



**KAW VALLEY ENGINEERING, INC.**

Office: 913.894.5150

Fax: 913.894.5977

Web: [www.kveng.com](http://www.kveng.com)

Address: 14700 West 114<sup>th</sup> Terrace  
Lenexa, KS 66215

February 2, 2021

**C20D0691**

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

**RE: STORM WATER MANGEMENT  
LEE'S SUMMIT WEST HIGH SCHOOL ATHLETICS 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 Athletic Improvements at the Lee's Summit West (LSWHS) Stadium in Lee's Summit, Missouri.

As part of this project, KVE is proposing that all building roof drains are collected in downspout collectors and piped to the adjacent lawn areas. Each roof drain discharge pipe is proposed to be capped with a pop-up emitter to reduce the potential for erosion. The pop-up emitter will consist of a surface mounted pop-up emitter top set on an open bottom drainage basin installed on an aggregate base to permit excess water in the system to drain into the surrounding soil. One PVC drain basin is planned to be constructed north of the concession/restroom building to drain a low spot created by the regrading proposed for this project. Runoff collected in this basin will be routed to an existing Junction Box. The overall drainage patterns around the stadium are not being altered by this project.

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 exception is to not require implementation of extensive storm water management systems on low impact and small-scale development projects.

The total site area is approximately 87.90 acres. Based on aerial photography, the existing impervious area is about 26.63 acres or 30.3% impervious. The proposed LSWHS Athletics project will impact approximately 43,000 SF of the property on the four corners of the stadium. A net increase of approximately 7,950 SF (0.18 acres) or 0.20% in impervious is expected at project completion. This project exceeds the thresholds listed in section 5601.3 of the APWA manual as described above; however, a waiver to these requirements is justifiable for the following reasons:

- The largest increase in impervious surfaces (6,620 SF) is located in the southeast corner of the stadium.

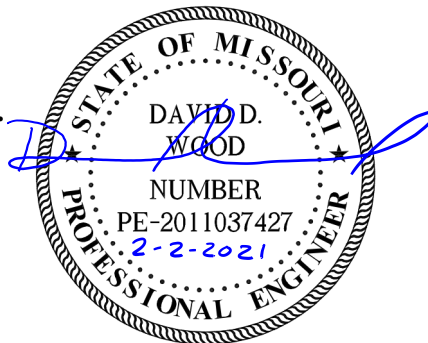
- 4,400 SF of these improvements are linear sidewalk and small concrete plazas that sheet flow to adjacent lawn areas. In most instances, the width of the concrete is 8' limiting the space for runoff from these surfaces to concentrate thereby mimicking the existing condition and continuing to allow for the opportunity to realize benefits from infiltration.
- The proposed buildings are not hard piped directly to the campus storm sewer system allowing for the opportunity to realize benefits from infiltration in the lawn areas adjacent to the proposed pop-up emitters and aggregate base drawdown feature.
- Added runoff from the proposed improvements that may be captured by the campus storm sewer system is conveyed to the natural channel north of the stadium complex. The expected maximum increase in runoff from this area of campus is 0.2 cfs for the Water Quality Volume (WQv) event, 0.8 cfs for a 10-year event and 1.11 cfs for a 100-year event calculated utilizing the rational method, which are conservative as they do not account for the reductions in volume due to infiltration as noted above. Based on the Small Storm Hydrology Method (Claytor and Schueler 1996), reduction factors can be applied to volumetric runoff from disconnected impervious surfaces that have a pervious flow path at least twice the length of an impervious flow path. As total rainfall increases, the reduction factor will decrease, but the typical reduction factor low-density improvements is approximately 0.23 for the WQv event (1.37"). All pop-up emitters on the south east side of the stadium are a minimum of 50' from the nearest storm inlet satisfying this criterion for the roof drains. Similarly, most sidewalks and plaza on the south east side of the stadium are a minimum of 30' from the nearest inlet satisfying this criterion.
- The drainage channel is an unnamed tributary of Mouse Creek upstream of Longview Lake. Based on current aerial photography, the stream corridor downstream of the Lee's Summit West corridor is generally undeveloped or to have been platted and developed with stream buffers as recommended by APWA 5600.

Based on these points, KVE will submit a Design and Construction Manual Construction Modification Request to the City of Lee's Summit, in accordance with sections 1002.A and 1002.B of the City's Design and Construction Manual, to permit construction of the proposed improvements without addressing the increase in impervious surface. The Design and Construction Manual Modification Request, Overall Lee's Summit West Drainage Plan, Project Site Plan, Grading Plan and Demolition Plan are attached for reference.

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.**

David D. Wood, P.E.  
 Project Manager



Attachments:

Design and Construction Manual Construction Modification Request  
 Overall Lee's Summit West Drainage Plan  
 Site Plan  
 Demolition Plan  
 Grading Plan

\\VMLX-FILE\Projects\C20\_0691\DSN\LS West\Storm\20210112 LSWHS Athletics Stormwater Compliance Letter Addendum.docx



# LEE'S SUMMIT MISSOURI

## DESIGN AND CONSTRUCTION MANUAL CONSTRUCTION MODIFICATION REQUEST

PROJECT NAME: Lee's Summit West High School Athletics Project

PREMISE ADDRESS: 2600 SW Ward Road, Lee's Summit, MO 64082

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: David Wood ( ) OWNER (X) OWNER'S AGENT

ADDRESS: 14700 West 114<sup>th</sup> Terrace

Tel.# 913-894-5150

CITY, STATE, ZIP: Lenexa, KS 66215

Email: wood@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



PROJECT SITE  
TOTAL AREA= 3,828,902 SF OR 87.90 AC  
EXISTING IMPERVIOUS= 1,160,000 SQFT OR 26.63 AC (30.30%)  
PROPOSED IMPERVIOUS= 1,167,950 SF OR 26.81 AC (30.50%)  
DIFFERENCE IN IMPERVIOUS= 7,950 SF OR 0.19 AC (0.20%)

CENTER LINE OF  
UNNAMED TRIBUTARY  
OF MOUSE CREEK

APPROXIMATE  
LOCATION OF STORM  
SEWER OUTFALL  
POINT FROM STADIUM

BLEACHER PAD  
DRAINS TO ADJACENT  
LAWN AREA

SIDEWALK DRAINS  
TO ADJACENT LAWN  
AREA

STORM  
SEWER INLET

PROPOSED STRUCTURES DRAIN TO  
EXISTING LAWN AREAS AND  
RUNOFF IS CONVEYED TO STORM  
SEWER INLET BY OVERLAND FLOW.

**LEGEND:**

- EXISTING IMPERVIOUS AREA
- ADDITIONAL IMPERVIOUS AREA FROM  
PROPOSED IMPROVEMENTS

EXISTING IMPERVIOUS AREA IS ESTIMATED FROM AERIAL TOPOGRAPHY

**OVERALL LSW DRAINAGE PLAN**

2/2/2021

0691PBASEIMPERV



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

**KAW VALLEY ENGINEERING**



# SITE DATA:

PROJECT AREA/AREA OF DISTURBANCE  
TOTAL: 43,000 SF (0.99 AC.)

## IMPERVIOUS COVERAGE WITHIN PROJECT AREA

EXISTING: 7,150 S.F. - 0.16 AC.  
PROPOSED: 15,100 S.F. - 0.35 AC.  
INCREASE: 7,950 S.F. - 0.19 AC.

## STORMWATER MANAGEMENT:

NO ADDITIONAL STORM WATER MANAGEMENT CONTROLS ARE PROPOSED AS PART OF THIS PROJECT.

## 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.**

# LEE'S SUMMIT WEST HIGH SCHOOL

## SITE PLAN

2600 SW WARD ROAD, LEE'S SUMMIT, MO 64082  
SECTION 8 - TOWNSHIP 47 N - RANGE 31 W

## PREPARED FOR:

LEE'S SUMMIT SCHOOL DISTRICT  
302 SE TRANSPORT RD.  
LEE'S SUMMIT, MO 64081  
PHONE: (816) 986-2421  
CONTACT: KYLE GORRELL  
EMAIL: kyle.gorrell@sr7.net

## PREPARED BY:

KAW VALLEY ENGINEERING, INC.  
14700 W 114TH TERR.  
LENEXA, KANSAS 66215  
PHONE: (913) 894-5150  
CONTACT: DAVID WOOD  
EMAIL: wood@kveng.com

## LEGEND:

UNDERGROUND GAS	CONFEROUS TREE
GAS METER	TREE LINE
CONTROL POINT	HDPPE HIGH DENSITY POLYETHYLENE
BENCHMARK	GAS VALVE
GATE POST	GAS RISER
CHAIN LINK FENCE	GAS LINE SIGN
STREET/TRAFFIC SIGN	DE DOOR ELEVATION AT THRESHOLD
UNDERGROUND FIBER OPTIC CABLE	FF FINISH FLOOR ELEVATION
UNDERGROUND FIBER OPTIC (FROM RECORDS)	BHE BUILDING HEIGHT/ELEVATION
TELEPHONE PEDESTAL	B/B BACK TO BACK OF CURB MEASUREMENT
SANITARY SEWER MANHOLE	E/E EDGE TO EDGE OF ASPHALT
STORM SEWER MANHOLE	W WATER LINE
AREA INLET	WATER METER
CURB INLET	WATER LINE GATE VALVE
DOWN SPOUT	
FLARED END SECTION	BUSH
SANITARY SEWER LINE	DECIDUOUS TREE
STORM SEWER LINE	CONCRETE
CORRUGATED METAL PIPE	CONC
REINFORCED CONCRETE PIPE	FLAG POLE
UNDERGROUND ELECTRIC	ELECTRIC METER
OVERHEAD UTILITY LINE (# OF LINES)	UNDERGROUND ELECTRIC PEDESTAL
PULL BOX	UNDERGROUND GAS PER RECORD
LIGHT POLE	SANITARY SEWER LINE PER RECORD
UTILITY POLE	STORM SEWER LINE PER RECORD
UTILITY POLE W/ LIGHT	ASPHALT PAVEMENT (040)
UTILITY POLE W/ TRANSFORMER	CONCRETE SIDEWALK (055)
WATER LINE PER RECORD	TURF
UNDERGROUND ELECTRIC PER RECORD	L LANDING
ASPHALT EDGE TREATMENT. SEE SECTION THIS SHEET.	R RAMP
	LIMITS OF DISTURBANCE
	RED FIRE LANE STRIPING

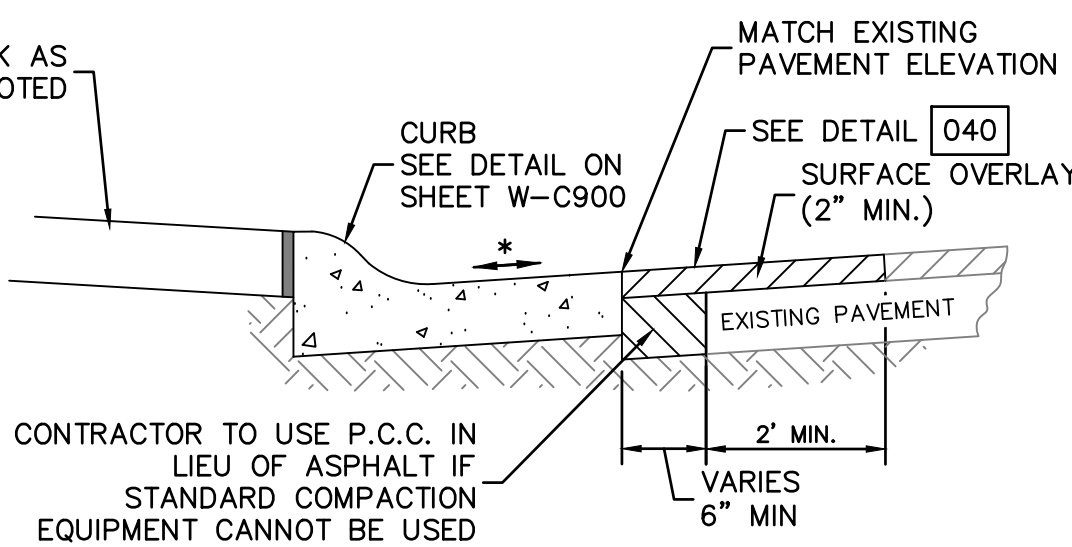
## NOTES:

- WESTERN EXTENTS OF GRAVEL SURFACE TO ADJUT UTILITY VAULT.
- DISTURBED AREA SHALL BE FERTILIZED, MULCHED AND SEEDED WITH A THREE WAY BLEND OF TALL TURF TYPE FESCUE. (REFER TO SEEDING REQUIREMENTS ON SHEET W-C900.) ALL SEEDING AREAS WITHIN 10' OF SIDEWALKS AND BUILDING, WITHIN 5' OF STORM OUTFALLS AND ON SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH A TYPE 2 EROSION CONTROL BLANKET (NORTH AMERICAN GREEN 575BN OR APPROVED EQUAL.)
- CONCRETE STOOP (REFERENCE STRUCTURAL PLANS.)
- SIDEWALK RAMP. (REFERENCE ARCHITECTURAL PLANS FOR FINAL LAYOUT AND DIMENSIONS.)
- PROPOSED FENCING. (REFERENCE ARCHITECTURAL PLANS FOR HEIGHTS, MATERIALS AND DETAILS.)
- RELOCATED TURNSTILE (REFERENCE ARCHITECTURAL PLANS FOR DETAILS.)
- PARKING LOT STRIPING (MATCH EXISTING COLOR. SEE SPECIFICATIONS ON SHEET W-C905)
- PAINT CURB RED TO DENOTE FIRE LANE. CONFIRM LIMITS WITH FIRE DEPARTMENT. (SEE SPECIFICATIONS ON SHEET W-C905)
- SITE SIGNAGE. MOUNT EDGE OF SIGN 2' FROM BACK OF CURB AT 7'-0" IN ACCORDANCE WITH MUTCD.
- ACCESS GATE (REFERENCE ARCHITECTURAL PLANS FOR HEIGHTS, MATERIALS AND DETAILS.)
- CAST IN PLACE CONCRETE WALL (REFER TO STRUCTURAL PLANS.)
- PROPOSED OR MODIFIED STORM SEWER STRUCTURE (SEE SHEET W-C500.)
- SANITARY SEWER STRUCTURE (SEE SHEET W-C500.)
- WATER STRUCTURE (SEE SHEET W-C500.)
- PROPOSED TRANSFORMER ON HOUSEKEEPING PAD/ELECTRICAL APPURTENANCE. COORDINATE WITH MEP PLANS.

DETAILS - SEE DETAIL SHEET W-C900 AND W-C905 FOR THE FOLLOWING DETAILS

- CONCRETE CURB & GUTTER
- ZERO HEIGHT CURB & GUTTER
- INTEGRAL SIDEWALK & CURB
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- AGGREGATE SURFACE
- CONCRETE SIDEWALK
- ADA STRIPING
- ADA SIGNAGE

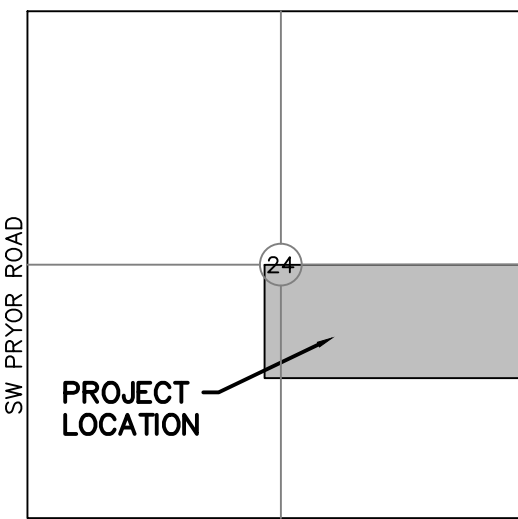
- NOTE:
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
  - THESE PLANS HAVE NOT BEEN VERIFIED WITH FINAL ARCHITECTURAL CONTRACT DRAWINGS. CONTRACTOR SHALL VERIFY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR REVIEW AND COORDINATION OF ALL DRAWINGS AND CONTRACTOR DOCUMENTS.



## MILL AND OVERLAY DETAIL



Know what's below.  
Call before you dig.



## VICINITY MAP

SEC 24 T47N R31W  
NOT TO SCALE

## HORIZONTAL AND VERTICAL DATUM:

UNLESS OTHERWISE NOTED THE COORDINATES SHOWN HEREON ARE GROUND COORDINATES BASED ON THE MISSOURI STATE PLANE (1983) WEST ZONE (NAD 1983) (NAVD 1988).

CAF: 0.9998974  
1 METER = 3.28083333 U.S. SURVEY FEET  
SCALED AROUND 0.0

JA-142 (PID: 0951422)  
NORTHING: 502106.953 (METERS) (GRID)  
EASTING: 858960.056 (METERS) (GRID)  
ELEVATION: 318.0 (METERS)

## PROJECT CONTROL:

CP #210  
1/2" REBAR WITH CONTROL POINT  
CAP  
NORTHING: 985115.46 (GROUND)  
EASTING: 281663.16 (GROUND)  
ELEV = 1018.30

CP #211  
1/2" REBAR WITH CONTROL POINT  
CAP  
NORTHING: 985115.99 (GROUND)  
EASTING: 281668.61 (GROUND)  
ELEV = 1015.74

CP #212  
1/2" REBAR WITH CONTROL POINT  
CAP  
NORTHING: 985543.18 (GROUND)  
EASTING: 2186501.13 (GROUND)  
ELEV = 1005.49

## SITE BENCHMARKS:

BM-1  
CHISELED SQUARE 3 1/2" EAST  
OF EAST WATER FOUNTAIN.  
PROJECT CISS8608.  
ELEV = 1015.33

BM-3  
SET CUT SQUARE AT SW  
CORNER OF CURB INLET, NW  
CORNER OF SW MOST PARKING  
LOT.  
ELEV = 1018.13

BM-4  
SET CUT SQUARE AT CORNER  
OF CONC. WALK, 25' WEST  
OF TURNSTYLE TO ATHLETIC  
FIELD.  
ELEV = 1007.85

## UNDERGROUND UTILITY STATEMENT:

THE UNDERGROUND UTILITIES SHOWN HEREON ARE DEPICTED FROM FIELD SURVEY INFORMATION OF ONE-CALL LOCATED UTILITIES AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS MADE AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR DOES NOT CERTIFY THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL UNDERGROUND UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT CERTIFY THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION DEPICTED ALTHOUGH HE DOES CERTIFY THAT THEY ARE DEPICTED AS ACCURATELY AS POSSIBLE FROM INFORMATION MADE AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES SHOWN HEREON BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY. MISSOURI ONE CALL TICKET NUMBER: #200431409, 200431440, 200431475, 200440745. THE FIELD WORK WAS COMPLETED ON AUGUST 18, 2020. DATE OF SURVEY: AUGUST 24, 2020

## CONSTRUCTION NOTES:

- COORDINATE START-UP AND ALL CONSTRUCTION ACTIVITIES WITH THE ARCHITECT.
- CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED THE KANSAS CITY METROPOLITAN CHAPTER OF APWA STANDARD SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
- ALL CONSTRUCTION WORK AND UTILITY WORK OUTSIDE OF PROPERTY BOUNDARIES SHALL BE PERFORMED IN COOPERATION WITH AND IN ACCORDANCE WITH THE REGULATIONS OF THE AUTHORITIES CONCERNED.
- PUBLIC CONVENIENCE AND SAFETY: THE CONTRACTOR SHALL CONDUCT THE WORK IN A MANNER THAT WILL INSURE, AS FAR AS PRACTICABLE, THE LEAST DISRUPTION TO TRAFFIC, AND SHALL PROVIDE FOR THE CONVENIENCE AND SAFETY OF THE GENERAL PUBLIC, ALONG AND ADJACENT TO CONSTRUCTION AREA.
- CONTRACTOR IS REQUIRED TO PROTECT TRACK SURFACE DURING CONSTRUCTION STAGE WORK AND ACCESS ACCORDINGLY. DAMAGE TO TRACK PAVING OR SURFACING CAUSED BY CONSTRUCTION ACTIVITIES WILL BE REPAIRED AT CONTRACTOR'S EXPENSE.



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phoenix • san francisco

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## Lee's Summit R7 District Athletics Facilities

Lee's Summit North High School  
2600 SW Ward Road  
Lee's Summit, MO 64082

owner:  
Lee's Summit R7 School District  
301 We Tudor Road  
Lee's Summit, MO 64086

## architect:

Gould Evans  
4200 Pennsylvania Avenue  
Kansas City, MO 64111  
816.931.6655 voice  
www.gould-evans.com

## structural engineer:

Bob D. Campbell & Company, Inc.  
4338 Bellevue  
Kansas City, MO 64111  
816.531.4144

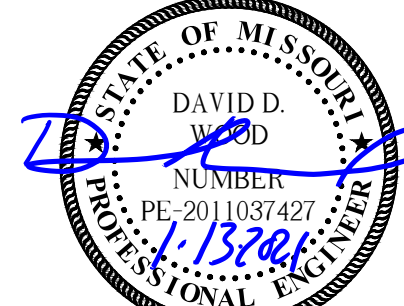
## civil engineer:

Kaw Valley Engineering  
14700 West 114th Terrace  
Lenexa, KS 66215  
913.485.0318

## mechanical/electrical engineer:

Henderson Engineers  
1801 Main St  
Kansas City, MO 64108  
816.663.5700

UNLESS A PROFESSIONAL SEAL WITH SIGNATURE AND DATE IS AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NOT INTENDED FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION



Kaw Valley Engineering, Inc.  
Missouri Certificate of Authority: 000842  
David Wood Date: 07/13/2021  
Engineer License No. PE-2011037427

## REVISIONS

Number	DESCRIPTION	DATE
1	Addendum 1	10/13/20
2	Addendum 2	10/23/20
3	Per City Comments & PR-004	01/13/21

PROJECT NO: 0119-0100  
DATE: September 28, 2020

## SITE & DIMENSION PLAN

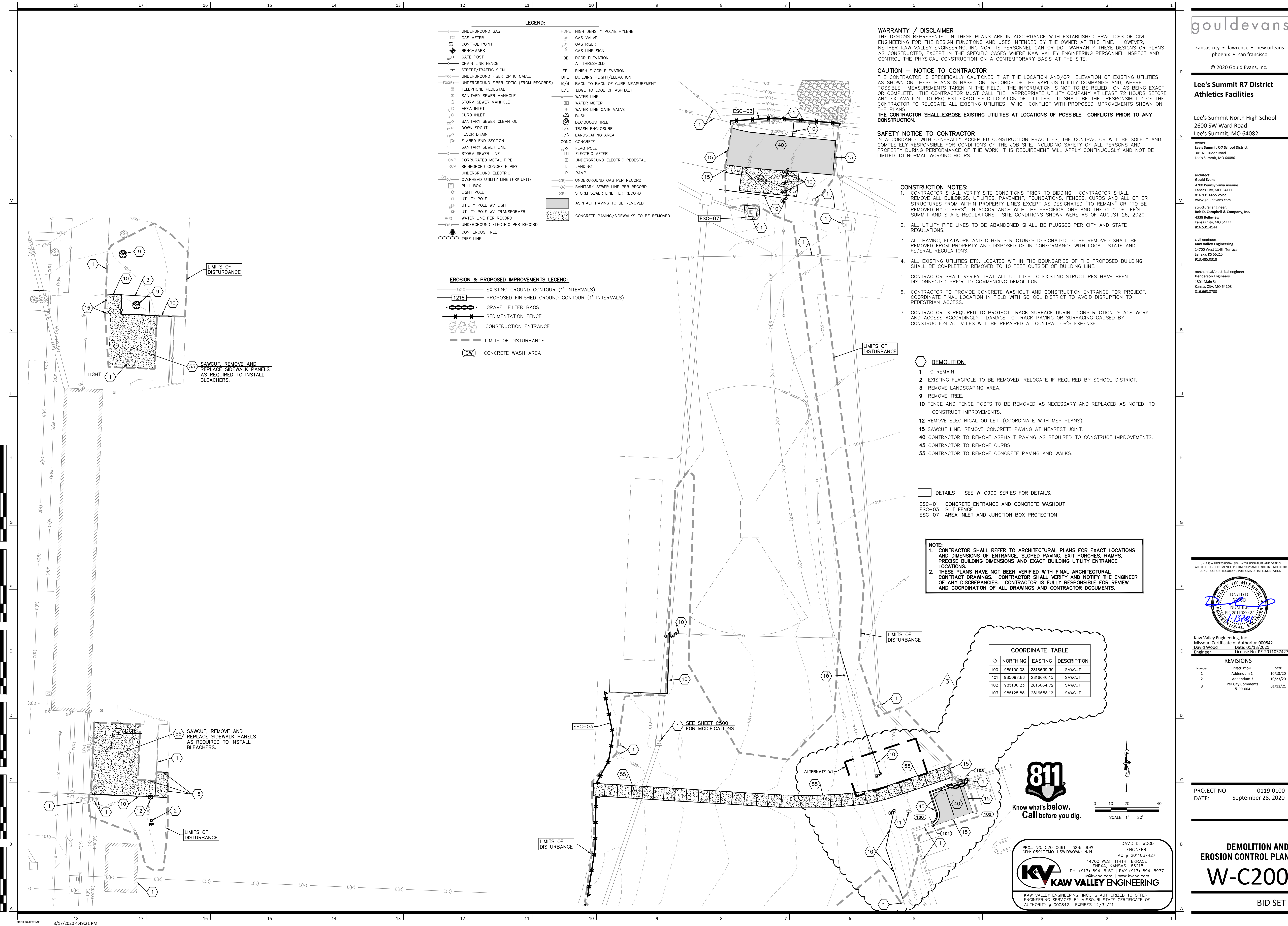
# W-C100

BID SET

PROJ. NO. C20\_0691 DSN: DDW DAVID D. WOOD ENGINEER  
CFN: 0691SP-LSW.DWG DWN: NUN MO # 2011037427  
14700 WEST 114TH TERRACE  
LENEXA, KANSAS 66215  
PH. (913) 894-5150 / FAX (913) 894-5977  
kv@kveng.com www.kveng.com

KAW VALLEY ENGINEERING  
KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842, EXPIRES 12/31/21





PRINT DATE/TIME: 3/17/2020 4:49:21 PM

- LEGEND:**
- |          |  |        |   |
|----------|--|--------|---|
| —G—      | UNDERGROUND GAS                        | HDPE   | HIGH DENSITY POLYETHYLENE               |
| □        | GAS METER                              | GV     | GAS VALVE                               |
| ●        | CONTROL POINT                          | GR     | GAS RISER                               |
| ◆        | BENCHMARK                              | GL     | GAS LINE SIGN                           |
| ○        | GATE POST                              | DE     | DOOR ELEVATION AT THRESHOLD             |
| —        | CHAIN LINK FENCE                       | FF     | FINISH FLOOR ELEVATION                  |
| —FOC—    | UNDERGROUND FIBER OPTIC CABLE          | BHE    | BUILDING HEIGHT/ELEVATION               |
| —FOC(R)— | UNDERGROUND FIBER OPTIC (FROM RECORDS) | B/B    | BACK TO BACK OF CURB MEASUREMENT        |
| □        | TELEPHONE PEDESTAL                     | E/E    | EDGE TO EDGE OF ASPHALT                 |
| ○        | SANITARY SEWER MANHOLE                 | W      | WATER LINE                              |
| ○        | STORM SEWER MANHOLE                    | WM     | WATER METER                             |
| ○        | AREA INLET                             | WVG    | WATER LINE GATE VALVE                   |
| ○        | CURB INLET                             | B      | BUSH                                    |
| ○        | SANITARY SEWER CLEAN OUT               | DT     | DECIDUOUS TREE                          |
| ○        | DOWN SPOUT                             | TE     | TRASH ENCLOSURE                         |
| ○        | FLOOR DRAIN                            | L/S    | LANDSCAPING AREA                        |
| △        | FLARED END SECTION                     | CONC   | CONCRETE                                |
| —S—      | SANITARY SEWER LINE                    | FR     | FLAG POLE                               |
| —D—      | STORM SEWER LINE                       | EM     | ELECTRIC METER                          |
| —CMP—    | CORRUGATED METAL PIPE                  | □      | UNDERGROUND ELECTRIC PEDESTAL           |
| —RCP—    | REINFORCED CONCRETE PIPE               | L      | LANDING                                 |
| —E—      | UNDERGROUND ELECTRIC                   | R      | RAMP                                    |
| —(2)—    | OVERHEAD UTILITY LINE (# OF LINES)     | —G(R)— | UNDERGROUND GAS PER RECORD              |
| □        | PULL BOX                               | —S(R)— | SANITARY SEWER LINE PER RECORD          |
| ○        | UTILITY POLE                           | —D(R)— | STORM SEWER LINE PER RECORD             |
| ○        | UTILITY POLE W/ LIGHT                  | ■      | ASPHALT PAVING TO BE REMOVED            |
| ○        | UTILITY POLE W/ TRANSFORMER            | ■      | CONCRETE PAVING/SIDEWALKS TO BE REMOVED |
| —W(R)—   | WATER LINE PER RECORD                  |        |   |
| —E(R)—   | UNDERGROUND ELECTRIC PER RECORD        |        |   |
| ☼        | CONIFEROUS TREE                        |        |   |
| —        | TREE LINE                              |        |   |

- EROSION & PROPOSED IMPROVEMENTS LEGEND:**
- |        |   |
|--------|---|
| —1218— | EXISTING GROUND CONTOUR (1' INTERVALS)          |
| —1218— | PROPOSED FINISHED GROUND CONTOUR (1' INTERVALS) |
| —●—    | GRAVEL FILTER BAGS                              |
| —■—    | SEDIMENTATION FENCE                             |
| —■—    | CONSTRUCTION ENTRANCE                           |
| —■—    | LIMITS OF DISTURBANCE                           |
| —(CW)— | CONCRETE WASH AREA                              |

**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.**

**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.

- 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 AUGUST 26, 2020.
  2. ALL UTILITY PIPE LINES TO BE ABANDONED SHALL BE PLUGGED PER CITY AND STATE REGULATIONS.
  3. ALL PAVING, FLATWORK AND OTHER STRUCTURES DESIGNATED TO BE REMOVED SHALL BE REMOVED FROM PROPERTY AND DISPOSED OF IN CONFORMANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
  4. ALL EXISTING UTILITIES ETC. LOCATED WITHIN THE BOUNDARIES OF THE PROPOSED BUILDING SHALL BE COMPLETELY REMOVED TO 10 FEET OUTSIDE OF BUILDING LINE.
  5. CONTRACTOR SHALL VERIFY THAT ALL UTILITIES TO EXISTING STRUCTURES HAVE BEEN DISCONNECTED PRIOR TO COMMENCING DEMOLITION.
  6. CONTRACTOR TO PROVIDE CONCRETE WASHOUT AND CONSTRUCTION ENTRANCE FOR PROJECT. COORDINATE FINAL LOCATION IN FIELD WITH SCHOOL DISTRICT TO AVOID DISRUPTION TO PEDESTRIAN ACCESS.
  7. CONTRACTOR IS REQUIRED TO PROTECT TRACK SURFACE DURING CONSTRUCTION. STAGE WORK AND ACCESS ACCORDINGLY. DAMAGE TO TRACK PAVING OR SURFACING CAUSED BY CONSTRUCTION ACTIVITIES WILL BE REPAIRED AT CONTRACTOR'S EXPENSE.

- DEMOLITION**
- 1 TO REMAIN.
  - 2 EXISTING FLAGPOLE TO BE REMOVED. RELOCATE IF REQUIRED BY SCHOOL DISTRICT.
  - 3 REMOVE LANDSCAPING AREA.
  - 9 REMOVE TREE.
  - 10 FENCE AND FENCE POSTS TO BE REMOVED AS NECESSARY AND REPLACED AS NOTED, TO CONSTRUCT IMPROVEMENTS.
  - 12 REMOVE ELECTRICAL OUTLET. (COORDINATE WITH MEP PLANS)
  - 15 SAWCUT LINE. REMOVE CONCRETE PAVING AT NEAREST JOINT.
  - 40 CONTRACTOR TO REMOVE ASPHALT PAVING AS REQUIRED TO CONSTRUCT IMPROVEMENTS.
  - 45 CONTRACTOR TO REMOVE CURBS
  - 55 CONTRACTOR TO REMOVE CONCRETE PAVING AND WALKS.

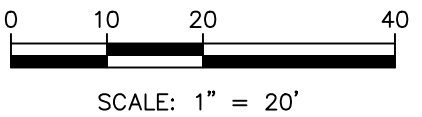
DETAILS — SEE W-C900 SERIES FOR DETAILS.

ESC-01 CONCRETE ENTRANCE AND CONCRETE WASHOUT  
ESC-03 SILT FENCE  
ESC-07 AREA INLET AND JUNCTION BOX PROTECTION

**NOTE:**

1. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRANCE, SLOPED PAVING, EXIT PORCHES, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
2. 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.

COORDINATE TABLE			
◇	NORTHING	EASTING	DESCRIPTION
100	985100.08	2816639.39	SAWCUT
101	985097.86	2816640.15	SAWCUT
102	985106.23	2816664.72	SAWCUT
103	985125.88	2816658.12	SAWCUT



PROJ. NO. C20-0691 DSN: DDW  
CFN: 0691DEMO-LSW.DWGWN: NJN

**KV KAW VALLEY ENGINEERING**

KAW VALLEY ENGINEERING, INC., IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/21

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**gould evans**

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phoenix • san francisco

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**Lee's Summit R7 District  
Athletics Facilities**

Lee's Summit North High School  
2600 SW Ward Road  
Lee's Summit, MO 64082

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

architect:  
Gould Evans  
4200 Pennsylvania Avenue  
Kansas City, MO 64111  
816.931.6655 voice  
www.gould-evans.com

structural engineer:  
Bob D. Campbell & Company, Inc.  
4338 Bellevue  
Kansas City, MO 64111  
816.531.4144

civil engineer:  
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14700 West 114th Terrace  
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816.663.6700

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**STATE OF MISSOURI**  
DAVID D. WOOD  
LICENSED PROFESSIONAL ENGINEER  
PE-2011037427  
1.13.2021

Kaw Valley Engineering, Inc.  
Missouri Certificate of Authority: 000842  
David Wood Date: 07/13/2021  
Engineer License No. PE-2011037427

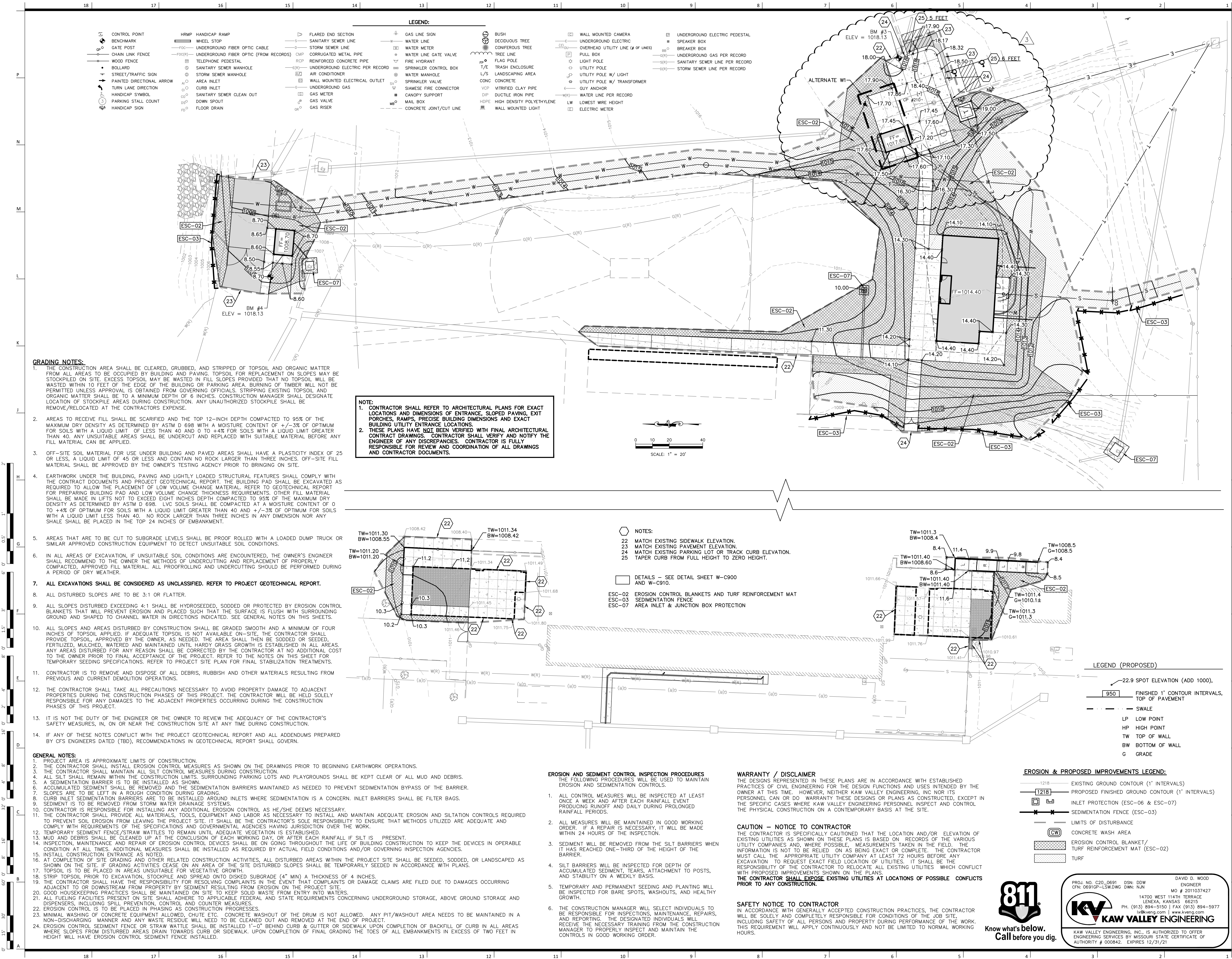
REVISIONS		
Number	DESCRIPTION	DATE
1	Addendum 1	10/13/20
2	Addendum 3	10/23/20
3	Per City Comments & PR-004	01/13/21

PROJECT NO: 0119-0100  
DATE: September 28, 2020

**DEMOLITION AND  
EROSION CONTROL PLAN  
W-C200**

BID SET





Lee's Summit R7 District  
Athletics Facilities

Lee's Summit North High School  
2600 SW Ward Road  
Lee's Summit, MO 64082

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

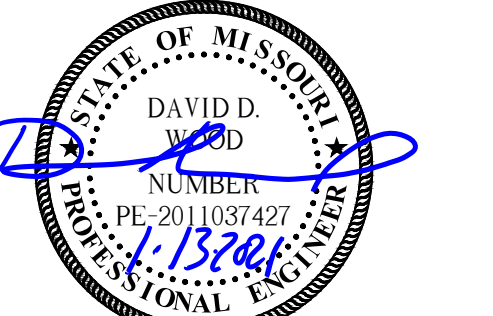
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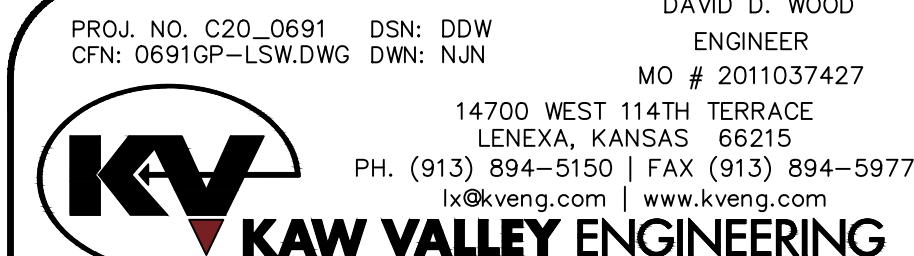
Kaw Valley Engineering, Inc.  
Missouri Certificate of Authority: 000842  
David Wood Date: 07/13/2021  
Engineer License No. PE-2011031427

REVISIONS		
Number	DESCRIPTION	DATE
1	Addendum 1	10/13/20
2	Addendum 3	10/23/20
3	Per City Comments & PR-004	01/13/21

PROJECT NO: 0119-0100  
DATE: September 28, 2020

GRADING AND EROSION  
CONTROL PLAN  
W-C300

BID SET



KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER  
ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF  
AUTHORITY # 000842, EXPIRES 12/31/21