROBOTICS PROJECT
LEE'S SUMMIT, MISSOURI**

Dear Mr. Gorrell:

Kaw Valley Engineering, Inc. has completed a review of the stormwater management implications associated with the construction of the Robotics/GIC Improvements at the Lee's Summit (LSHS) Robotics and GIC buildings in Lee's Summit, Missouri.

The City of Lee's Summit, Missouri has adopted a storm water management design criterion titled Section 5600 (Storm Drainage Systems and Facilities) which was used for stormwater planning and design. APWA 5600 lists exceptions to general requirements and applicability associated with Development in section 5601.3. The intent of these exceptions is to not require implementation of extensive storm water management systems on low impact and small-scale development projects.

The proposed LSHS Robotics project will impact approximately 10,000 SF of the property on the south side of Building D and north side of Building E. A net increase of approximately 2,800 SF in impervious is expected at project completion. The improvements to Buildings D and E will not alter existing overall drainage patterns and will utilize the existing storm sewer system onsite. Due to the disconnected nature of the proposed project and location of the improvements on the Lee's Summit HS campus, KVE will request that the City of Lee's Summit permits the proposed improvements without addressing the increase in impervious surface.

If you have any questions or require additional information, please do not hesitate to contact me at (913) 894-5150.

Respectfully submitted,
Kaw Valley Engineering, Inc.

Christian J. Crowder, P.E.
Project Manager



Attachments:

Design and Construction Manual Construction Modification Request

Site Plan

Demolition Plan

Grading Plan

\\VMLX-FILE\Projects\C20_0496-1\DSN\Storm\20220909 LSHS Robotics Stormwater Compliance Letter (R0).docx



LEE'S SUMMIT MISSOURI

DESIGN AND CONSTRUCTION MANUAL CONSTRUCTION MODIFICATION REQUEST

PROJECT NAME: Lee's Summit High School Robotics Project

PREMISE ADDRESS: 400 SE Blue Pkwy, Lee's Summit, MO 64063

PERMIT NUMBER: _____

OWNER'S NAME: Kyle Gorrell – Lee's Summit School District

TO: Lee's Summit City Engineer

In accordance with Sections 1002.A and 1002.B of the City of Lee's Summit's Design and Construction Manual (DCM), I wish to apply for a modification to one or more specification(s). The following articulates my request for your review and action. (NOTE: Cite specific code sections and engineering justification and drawings.)

See attached Storm Water Management Memo


SUBMITTED BY:

NAME: Christian Crowder () OWNER (x) OWNER'S AGENT

ADDRESS: 14700 West 114th Terrace

Tel.# (913)-894-5150

CITY, STATE, ZIP: Lenexa, KS 66215

Email: crowder@kveng.com SIGNATURE: 

FORWARDING MANAGER: _____ RECOMMENDATION: () APPROVAL () DENIAL

SIGNATURE: _____ DATE: _____

GEORGE BINGER III, P.E. – CITY ENGINEER: () APPROVED () DENIED

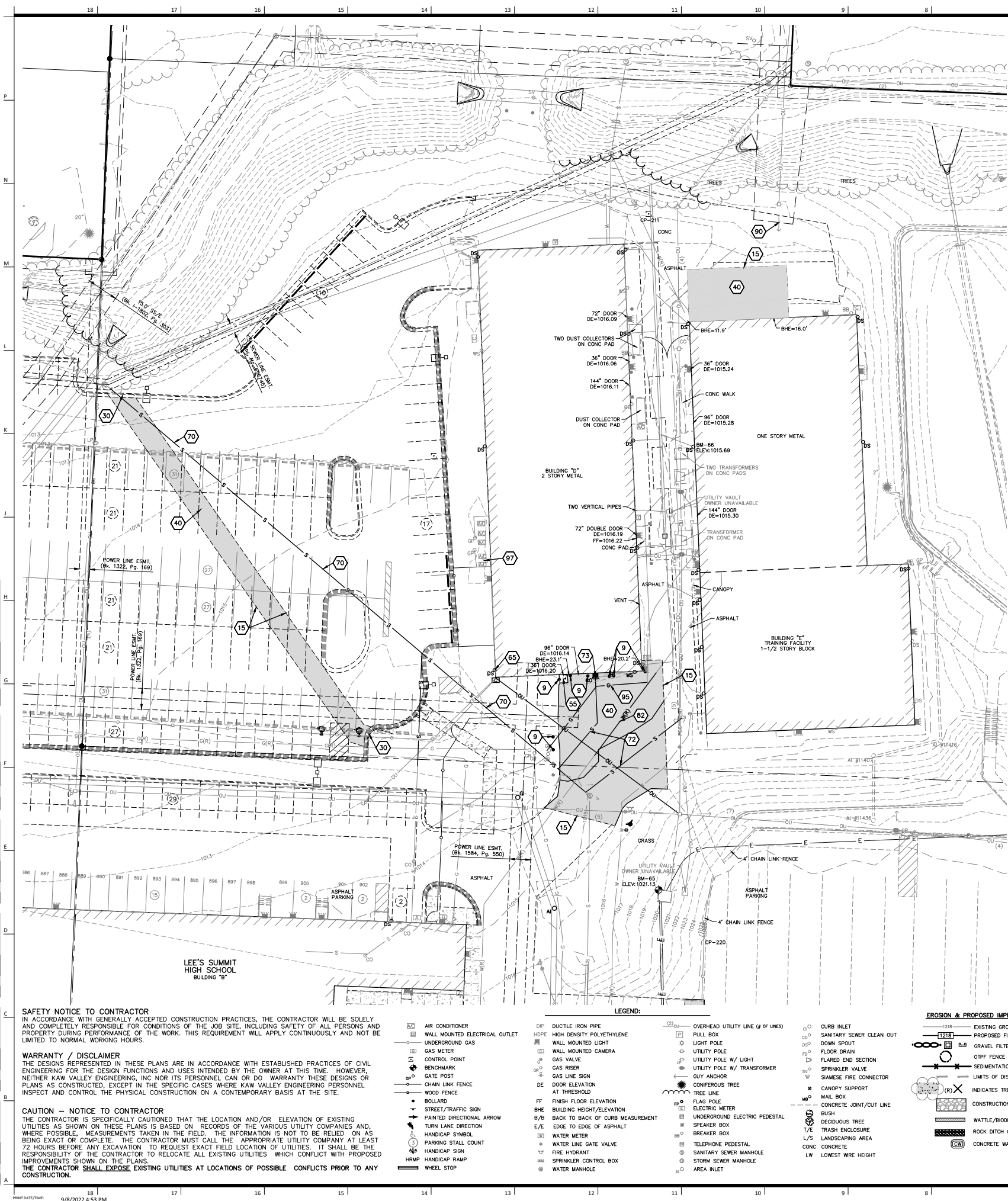
SIGNATURE: _____ DATE: _____

COMMENTS _____

A COPY MUST BE ATTACHED TO THE APPROVED PLANS

Development Services

220 SE Green Street | Lee's Summit, MO 64063 | P: 816.969.1200 | F: 816.969.1221 | cityofLS.net



DEMOLITION

- 1 TO REMAIN.
- 6 SIGN TO BE REMOVED
- 7 SIGN TO BE RELOCATED
- 8 REMOVE BUILDING AND BUILDING EQUIPMENT. (COORDINATE WITH ARCHITECTURAL AND MEP PLAN)
- 8A REMOVE EXISTING SERVICE TUNNEL AFTER UTILITIES HAVE BEEN ABANDONED. SEAL PENETRATIONS AT BUILDING IN ACCORDANCE WITH ARCHITECTURAL AND STRUCTURAL PLANS
- 9 CONCRETE BOLLARD/TALL DELINEATORS TO BE REMOVED. (COORDINATE WITH ARCHITECTURAL PLAN)
- 10 FENCE AND FENCE POST TO BE REMOVED AS NECESSARY TO CONSTRUCT IMPROVEMENTS.
- 15 SAW CUT LINE (FOR CONCRETE SAW CUT AT NEAREST CONTROL JOINT. FOR ASPHALT SAW CUT MINIMUM OF 6" FROM NEW CURB LINE). SEE SHEET C100 AND C200 FOR LIMITS.
- 30 CONTRACTOR TO REMOVE CONCRETE CURBS TO CONSTRUCT IMPROVEMENTS. SEE SHEET C100 AND C200 FOR LIMITS.
- 40 CONTRACTOR TO REMOVE ASPHALT PAVING AS REQUIRED TO CONSTRUCT IMPROVEMENTS.
- 55 CONTRACTOR TO REMOVE CONCRETE PAVING AND WALKS.
- 60 CONTRACTOR TO MODIFY, REMOVE AND/OR REROUTE STORM SEWER PRIOR TO CONSTRUCTING ADDITIONS. REFER TO C600 SHEETS FOR ADDITIONAL INFORMATION.
- 65 CONTRACTOR TO RELOCATE DOWNSPOUT TO FACILITATE IMPROVEMENTS
- 70 CONTRACTOR TO REMOVE AND/OR REROUTE EXISTING SANITARY SEWER REFER TO C500, AND C700 SERIES SHEETS FOR ADDITIONAL INFORMATION.
- 72 CONTRACTOR TO DISCONNECT AND REMOVE AND RELOCATE EXISTING SANITARY SERVICE LINE ROUTED EXTERIOR TO THE BUILDING AS NECESSARY TO CONSTRUCT THE BUILDING ADDITIONS AND SITE IMPROVEMENTS AS APPLICABLE REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
- 73 CONTRACTOR TO DISCONNECT AND REMOVE AND RELOCATE EXISTING CLEANOUT AS NECESSARY TO CONSTRUCT THE BUILDING ADDITIONS AND SITE IMPROVEMENTS AS APPLICABLE REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
- 82 CONTRACTOR TO DISCONNECT AND REMOVE AND RELOCATE EXISTING DOMESTIC WATER SERVICE LINE ROUTED EXTERIOR TO THE BUILDING AS NECESSARY TO CONSTRUCT THE BUILDING ADDITIONS AND SITE IMPROVEMENTS AS APPLICABLE REFER TO C500 SHEETS AND MEP PLANS FOR ADDITIONAL INFORMATION.
- 90 CONTRACTOR TO COORDINATE WITH LSR7 TO RELOCATE GUY ANCHOR OUTSIDE OF PROPOSED PAVING
- 95 EXISTING GAS SERVICE AND APPURTENANCES TO BE REMOVED, REPLACED OR RELOCATED PRIOR TO CONSTRUCTING ADDITION. (COORDINATE WITH C500, SPIRE ENERGY AND MEP PLANS)
- 97 CONTRACTOR TO REMOVE HVAC UNITS. COORDINATE WITH LSR7 AND MEP PLANS

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL VERIFY SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL REMOVE ALL BUILDINGS, UTILITIES, PAVEMENT, FOUNDATIONS, FENCES, CURBS AND ALL OTHER STRUCTURES FROM WITHIN PROPERTY LINES EXCEPT AS DESIGNATED "TO REMAIN" OR "TO BE REMOVED BY OTHERS". IN ACCORDANCE WITH THE SPECIFICATIONS AND THE CITY OF LEE'S SUMMIT AND STATE REGULATIONS. SITE CONDITIONS SHOWN WERE AS OF MARCH 19, 2020.
2. ALL UTILITY PIPE LINES TO BE ABANDONED SHALL BE PLUGGED PER CITY AND STATE REGULATIONS.
3. DRIVES, PAVING AND OTHER STRUCTURES ON STREET OR HIGHWAY RIGHT-OF-WAY SHALL BE REMOVED AS NECESSARY TO CONSTRUCT IMPROVEMENTS SHOWN ON THESE PLANS. REMOVAL AND DISPOSAL SHALL BE IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
4. ALL PAVING WITHIN PROPERTY TO BE REMOVED AND DISPOSED OF IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
5. ALL EXISTING UTILITIES ETC. LOCATED WITHIN THE BOUNDARIES OF THE PROPOSED BUILDING SHALL BE COMPLETELY REMOVED TO 10 FEET OUTSIDE OF BUILDING LINE.
6. ALL HAZARDOUS ASBESTOS AND OTHER HAZARDOUS MATERIALS MUST BE IDENTIFIED AND REMOVED PRIOR TO ANY BUILDING DEMOLITION, IN STRICT CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
7. CONTRACTOR SHALL VERIFY THAT ALL UTILITIES TO EXISTING STRUCTURES HAVE BEEN DISCONNECTED PRIOR TO COMMENCING DEMOLITION.
8. EXISTING POWER LINES AND APPURTENANCES TO BE RELOCATED. COORDINATE WITH LOCAL UTILITIES.
9. ALL SLOPES THAT ARE 4:1 OR STEEPER MUST BE FULLY OR PERMANENTLY STABILIZED WITHIN TWO WEEKS OF FINAL GRADING.
10. CONTRACTOR HAS THE OPTION TO CONSTRUCT MULCH BERMS FROM TREE REMOVAL IN LIEU OF SILT FENCE ALONG TREE LINES. SEE DETAIL ESC-04.
11. STAGE INSTALL OF CONSTRUCTION STAGING AND ACCESS AREA AS CONSTRUCTION PROGRESSES ON SITE. WEST PARKING LOT TO REMAIN TO THE MAXIMUM EXTENTS PRACTICAL TO MAINTAIN SITE CIRCULATION AND BUS ACCESS. COORDINATE WITH CM'S SITE LOGISTIC PLAN.
12. PROVIDE CONSTRUCTION FENCING AS NOTED ON CM'S SITE LOGISTIC PLAN.

DESCRIPTION OF WORK - PRE CLEAR AND PHASE I:

- OBTAIN REVIEW COMPLIANCE AND APPLICABLE PERMITS.
- HOLD PRE-CONSTRUCTION CONFERENCE.
- INSTALL PERIMETER EROSION CONTROL MEASURES, INLET PROTECTION DOWNSTREAM OF DEMOLITION AREAS AND TREE PROTECTION FENCING WITHIN CLEARING LIMITS AS APPLICABLE
- SAWCUT AND REMOVE PAVEMENT, FLATWORK AND CURBING IN IMMEDIATE VICINITY OF PROPOSED WORK AREAS AND UTILITY RELOCATION POINTS. COORDINATE WORK WITH SCHOOL SCHEDULE TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC FLOW AROUND CONSTRUCTION SITE. PROVIDE STABILIZED CONSTRUCTION ENTRANCE OR TEMPORARY ACCESS ROAD AS REQUIRED.
- REMOVE/RELOCATE UTILITIES IN ACCORDANCE WITH DEMOLITION PLANS AS REQUIRED TO CONSTRUCT CLASSROOM BUILDING ADDITIONS.

NOTE: IT IS ANTICIPATED THAT WORK WILL BE STAGED AS DIFFERENT RENOVATION AND CONSTRUCTION ACTIVITIES OCCUR. CONTRACTOR SHALL COORDINATE WITH CM'S SITE LOGISTICS PLAN AND CONSTRUCTION SCHEDULE.

NOTE:

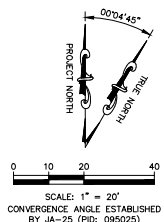
THIS EROSION CONTROL PLAN HAS BEEN PLACED IN THE CITY'S FILE FOR THIS PROJECT. THE PLAN APPEARS TO FULFILL THE MISSOURI DEPARTMENT OF NATURAL RESOURCES TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION CONTROL AND REQUIREMENTS OF THE CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION PROBLEMS ARISE OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE LAND OWNER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

GENERAL NOTES:

1. REFER TO SHEET C490 AND LANDSCAPE PLAN FOR TEMPORARY AND PERMANENT SEEDING/STABILIZATION REQUIREMENTS.
2. REFER TO APWA STANDARD ESC DRAWINGS FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

FOR THE FOLLOWING DETAILS REFER TO THE KC METROPOLITAN CHAPTER ADOPTED DIVISION III APWA STANDARD DRAWINGS FOR EROSION AND SEDIMENT CONTROL (2017 VERSION) ON SHEETS C480 AND C485.

- ESC-01 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
- ESC-02 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MAT
- ESC-03 SEDIMENTATION FENCE
- ESC-04 WATTLES/BIODEGRADABLE LOGS AND MULCH/COMPOST FILTER BERMS
- ESC-06 CURB INLET PROTECTION
- ESC-07 AREA INLET PROTECTION
- ESC-10 ROCK DITCH CHECKS
- ESC-14 OUTLET PROTECTION (REFERENCE DETAIL 406 ON SHEET C695)



EROSION & PROPOSED IMPROVEMENTS LEGEND:

- EXISTING GROUND CONTOUR (1' INTERVALS)
- PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS)
- GRAVEL FILTER BAGS AND INLET PROTECTION (ESC-06 & ESC-07)
- OTFP FENCE (OTFP)
- SEDIMENTATION FENCE (ESC-03)
- LIMITS OF DISTURBANCE
- INDICATES TREE/SHRUB TO BE REMOVED
- CONSTRUCTION ENTRANCE AND STAGING (ESC-01)
- WATTLE/BIODEGRADABLE LOG (ESC-04)
- ROCK DITCH CHECK (ESC-10) OR OUTLET PROTECTION (ESC-14)
- CONCRETE WASH AREA (ESC-01)

- GRAVEL TO BE REMOVED
- ASPHALT PAVING TO BE REMOVED
- CONCRETE PAVING/SIDEWALKS TO BE REMOVED
- AREA TO BE MILLED
- BUILDING TO BE REMOVED

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 CONTINUOUS 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.

- AIR CONDITIONER
- WALL MOUNTED ELECTRICAL OUTLET
- UNDERGROUND GAS
- GAS METER
- CONTROL POINT
- BENCHMARK
- GATE POST
- CHAIN LINK FENCE
- WOOD FENCE
- BOLLARD
- STREET/TRAFFIC SIGN
- PAINTED DIRECTIONAL ARROW
- TURN LANE DIRECTION
- HANDICAP SYMBOL
- PARKING STALL COUNT
- HANDICAP SIGN
- HANDICAP RAMP
- WHEEL STOP

LEGEND:

- DIP DUCTILE IRON PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- WALL MOUNTED LIGHT
- WALL MOUNTED CAMERA
- GAS VALVE
- GAS RISER
- GAS LINE SIGN
- DOOR ELEVATION AT THRESHOLD
- DE FINISH FLOOR ELEVATION
- B/B BACK TO BACK OF CURB MEASUREMENT
- E/E EDGE TO EDGE OF ASPHALT
- WATER METER
- WATER LINE GATE VALVE
- FIRE HYDRANT
- SPIRINKLER CONTROL BOX
- WATER MANHOLE
- OVERHEAD UTILITY LINE (# OF LINES)
- PULL BOX
- LIGHT POLE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- UTILITY POLE W/ TRANSFORMER
- GUY ANCHOR
- CONFEROUS TREE
- TREE LINE
- FLAG POLE
- ELECTRIC METER
- UNDERGROUND ELECTRIC PEDESTAL
- SPEAKER BOX
- BREAKER BOX
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA INLET
- CURB INLET
- SANITARY SEWER CLEAN OUT
- DOWN SPOUT
- FLOOR DRAIN
- FLARED END SECTION
- SPIRINKLER VALVE
- SIAMSE FIRE CONNECTOR
- CANOPY SUPPORT
- MAIL BOX
- CONCRETE JOINT/OUT LINE
- BUSH
- DECIDUOUS TREE
- TRASH ENCLOSURE
- LANDSCAPING AREA
- L/S
- CONC
- LW LOWEST WIRE HEIGHT

Lee's Summit Robotics, GiC & Phys Educaiton

LSN: 901 NE Douglas St., Lee's Summit MO 64086
LSW: 2600 SW Ward Rd, Lee's Summit MO 64082
LSHS: 400 SE Blue Pkwy, Lee's Summit MO 64063

Project Number: 0121-0100

owner: Lee's Summit R-7 School
301 NE Tudor Road
Lee's Summit, MO 64086

architect: Multistudio
4200 Pennsylvania
Kansas City, MO 64111
816.931.6655
multistudio

civil engineer: Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318
kveng.com

structural engineer: Bob D. Campbell &
4338 Bellevue
Kansas City, MO 64111
913.485.4144
www.bdc-engrs.com

MEP/Code: Henderson Engineers
8345 Lenexa Drive, Suite 300
Lenexa, KS 66214
816.742.5000
www.hendersonengineers.com

Issue Date: September 9, 2022

Revisions

NUMBER	DESCRIPTION	DATE
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UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, INCLUDING PURPOSES OF IMPLEMENTATION

SEAL OF MISSOURI
Professional Engineer
Christian Crowder
PE-2015000538
Date: 9/9/2022

Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder
Engineer
License No. PE-2015000538



DEMOLITION PLAN

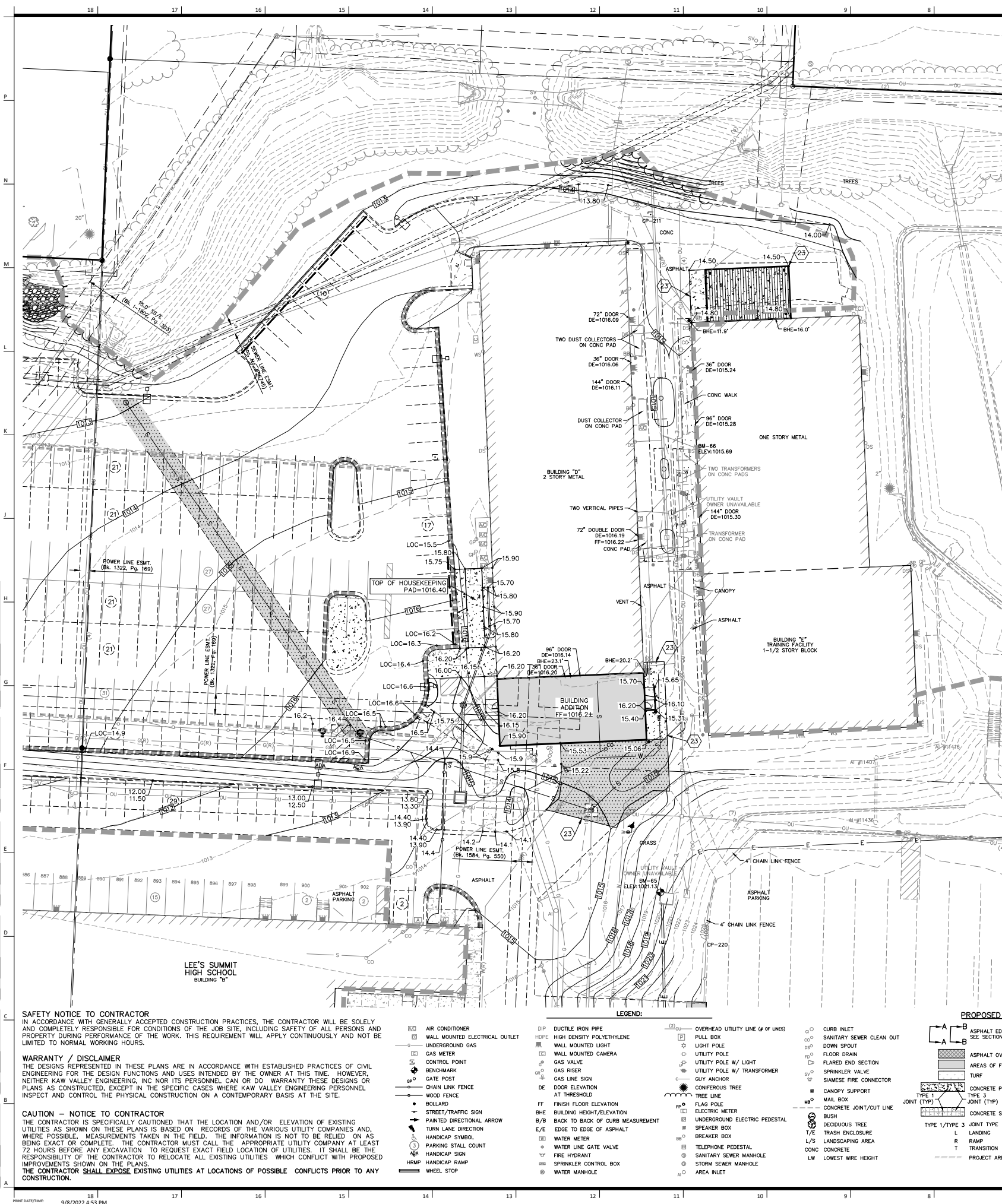
C200

PROJ. NO. C20-0496-1DSN: CJC
C/N: 0496-1D0MO DWN: NJN

CHRISTIAN J. CROWDER
ENGINEER
MO # 2015000538

14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
lx@kveng.com | www.kveng.com

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/23



- GRADING NOTES:**
- 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 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. CONSTRUCTION MANAGER SHALL DESIGNATE LOCATION OF STOCKPILE AREAS DURING CONSTRUCTION. ANY UNAUTHORIZED STOCKPILE SHALL BE REMOVE/RELOCATED AT THE CONTRACTOR'S EXPENSE.
 - AREAS TO RECEIVE FILL SHALL BE SCARIFIED AND THE TOP 12-INCH DEPTH COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 WITH A MOISTURE CONTENT OF +/-3% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT OF LESS THAN 40 AND 0 TO +4% FOR SOILS WITH A LIQUID LIMIT GREATER THAN 40. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
 - OFF-SITE SOIL MATERIAL FOR USE UNDER BUILDING AND PAVED AREAS SHALL HAVE A PLASTICITY INDEX OF 25 OR LESS, A LIQUID LIMIT OF 45 OR LESS AND CONTAIN NO ROCK LARGER THAN THREE INCHES. OFF-SITE FILL MATERIAL SHALL BE APPROVED BY THE OWNER'S TESTING AGENCY PRIOR TO BRINGING ON SITE.
 - EARTHWORK UNDER THE BUILDING, PAVING AND LIGHTLY LOADED STRUCTURAL FEATURES SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND PROJECT GEOTECHNICAL REPORT. THE BUILDING PAD SHALL BE EXCAVATED AS REQUIRED TO ALLOW THE PLACEMENT OF LOW VOLUME CHANGE MATERIAL. REFER TO GEOTECHNICAL REPORT FOR PREPARING BUILDING PAD AND LOW VOLUME CHANGE THICKNESS REQUIREMENTS. OTHER FILL MATERIAL SHALL BE MADE IN LIFTS NOT TO EXCEED EIGHT INCHES DEPTH COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698. LVC SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT OF 0 TO +4% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT GREATER THAN 40 AND +/-3% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT LESS THAN 40. NO ROCK LARGER THAN THREE INCHES IN ANY DIMENSION NOR ANY SHALE SHALL BE PLACED IN THE TOP 24 INCHES OF EMBANKMENT.
 - ON-SITE HIGH PLASTICITY CLAYS MAY BE TREATED WITH 5% TYPE 1/2 PORTLAND CEMENT BY WEIGHT. REFER TO PROJECT GEOTECHNICAL REPORT FOR REQUIREMENTS.
 - AREAS THAT ARE TO BE CUT TO SUBGRADE LEVELS SHALL BE PROOF ROLLED WITH A LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS.
 - IN ALL AREAS OF EXCAVATION, IF UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED, THE OWNER'S 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.
 - ALL EXCAVATIONS SHALL BE CONSIDERED AS UNCLASSIFIED. REFER TO PROJECT GEOTECHNICAL REPORT.
 - ALL DISTURBED SLOPES ARE TO BE 3:1 OR FLATTER.
 - DETENTION BASIN AND ALL SLOPES DISTURBED EXCEEDING 4:1 SHALL BE HYDROSEED, SODDED OR PROTECTED BY EROSION CONTROL BLANKETS THAT WILL PREVENT EROSION AND PLACED SUCH THAT THE SURFACE IS FLUSH WITH SURROUNDING GROUND AND SHAPED TO CHANNEL WATER IN DIRECTIONS INDICATED. SEE GENERAL NOTES ON THIS SHEET.
 - ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND A MINIMUM OF 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 SODDED OR 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. REFER TO THE NOTES ON THIS SHEET FOR TEMPORARY SEEDING SPECIFICATIONS. REFER TO PROJECT SITE PLAN FOR FINAL STABILIZATION TREATMENTS.
 - CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS.
 - 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.
 - 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.
 - IF ANY OF THESE NOTES CONFLICT WITH THE PROJECT GEOTECHNICAL REPORT (CFS PROJECT 22-5546) AND ALL ADDENDUMS PREPARED BY CFS ENGINEERS DATED AUGUST 3, 2022, RECOMMENDATIONS IN GEOTECHNICAL REPORT SHALL GOVERN.

HORIZONTAL AND VERTICAL DATUM:
UNLESS OTHERWISE NOTED THE COORDINATES SHOWN HEREON ARE GRID COORDINATES BASED ON THE MISSOURI STATE PLANE, WEST ZONE (NAD 1983) (NAVD 1988)
CAF: 0.9998978
1 METER = 3.28083333 U.S. SURVEY FEET
GROUND COORDINATES X COMBINED ADJUSTMENT FACTOR (CAF) = GRID COORDINATES
SCALED AROUND 0.0

PROJECT BENCH MARK:
BM-64
CHISELED SQUARE AT THE TOP NORTHEAST CORNER OF STEPS TO THE NORTH ENTRY TO BUILDING "B" ON WEST SIDE.
ELEV = 1015.34

PROJECT BENCH MARK:
BM-65
CHISELED SQUARE ON NORTHEAST CORNER CONCRETE TRANSFORMERS PAD WEST OF PARKING LOT NORTH OF TENNIS COURTS.
ELEV = 1021.13

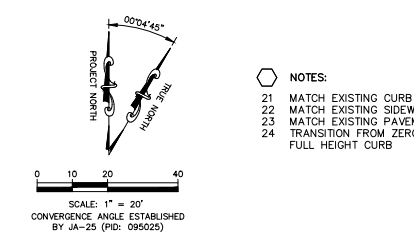
PROJECT BENCH MARK:
BM-66
CHISELED SQUARE ON NORTHEAST CORNER CONCRETE TRANSFORMERS PAD (NORTH MOST) BETWEEN BUILDINGS "D" AND "E".
ELEV = 1015.69

PROJECT CONTROL:
CP #206
1/2" REBAR W/ CONTROL POINT CAP
NORTHING: 997985.92 (GROUND)
EASTING: 2826967.03 (GROUND)
ELEV = 1012.56

PROJECT CONTROL:
CP #211
1/2" REBAR W/ CONTROL POINT CAP
NORTHING: 998086.62 (GROUND)
EASTING: 2826963.98 (GROUND)
ELEV = 1014.61

PROJECT CONTROL:
CP #220
1/2" REBAR W/ CONTROL POINT CAP
NORTHING: 997737.04 (GROUND)
EASTING: 2826986.56 (GROUND)
ELEV = 1024.94

FLOOD STATEMENT:
THE SURVEYED PARCEL LIES WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP NUMBER 29095C04366, MAP REVISED JANUARY 20, 2017, AND BY MAP NUMBER 29095C04366, REVISED JANUARY 20, 2017 LEE'S SUMMIT, JACKSON COUNTY, MISSOURI. LOCATION DETERMINED BY A SCALED GRAPHICAL PLOT OF THE FLOOD INSURANCE RATE MAP.



- NOTES:**
- 21 MATCH EXISTING CURB ELEVATION.
 - 22 MATCH EXISTING SIDEWALK ELEVATION.
 - 23 MATCH EXISTING PAVEMENT ELEVATION.
 - 24 TRANSITION FROM ZERO HEIGHT CURB TO FULL HEIGHT CURB
- LEGEND (PROPOSED)**
- 22.9 SPOT ELEVATION (ADD 900), TOP OF PAVEMENT
- 23.6 TOP OF CURB (ADD 900)
- 23.7 FLOWLINE OF CURB (ADD 900)
- 950 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT
- SWALE
- LP LOW POINT
- HP HIGH POINT
- LC LIP OF CURB
- LT TOP OF WALL
- BW BOTTOM OF WALL
- SW SIDEWALK ELEVATION
- P PAVEMENT ELEVATION

UTILITY STATEMENT:
THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION OF ONE-CALL LOCATED UTILITIES, FIELD SURVEY INFORMATION OF ABOVE GROUND OBSERVABLE EVIDENCE, AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY. MISSOURI ONE CALL TICKET #22163482 & #22143061 BLOOD HOUND WORK ORDER #202977



NOTE:

- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVEMENT, EXISTING DRIVEWAYS, RAMP, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT. 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.

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GRADING PLAN

C300-C