

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

LSR7 Robotics, GiC & Phys Education: Construction Documents

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LSW: 2600 SW Ward Rd,
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Project Number: 0121-0100
Issue Date: September 9, 2022

multistudio
the evolution of gould evans

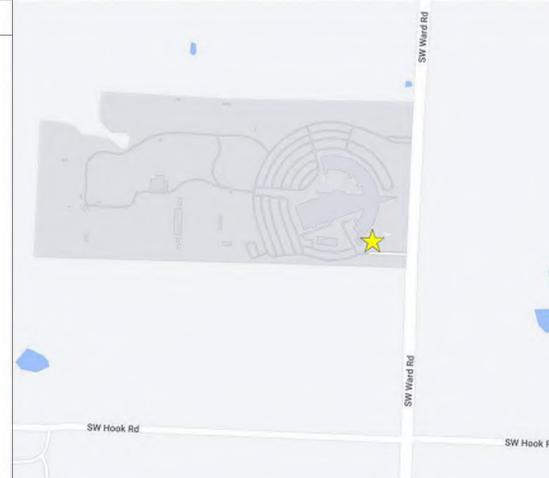
LSN/LSW Index of Drawings

Volume 1

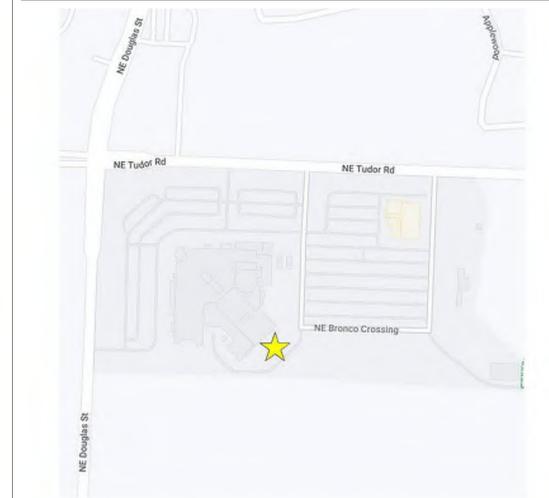
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SITE LOCATION MAP - LEE'S SUMMIT WEST HIGH SCHOOL



SITE LOCATION MAP - LEE'S SUMMIT NORTH HIGH SCHOOL



General Notes:

- THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH THE CONTRACT DOCUMENTS AND REASONABLY INFERRABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INDICATED RESULTS.
- ORGANIZATION OF THE SPECIFICATIONS INTO DIVISIONS, SECTIONS AND ARTICLES, AND ARRANGEMENT OF DRAWINGS SHALL NOT CONTROL THE CONTRACTOR IN DIVIDING THE WORK AMONG SUBCONTRACTORS OR IN ESTABLISHING THE EXTENT OF WORK TO BE PERFORMED BY ANY TRADE.
- DRAWINGS, SPECIFICATIONS, GENERAL AND SUPPLEMENTARY CONDITIONS ARE ESSENTIAL PARTS OF THE CONTRACT. IN THE EVENT OF ANY DISCREPANCY BETWEEN A DRAWING AND FIGURES WRITTEN THEREON, THE FIGURES, UNLESS OBVIOUSLY INCORRECT, ARE TO GOVERN OVER SCALED DIMENSIONS. IN THE CASE OF ANY DISCREPANCY BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE SPECIFICATIONS ARE TO GOVERN. IF THERE IS A DISCREPANCY BETWEEN LARGE AND SMALL SCALE DETAILS, THE LARGER SCALE DETAILS ARE TO GOVERN. SUPPLEMENTARY CONDITIONS SHALL GOVERN OVER SPECIFICATIONS, DRAWINGS AND GENERAL CONDITIONS. THE CONTRACTOR SHALL ADVISE THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS BETWEEN CONTRACT DOCUMENTS AS SOON AS THEY ARE DISCOVERED.
- NOTWITHSTANDING THE ABOVE, IN THE CASE OF INCONSISTENCY BETWEEN DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT NOT CLARIFIED BY ADDENDUM OR BY ARCHITECT'S SUPPLEMENTAL INSTRUCTION, THE BETTER QUALITY OR GREATER QUANTITY SHALL BE PROVIDED.
- DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSIONS. IF DIMENSIONS APPEAR TO BE INSUFFICIENT OR INCORRECT, THE CONTRACTOR SHALL REQUEST CLARIFICATION FROM THE ARCHITECT.
- WHENEVER CONTRACT DOCUMENTS REASONABLY IMPLY MATERIALS OR INSTALLATION AS NECESSARY TO PRODUCE THE INTENDED RESULTS, BUT DO NOT FULLY DETAIL OR SPECIFY SUCH MATERIALS, THE CONTRACTOR SHALL PROVIDE THE MATERIALS AND LABOR REQUIRED FOR INSTALLATION NONETHELESS.
- PROVIDE ALL WORK INDICATED UNLESS SPECIFICALLY INDICATED AS "NOT IN CONTRACT" (NIC), "FURNISHED BY OTHERS" (FBO) OR "EXISTING".
- CONTRACT DOCUMENTS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. PROVIDE PRODUCTS COMPLETE WITH ACCESSORIES, TRIM, FINISH, FASTENERS, AND OTHER ITEMS NEEDED FOR A COMPLETE INSTALLATION AND INDICATED USE AND EFFECT.
- THESE NOTES ARE NOT INTENDED TO LIMIT THE RESPONSIBILITIES OF THE CONTRACTOR AS DEFINED ELSEWHERE IN THE CONTRACT DOCUMENTS



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

Project Number: 0121-0100

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Revisions		
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Index of Drawings & General Project Notes
G001

Based on Building Code Summary Prepared by: Clinton J. Armstrong
1.0 INTRODUCTION
1.1 SCOPE

This documentation outlines major fire and life safety issues affecting the design of the renovations and additions to Lee's Summit West High School. Fire and life safety criteria are summarized from the 2018 International Building Code (IBC) as adopted by the City of Lee's Summit, and with approval from the State of Missouri Fire Marshal (DFS), and the 2018 International Existing Building Code (IEBC).

The new building is a single story vocational shop building with (2) classroom spaces within. Vocational classroom areas do not have enough hazardous materials to be classified as Group H occupancy. These spaces have hazardous materials; however, each has quantities which do not exceed the maximums as permitted by IBC Tables 307.1 (1) and 307.1(2). Construction will take place in a single phase.

- 1.2 APPLICABLE CODES:**
This code summary utilized the following codes as adopted by the City of Lee's Summit, Missouri and the DFS's office (with approval by DFS to be noted on code footprint):
 - 2018 International Building Code (IBC)
 - 2018 International Existing Building Code (IEBC)
 - 2018 International Plumbing Code (IPC)
 - 2017 National Electrical Code (NEC)
 - 2018 International Fire Code (IFC)
 - 2018 International Mechanical Code (IMC)
 - 2018 International Fuel Gas Code (IFGC)
 - ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities.
- Referenced Standards within each of the above codes

- 2.0 CONSTRUCTION CLASSIFICATIONS:**
 - 2.1 OCCUPANCY GROUP CLASSIFICATIONS**
 - Vocational Shop Group E (Section 305.1)
 - 2.2 TYPES OF CONSTRUCTION CLASSIFICATION**
 - Type II-B (Section 602.2)
- 2.3 ALLOWABLE AREA AND HEIGHT (TABLE 504.3, 504.4, 506.2):**

Type II-B Construction	Allowable	
	Group E	Other
Area/story (square feet)	14,500	
Total area (square feet)	29,000	
Height (feet)	55	
Height (number of stories)	2	

3.0 FIRE RESISTIVE OCCUPANCY AND USE SEPARATIONS:

3.1 USE SEPARATIONS
Fire resistive separations and enclosures are intended to address individual use hazards and are identified below.

Use/Occupancy	Requirements
Service entrance conductors.	Encased in 2 inches of concrete, listed 2-hour electrical circuit protective system, or in a vault - NEC Article 230.6
Information technology equipment room (Not Data Closets)	Room is required to be separated with 1-hour fire resistant rated walls, floors and ceilings with protected openings; ducts extending through assembly are required to be provided with fire/smoke dampers - NEC Article 654.2

3.2 OCCUPANCY SEPARATIONS
The new construction is classified throughout as a Group E Occupancy. No occupancy separations are required except as follows:

- Group E to Group S-2: 1-hour

4.0 FIRE RESISTIVE REQUIREMENTS FOR ELEMENTS OF THE STRUCTURE

4.1 ACCEPTABLE MATERIALS
Structural elements Type II-B resistive buildings are limited to non-combustible materials (IBC Section 602.2).

Fire retardant plywood or other wood products are permitted with sheathing or applied directly on studs within non-bearing partitions where the required fire rating is 2-hour or less (IBC Section 603.1, Exception 1 & 7).

Interior wood products installed as part of wall or ceiling finishes are required to meet the following Flame Spread Index:
-Non-Sprinklered Buildings:

- Corridors and enclosures for exit access stairways and ramps: Class B
- Rooms and enclosed spaces: Class C

Incidental 2 x blocking is permitted if of fire retardant treated wood. Fire retardant treated plywood is permitted within 1-hour or 2-hour walls that are not part of a shaft. Specific instances should be evaluated individually.

4.2 STRUCTURAL, INTERIOR, AND EXTERIOR ELEMENTS
Passive fire resistance for the structural frame insures that stability of the building, as a whole, can be maintained during the anticipated fire condition. The structural frame is defined as columns, as well as trusses, girders, and beams, having direct connection to columns. Beams and trusses not having direct connection to columns are considered secondary elements. Depending on where they occur, these secondary elements may be classified as an element of either a roof or floor assembly for purposes of determining fire resistance requirements.

Restrained versus unrestrained designations: All fire resistive assemblies should be viewed as unrestrained, except where the Structural Engineer has demonstrated otherwise.

Exterior walls provide exposure protection based on fire separation distances.

New construction will be required to follow seismic, wind, snow, and dead-end line loads as required for new buildings. Any new construction that affects existing structural conditions by more than five percent, that portion of the existing structure is required to be brought up to current code.

The following fire resistive requirements are documented from IBC Table 601 and other applicable sections.

BUILDING ELEMENT	Type II-B
Structural Frame	0
Walls:	
Exterior bearing walls	0
Exterior non-bearing walls per Table 602	0
Interior bearing walls	0
Interior non-bearing walls	0
Floor Assembly, including secondary beams and trusses	0
Roof Assembly, including secondary beams and trusses	0

FIRE RESISTANCE RATED CONSTRUCTION
Building Element
Corridors
Other permanent partitions
Roof covering
Projections (e.g., canopies)

5.0 FIRE RESISTANCE RATINGS
5.1 OPENINGS IN EXTERIOR WALLS (TABLE 705.8)

Distances (x) to Center Line of Street or Property Line	Non-Rated Openings as Percent Area of Exterior Wall
10' < x < 15'	45%

5.2 OPENINGS IN FLOORS/CEILING AND ROOF/CEILING ASSEMBLIES
Ceilings
Where the ceiling is part of a fire resistive floor/ceiling or roof/ceiling assembly, HVAC duct openings are required to be provided with ceiling type fire dampers - Section 716.6.2

5.3 PENETRATIONS
Roofs
Roofs may have unprotected penetrations - Section 712.4

6.0 FIRE RESISTIVE INTERIOR FINISHES
6.1 WALL AND CEILING FINISHES

Flame Spread Classifications	SECTION 803
WALL & CEILING FINISH	
Flame spread 0-25, smoke developed 0-450	Class A
Flame spread 26-75, smoke developed 0-450	Class B
Flame spread 76-200, smoke developed 0-450	Class C

Occupancy Group	Vertical Exits and Exit Passageways	Exit Access	Room or Enclosed Spaces
E	A	B	C

6.2 FLOOR FINISH
Rooms, exit stairs, exit passageways, rated and non-rated corridors

6.3 PLENUMS
Plenums are defined as any space used for air movement - IMC Section 602.1

Exposed materials within plenums are required to have a flame spread index of 25 & a smoke developed rating of 50 - IMC Section 602.2

For requirements on wiring, plastic sprinkler piping, & pneumatic tubing see Section 602.2, Exceptions of the IMC

Use of corridor as plenum
Use of corridor as a source of make-up air for exhaust systems that open directly onto such corridors is permitted provided make-up air rate is less than supply of outdoor air to the corridor - Section 1020.5, Exception 1
Corridors are permitted to serve as supply, return, exhaust, relief, or ventilation because the corridors are not required to be rated - Section 1020.5.1

6.4 FOAM PLASTIC (E.G., RIGID INSULATION)
Required to have a flame spread rating of 75 or less & a maximum smoke developed rating of 450 - Section 2603.3

Required to be separated from the building interior by a thermal barrier of 1/2 inch regular gypsum board or other material that will limit the average temperature rise of the unexposed surface to not more than 250°F after 15-minutes - Section 2603.4

May be used in roofing & exterior walls if part of a fire resistive assembly - Sections 2603.4.1.5 & 2603.5.1

May be used as interior trim if covering is no more than 10% of walls or ceilings - Section 2604.2

7.1 GENERAL EXIT CRITERIA
Occupant Load Factors

Mechanical or storage spaces - 300 square feet gross/person - Table 1004.5
Vocational classrooms (i.e., computers, industrial arts, etc.) - 50 square feet net/person - Table 1004.5

Number of Exits
2 exits from each floor required; 3 exits required in areas where there are 501 to 1,000 persons; 4 exits required in areas where there is more than 1,000 people - Table 1006.3.2, 2 exit doors required from a room in the following conditions - Table 1006.3.3(2):

- Mechanical or storage rooms serving 29 or more people
- Office/classroom serving 49 or more people

Arrangement of Exits
Where 2 exits are required, they must be placed a minimum distance apart of 1/3 the overall diagonal dimension of the room or building; 1/2 diagonal if fully sprinklered (also see Section 7.9 of this report) - Section 1007.1.1

Doors
Where 3 or more exits are required, at least 2 must be separated by 1/2 the diagonal; 1/2 diagonal if fully sprinklered - Section 1007.1.2

Additional exits are required to be separated such that if 1 becomes blocked, the others remain available

Capacity of Exits
Groups E and S-2
Doors/ramps
60 people/foot (0.2 inches/person) - Section 1005.3.2

Travel Distance
Non-Smoke Protected
Group E
200 feet to an exit - Table 1017.2
Group S-2
300 feet to an exit - Table 1017.2

Common Path of Travel
Group E
75 feet - Table 1006.2.1
Group S-2
100 feet - Table 1006.2.1

7.2 DOOR CRITERIA
Maximum leaf width
48 inches - Section 1010.1.1
Minimum leaf width
Wide enough to allow minimum clearance width of 32 inches when open - Section 1010.1.1

Minimum clear height
6 feet, 8 inches - Section 1010.1.1

Exit door swing type
Exit doors are required to be swinging type - Section 1010.1.2

Exit doors serving 50 or more people or high hazard or refrigeration uses are required to swing in the direction of egress - Section 1010.1.2

Doors in series
Doors in series required to swing in the same direction or away from the space in between a minimum of 48 inches plus 1 door width between doors - Section 1010.1.8

Panic hardware requirements
Required on latched doors serving assembly areas having an occupant load of 50 or more & electrical rooms with equipment rated 1,200 amps or more & greater than 6 feet wide that contain over-current devices, switching devices, or control devices with exit access doors - Section 1010.1.10

7.3 CORRIDORS
Minimum height
7 feet, 6 inches - Section 1208.2
Minimum width
44 inches serving an occupant load of more than 50 - Section 1020.2, 72 inches serving a Group E occupancies with 100 or more people - Section 1020.4

Maximum allowable dead-end corridor
20 feet or 2.5 times the least width of the corridor - Section 1020.4

Construction
0-hour - Section 1020.1, Exception 1

Projections
Not permitted except when doors are fully opened; exception may project no more than 7 inches into the required width - Section 1005.7
Doors in any position cannot reduce the required width by more than half
Fixtures & furnishings may project up to 4 inches on either side into the required width between heights of 27 & 80 inches - Section 1003.3.3 & ADAAG Section 4.4.1
Ceiling projections may extend below the finished floor for not more than 50% of the ceiling - Section 1003.3.1

7.4 STAIRWAY CRITERIA
Access to Roof
Required - IMC Section 306.5
If roof is unoccupied, access may be by a roof hatch providing a minimum of 16 square feet with a 2 feet minimum dimension - Section 1011.12.2

7.5 OTHER EXIT ISSUES
Exit access through adjoining spaces
Permitted
No limitations on number of exits or number of occupants limited by travel distance provided the space is necessary & not a storage room, kitchen, closet, or other room of similar use - Section 1016.2, Part 2

7.5 EXIT PROVISIONS FOR THE DISABLED
Number of exits
2 accessible exits are required when 2 or more exits are required - Section 1009.1

Area of refuge
Required to be provided in the same number as required for exits - ADAAG Section 4.1.3(9)
Not required - ADAAG Section 4.1.3(9)

Areas not required to be accessible
Elevator pits & similar areas accessed only by ladders & frequented only by service personnel & the like are not required to be accessible - ADAAG Section 4.1.3 (5), Exception 2

7.6 EXIT SIGNS AND EXIT LIGHTING
Exit lighting requirements
Required for means of egress with a minimum intensity of 1 footcandle at floor level; emergency power is required - Section 1008.2.1

Exit sign requirements
Required for means of egress from a room or space where 2 or more exits are required & placed no greater than 100 feet apart in corridors - Section 1013.1

Required to be illuminated at all times & be provided with emergency power - Section 1013.5

Tactile exit signs
Required at exit doors - Section 1013.4
Exterior exit doors are to be identified with a tactile sign with the word "EXIT" - Section 1013.4

8.0 FIRE PROTECTION ISSUES
8.1 FIRE SUPPRESSION
Automatic sprinklers
Not required - Section 903.2.3
Portable Fire Extinguishers
Required by Local Authority Required per IFC 906.1

8.3 FIRE ALARMS
Manual pull stations
Required - Section 907.2.3
Visual
Visual alarms are required to be installed in accordance with ADAAG & NFPA 72.
Audible
Audible alarms are required by the ADAAG to provide a sound intensity exceeding the average ambient sound level by 15 dBA or a level which exceeds the maximum sound level by 5 dBA with a duration of not less than 60 seconds.

The average sound pressure for notification appliances shall provide a sound pressure level of 15 decibels above average ambient sound level or 5 dBA above maximum sound level having a duration of not less than 60 seconds. - Section 907.5.2.1.1

Maximum sound pressure level for audible alarm notification appliances shall be 110 dBA. Where ambient noise is greater than 95 dBA, visible alarm shall be provided and audible alarm shall not be required. - Section 907.5.2.1.2

8.4 FIRE AND SMOKE DETECTION
Smoke detection required to shut off heating or cooling air systems 2,000 cfm capacity or serving more than 1 occupancy - IMC

Duct smoke detectors are required to initiate a visible & supervisory signal at a constantly attended location - Section 907.1.1; the supervisory signal is not required when the duct smoke detectors activate the building's alarm notification system

Smoke detection is required at elevator lobbies & machine rooms to initiate fireman's service (Phase I) recall - Section 3003.2

Heat detector with a shunt trip device required in sprinklered machine rooms - ANSI A17.1, Section 2.8.2.3

Smoke detector(s) provided in conjunction with smoke dampers & hold openers at rated doors - NFPA 72

8.5 BACK-UP POWER
Fire alarm system
Emergency power is required per NFPA 72
Exit signs & exit lights
Emergency power is required; may be unit batteries - Sections 1006.3 & Not required - Section 1007.2.1
Elevator
Not required - Section 1007.2.1

9.0 MISCELLANEOUS ISSUES
9.1 ROOM HEIGHT CRITERIA
Classroom, assembly and office spaces
7 feet, 6 inches - Section 1208.2
Corridors
7 feet, 6 inches; means of egress (i.e., including rooms) - Section 1208.2
Doors
7 feet, 6 inches - Section 1208.2
Bathrooms
7 feet - Section 1208.2

General Notes (Code Plans):

- ALL WORK, MATERIALS, AND METHODS SHALL BE IN CONFORMANCE WITH THE CODES, ORDINANCES AND REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.
- CONTRACTOR SHALL PROVIDE AND IS SOLELY RESPONSIBLE AND LIABLE FOR PUBLIC AND EMPLOYEE PROTECTION AS NECESSARY AND AS REQUIRED BY THE CODES, INCLUDING EXTERIOR PEDESTRIAN AND TRAFFIC BARRIERS. ALL WORK SHALL CONFORM TO ORDINANCES AND REGULATIONS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.
- THE SIZE, TYPE, QUANTITY, AND LOCATION OF ALL TEMPORARY FIRE EXTINGUISHERS SHALL BE DETERMINED BY THE AUTHORITY HAVING JURISDICTION.
- COORDINATE LOCATION OF KNOX BOX WITH ARCHITECT, OWNER'S REPRESENTATIVE, AND THE AUTHORITY HAVING JURISDICTION IN THE FIELD.



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Code Review
G100-A

Occupant Load Schedule - Full LSN_LSW					
Occupancy	Number	Name	Area	Occupant Load Factor	Occupant Load
E	R101	CORRIDOR	145 SF	0 SF	
E	R102	PLUMBING	44 SF	300 SF	1
E	R103	MEN'S RESTROOM	126 SF	0 SF	
E	R104	WOMEN'S RESTROOM	135 SF	0 SF	
E	R105	ROBOTICS FABRICATION	2,431 SF	50 SF	49
E	R105B	ROBOTICS FIELD	1,686 SF		34
E	R106	ELECTRICAL	54 SF	300 SF	1
E	R108	TELECOM	59 SF	300 SF	1
E	R109	VOCACTION SHOP	1,808 SF	50 SF	37
S					
S	R107	STORAGE	45 SF	300 SF	1
			6,533 SF		124

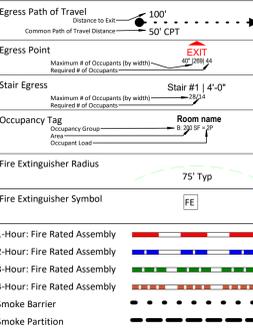
Path of Travel LSN_LSW		
Mark	Path of Egress (200' Max)	Common Path (75' Max)
PATH A	103'	38'
PATH B	45'	26'

OCCUPANT LOAD: 90	WATER CLOSETS + LAVATORIES				DRINKING FOUNTAINS		SERVICE SINK	
	TABLE 2902.1	WC	LAV	WC	LAV	TABLE 2902.1	TABLE 2902.1	SERVICE SINKS
COUNT REQ:	1 per 50	2	2	2	2	1 per 100	2	1 per 1
COUNT PROV:		2	2	2	2		2	1

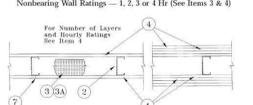
General Notes (Code Plans):

- ALL WORK, MATERIALS, AND METHODS SHALL BE IN CONFORMANCE WITH THE CODES, ORDINANCES AND REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.
- CONTRACTOR SHALL PROVIDE AND IS SOLELY RESPONSIBLE AND LIABLE FOR PUBLIC AND EMPLOYEE PROTECTION AS NECESSARY AND AS REQUIRED BY THE CODES, INCLUDING EXTERIOR PEDESTRIAN AND TRAFFIC BARRIERS. ALL WORK SHALL CONFORM TO ORDINANCES AND REGULATIONS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.
- THE SIZE, TYPE, QUANTITY, AND LOCATION OF ALL TEMPORARY FIRE EXTINGUISHERS SHALL BE DETERMINED BY THE AUTHORITY HAVING JURISDICTION.
- COORDINATE LOCATION OF KNOX BOX WITH ARCHITECT, OWNER'S REPRESENTATIVE, AND THE AUTHORITY HAVING JURISDICTION IN THE FIELD.

Code Plan Legend:



Design No. U419

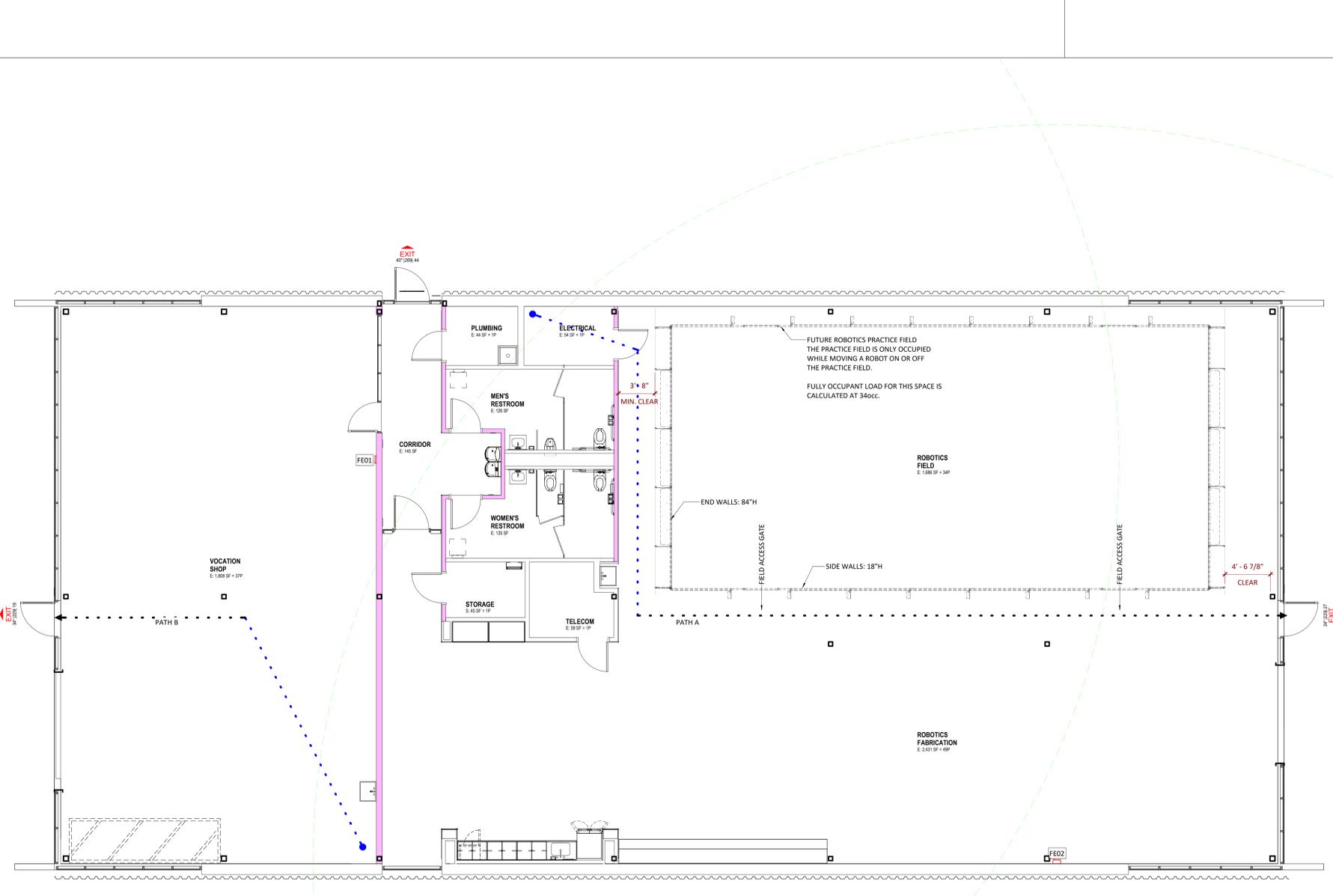


- Floor and Ceiling Runners — (Not shown) — Channel shaped, fabricated from min 25 MSC (min 20 MSC when Item 4A is used) corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC, max.
- Steel Studs — Channel shaped, fabricated from min 25 MSC (min 20 MSC when Item 4A is used) corrosion-protected steel, min width as indicated under Item 4, min 1/4 in. flanges and 1/4 in. returns, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- Batts and Blankets* — (Required as indicated under Item 4) — Mineral wool batts, friction fitted between studs and runners. Min room thickness as indicated under Item 4. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.
- Blatts and Blankets* — (Optional) — Place in stud cavity, any glass fiber or mineral wool insulation bearing the UL Classification Marking as in Surface Burning Characteristics and Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.
- Gypsum Board* — Gypsum panels with leveled, square or tapered edges, applied vertically or horizontally. Vertical joints staggered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be lapped by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 1/2 in. The thickness and number of layers for the 1, 2, 3, or 4 Hr ratings are as follows:
Wallboard Protection on Each Side of Wall

Rating	Min Stud Depth	No. of Layers & Thickness	Min Thickness of Insulation (R-Value)
1	3 1/2"	1 layer 5/8 in. thick	Optional
1	2 1/2"	1 layer 1/2 in. thick	1 1/2 in.
1	1 1/2"	1 layer 3/4 in. thick	Optional
2	1 1/2"	2 layers 1/2 in. thick	Optional
1	1 1/2"	1 layer 3/4 in. thick	2 in.
1	1 1/2"	2 layers 5/8 in. thick	Optional
1	1 1/2"	3 layers 1/2 in. thick	Optional
1	1 1/2"	2 layers 3/4 in. thick	Optional
1	1 1/2"	3 layers 5/8 in. thick	Optional
4	1 1/2"	4 layers 5/8 in. thick	Optional
1	1 1/2"	4 layers 1/2 in. thick	Optional
2	2 1/2"	2 layers 3/4 in. thick	2 in.

- 4A. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick gypsum panels, installed as described in Item 4 with Type S-12 steel screws. The length and spacing of the screws as specified under Item 5.
- 4B. Gypsum Board* — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 in. wide, tongue and groove edge, applied horizontally on the outer layer to one side of the assembly. Secured as described in Item 5. Joint covering Item 7, not required.
5. Fasteners — (Not shown) — Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). Single layer systems: 1 in. long for 1/2 in. and 5/8 in. thick panels and 1 1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer: 1 in. long for 1/2 in. and 5/8 in. thick panels or 1 1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC. Second layer: 1 1/4 in. long for 1/2 in., 5/8 in. thick panels and 2 1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC, with screws offset 8 in. from first layer. Three layer systems: First layer: 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer: 1 1/4 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer: 2 1/4 in. long for 1/2 in., 5/8 in. thick panels or 2 5/8 in. long for 3/8 in. thick panels, spaced 24 in. OC. Screws offset min 6 in. from layer below. Four layer systems: First layer: 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer: 1 1/4 in. long for 1/2 in., 5/8 in. thick panels or 2 5/8 in. long for 3/8 in. thick panels, spaced 24 in. OC. Third layer: 2 1/4 in. long for 1/2 in., 5/8 in. thick panels or 2 5/8 in. long for 3/8 in. thick panels, spaced 24 in. OC. Fourth layer: 2 5/8 in. long for 1/2 in. thick panels or 3 in. long for 3/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.
6. Furring Channels — (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSC corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.
7. Joint Tape and Compound — Vinyl or casted, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, non 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.
8. Siding, Brick or Stone — (Optional, not shown) — Aluminum, vinyl or steel siding, brick veneer or stone, meeting the requirements of local code agencies, installed over gypsum panels. Bricks veneer attached to studs with corrugated metal web ties attached to each stud with steel screws, not more than each sixth course of brick.
9. Caulking and Sealants* — (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control. UNITED STATES GYPSUM CO. — Type AS

*Bearing the UL Classification Mark



Revisions	NUMBER	DESCRIPTION	DATE

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

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



LEE'S SUMMIT WEST HIGH SCHOOL - ROBOTICS BUILDING
GENERAL LAYOUT SHEET
 2600 SW WARD RD, LEE'S SUMMIT, MO 64082
 SECTION 31 - TOWNSHIP 48 N - RANGE 31 W

**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
 303 W Tudor Road
 Lee's Summit, MO 64086

architect: Multistudio
 4200 Pennsylvania
 Kansas City, MO 64111
 816.931.6655
 multi.studio

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
 816.531.4144
 www.bdc-engrs.com

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

Issue Date: September 9, 2022

NUMBER	DESCRIPTION	DATE
1	AS1 01 - CODE COMMENTS	11/22/2022

**RELEASED FOR
CONSTRUCTION**
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

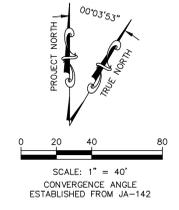
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Kaw Valley Engineering, Inc.
 Missouri Certificate of Authority: 000842
 Christian Crowder Date: 11/22/2022
 Engineer License No. PE-2015000538

**LSW GENERAL
LAYOUT SHEET**

C000-A



SCALE: 1" = 40'
 CONVERGENCE ANGLE
 ESTABLISHED FROM JA-142



PROJ. NO. C21_1242 DSN: CJC ENGINEER
 CFA: 1242GLS DWN: NUN MO # 2015000538
 14700 WEST 114TH TERRACE
 LENEXA, KANSAS 66215
 PH. (913) 894-5150 | FAX (913) 894-5977
 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 12/31/23

18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

P | N | M | L | K | J | H | G | F | E | D | C | B | A

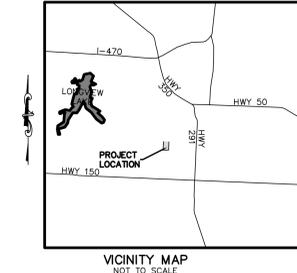
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LEE'S SUMMIT WEST HIGH SCHOOL - ROBOTICS BUILDING

SITE PLAN

2600 SW WARD RD, LEE'S SUMMIT, MO 64082
SECTION 31 - TOWNSHIP 48 N - RANGE 31 W

COORDINATE TABLE		
NORTHING	EASTING	DESCRIPTION
1000	985053.57	2817526.73 BC
1001	985073.31	2817534.01 EC
1002	985102.35	2817567.56 EC
1003	985091.01	2817577.37 R15
1004	985104.77	2817583.36 EC
1005	985082.95	2817633.45 EC
1006	985079.06	2817636.82 EC
1007	985096.07	2817504.04 BC
1008	985093.72	2817516.34 EC
1009	985256.05	2817703.80 EC
1010	985277.06	2817705.31 EC
1011	985290.38	2817720.70 EC
1012	985265.51	2817742.23 EC
1013	985186.37	2817752.90 EC
1014	985182.48	2817756.27 EC
1016	985070.63	2817514.79 EC
1017	985144.23	2817451.06 EC
1018	985241.24	2817418.81 EC
1019	985244.49	2817428.26 EC
1020	985149.27	2817459.92 EC
1021	985108.69	2817495.06 EC
1022	985036.63	2817549.56 SW
1023	985041.63	2817568.76 SW
1024	985035.89	2817570.24 SW
1025	985030.88	2817550.83 SW
1026	985145.96	2817576.67 SW
1027	985177.71	2817549.17 SW
1028	985145.83	2817723.10 RW
1029	985173.92	2817755.54 RW
1030	985191.71	2817762.27 RW
1031	985288.40	2817749.24 RW
1032	985125.55	2817594.34 EC
1033	985127.53	2817592.63 EC
1034	985162.71	2817633.26 EC
1035	985139.11	2817611.50 B1
1036	985218.76	2817703.47 H1
1037	985176.67	2817739.91 H3
1038	985097.03	2817647.94 B3



multistudio
the evolution of gould evans

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 District
301 W Tudor Road
Lee's Summit, MO 64086

architect: multistudio
4209 Pennsylvania
Kansas City, MO 64111
816.931.6655
multistudio.com

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

structural engineer: Bob D. Campbell & Associates
4338 Bellevue
Kansas City, MO 64111
816.531.4144
www.bdc-engrs.com

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

- PREPARED FOR:**
LEE'S SUMMIT R-7 SCHOOL DISTRICT
502 SE TRANSLANT DRIVE,
LEE'S SUMMIT, MO 64081
PHONE: (816) 986-2420
CONTACT: KYLE CORRELL
EMAIL: kyle.correll@lsr7.net
- PREPARED BY:**
KAW VALLEY ENGINEERING, INC.
14700 W 114TH TERR,
LENEXA, KANSAS 66215
PHONE: (913) 894-5150
CONTACT: CHRIS CROWDER
EMAIL: crowder@kveng.com
- NOTES:**
- 6 DISTURBED AREAS TO BE LANDSCAPED OR SODDED AS NOTED ON L SERIES SHEETS.
 - 13 BOLLARDS (REFER TO ARCHITECTURAL SHEETS)
 - 60 STORM SEWER STRUCTURE (SEE SHEET C600-A)
 - 65 CONTRACTOR TO ADJUST LID TO MATCH ELEVATIONS SHOWN ON C300-A
 - 70 SANITARY SEWER SERVICE STRUCTURE (SEE SHEET C700-A)
 - 80 WATER STRUCTURE (SEE SHEET C800-A)
 - 82 FIRE HYDRANT (SEE SHEET C800-A)
- DETAILS - SEE SHEET C190-A FOR THE FOLLOWING DETAILS
- 001 STANDARD CONCRETE CURB & GUTTER
 - 002 ZERO HEIGHT CURB
 - 040 ASPHALT PAVEMENT
 - 042 CONCRETE PAVEMENT
 - 055 CONCRETE SIDEWALK
 - 130 BOLLARD

LEGEND:

- ⊕ CONTROL POINT
- ⊕ BENCHMARK
- ⊕ PULL BOX (ELECTRIC)
- ⊕ YARD LIGHT
- ⊕ LIGHT POLE
- ⊕ ELECTRIC METER
- ⊕ WALL MOUNTED CAMERA
- ⊕ BREAKER BOX
- ⊕ GAS METER
- ⊕ GAS LINE RISER
- ⊕ WATER METER
- ⊕ WATER LINE GATE VALVE
- ⊕ FIRE HYDRANT
- ⊕ SPRINKLER CONTROL BOX
- ⊕ WATER MANHOLE
- ⊕ WALL MOUNTED SIAMENSE FIRE CONNECTOR
- ⊕ SANITARY SEWER MANHOLE
- ⊕ STORM SEWER MANHOLE
- ⊕ PVC POLYVINYL CHLORIDE PIPE
- ⊕ HDPE HIGH DENSITY POLYETHYLENE
- ⊕ STREET/TRAFFIC SIGN
- ⊕ DE DOOR ELEVATION
- ⊕ FF FINISH FLOOR ELEVATION
- ⊕ BHE BUILDING HEIGHT/ELEVATION
- ⊕ B/B BACK TO BACK OF CURB MEASUREMENT
- ⊕ E/E EDGE TO EDGE OF ASPHALT
- ⊕ C/C EDGE TO EDGE OF CONCRETE
- ⊕ L/S LANDSCAPING AREA
- ⊕ BOLLARD
- ⊕ GATE POST
- ⊕ FENCE POST

PROPOSED LEGEND:

- ⊕ ASPHALT EDGE TREATMENT. SEE SECTION ON C190
- ⊕ CONCRETE CURB AND GUTTER
- ⊕ CONCRETE CURB AND GUTTER WITH REVERSE FLOW
- ⊕ ASPHALT OVERLAY (040)
- ⊕ AREAS OF FULL DEPTH ASPHALT (040)
- ⊕ TURF
- ⊕ CONCRETE PAVEMENT (042) W/JOINTING
- ⊕ CONCRETE SIDEWALK (055+005) W/JOINTING
- ⊕ TYPE 1/TYP 3 JOINT TYPE
- ⊕ L LANDING
- ⊕ R RAMP
- ⊕ T TRANSITION
- ⊕ PROJECT AREA (LIMITS OF DISTURBANCE)

- CONSTRUCTION NOTES:**
- COORDINATE START-UP AND ALL CONSTRUCTION ACTIVITIES WITH THE LEE'S SUMMIT SCHOOL DISTRICT.
 - CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED THE CURRENT EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF A.P.M.A. SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT, MISSOURI AND MODIFIED AS NOTED ON THESE PLANS.
 - 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.
 - 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 PUBLIC ROADWAYS. CONTRACTOR IS RESPONSIBLE TO OBTAIN RIGHT-OF-WAY PERMIT FOR CONSTRUCTION OF DRIVE APPROACHES AND SIDEWALKS ALONG SE MILLER STREET AND SE MAIN STREET. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE CITY OF LEE'S SUMMIT PUBLIC WORKS DEPARTMENT. REFERENCE MUTCD STANDARD DRAWINGS.
 - ALL DIMENSIONS SHOWN ARE TO THE BACK OF CURB UNLESS OTHERWISE NOTED.
 - ALL SIDEWALK JOINTS WITHIN PROJECT AREA SHALL BE RECALCULATED WITH JOINT SEALANT. REFER TO TYPE 1 AND TYPE 2 JOINTS ON SHEET C190.

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 #220632754

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 TEMPORARY 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 SHALL 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.

PROJ. NO. C21_1242 DSN: CJC
CPN: 1242SP DWN: NJN MO # 2015000538

CHRISTIAN J. CROWDER
ENGINEER

14700 WEST 114TH TERRACE
LENEXA, KANSAS 66215
PH. (913) 894-5150 | FAX (913) 894-5977
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 12/31/23

Issue Date: September 5, 2022

Revisions

NUMBER	DESCRIPTION	DATE
1	AS B1 - CODE COMMENTS	11/22/2022

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

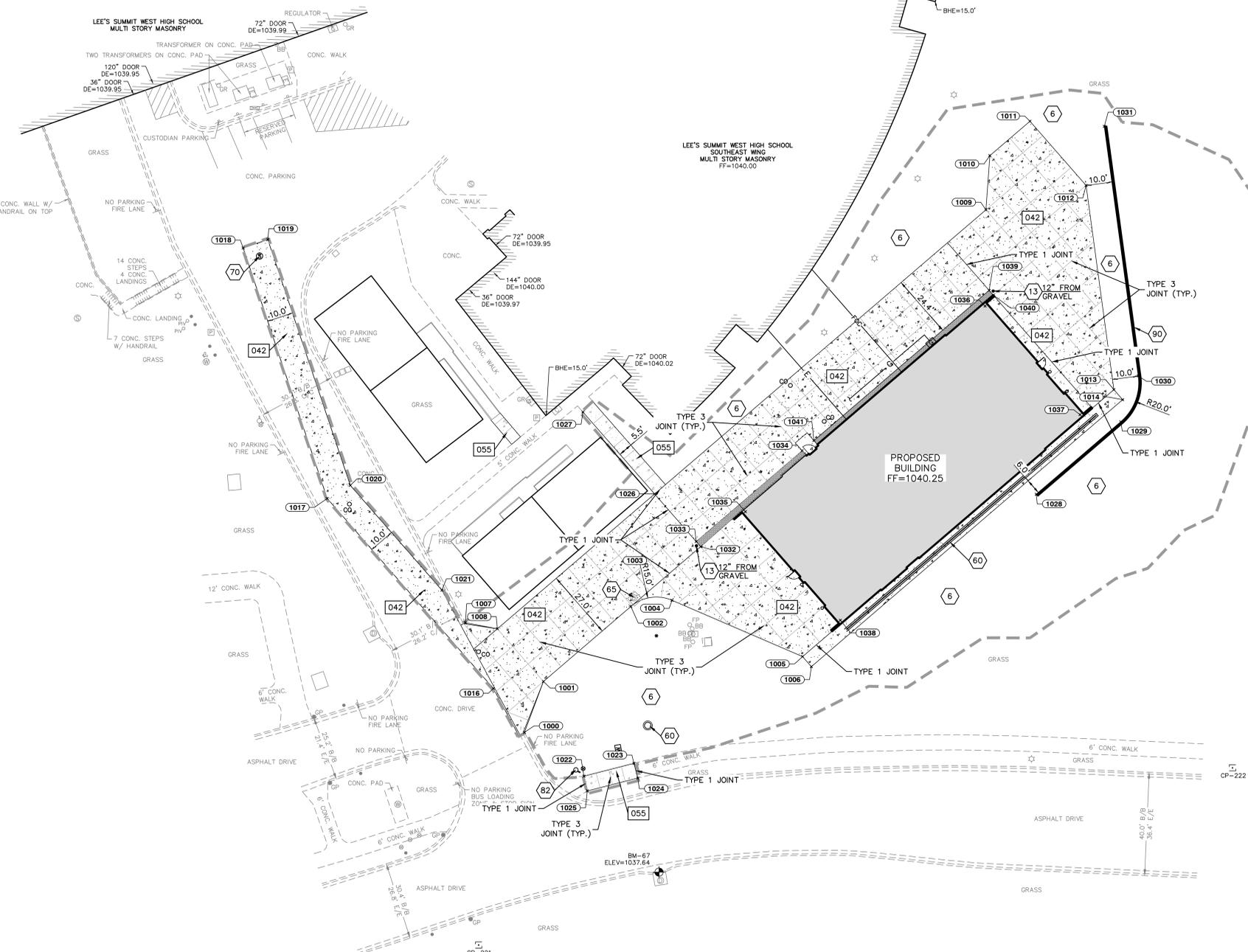
Development Services Department
Lee's Summit, Missouri
12/09/2022

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Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW SITE AND DIMENSION PLAN

C100-A



SITE DATA:
ZONING: AG (AGRICULTURAL)
SETBACKS: FRONT: 30'
REAR: 30'
SIDE: 50'

EXISTING USE: SCHOOL
PROPOSED USE: SCHOOL

EXISTING NO. OF CLASSROOMS: 107
PROPOSED NO. OF CLASSROOMS: 109

TOTAL REQUIRED PARKING SPACES: 654
EXISTING PARKING SPACES: 1,122

PROJECT AREA (LIMITS OF DISTURBANCE): 39,005 S.F. - 0.895 AC.

IMPERVIOUS COVERAGE WITHIN PROJECT AREA
EXISTING: 2,245 S.F.
PROPOSED: 22,855 S.F.
INCREASE: 20,310 S.F.

HORIZONTAL AND VERTICAL DATUM:
PROJECT COORDINATES ORIGINATE FROM AN ASSUMED COORDINATE SYSTEM.

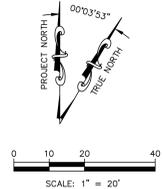
PROJECT BENCH MARK:
BM-62
FOUND CUT SQUARE AT NORTHWEST CORNER OF CURB INLET AT THE NORTHWEST CORNER OF PARKING AREA "G" & EAST OF TICKET BOOTH.
ELEV = 1018.13

BM-67
CHISELED SQUARE ON CENTER FRONT FACE OF MOST EAST CURB INLET ON SOUTH SIDE OF SOUTH DRIVE LANE.
ELEV = 1037.66

PROJECT CONTROL:
CP-#220
1/2"x24" REBAR W/ CONTROL POINT CAP
NORTHING: 948976.954
EASTING: 2817509.181
ELEV = 1035.30

CP-#221
1/2"x24" REBAR W/ CONTROL POINT CAP
NORTHING: 964971.175
EASTING: 2817509.181
ELEV = 1035.30

CP-#222
1/2"x24" REBAR W/ CONTROL POINT CAP
NORTHING: 985039.868
EASTING: 2817798.415
ELEV = 1052.40



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.

**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

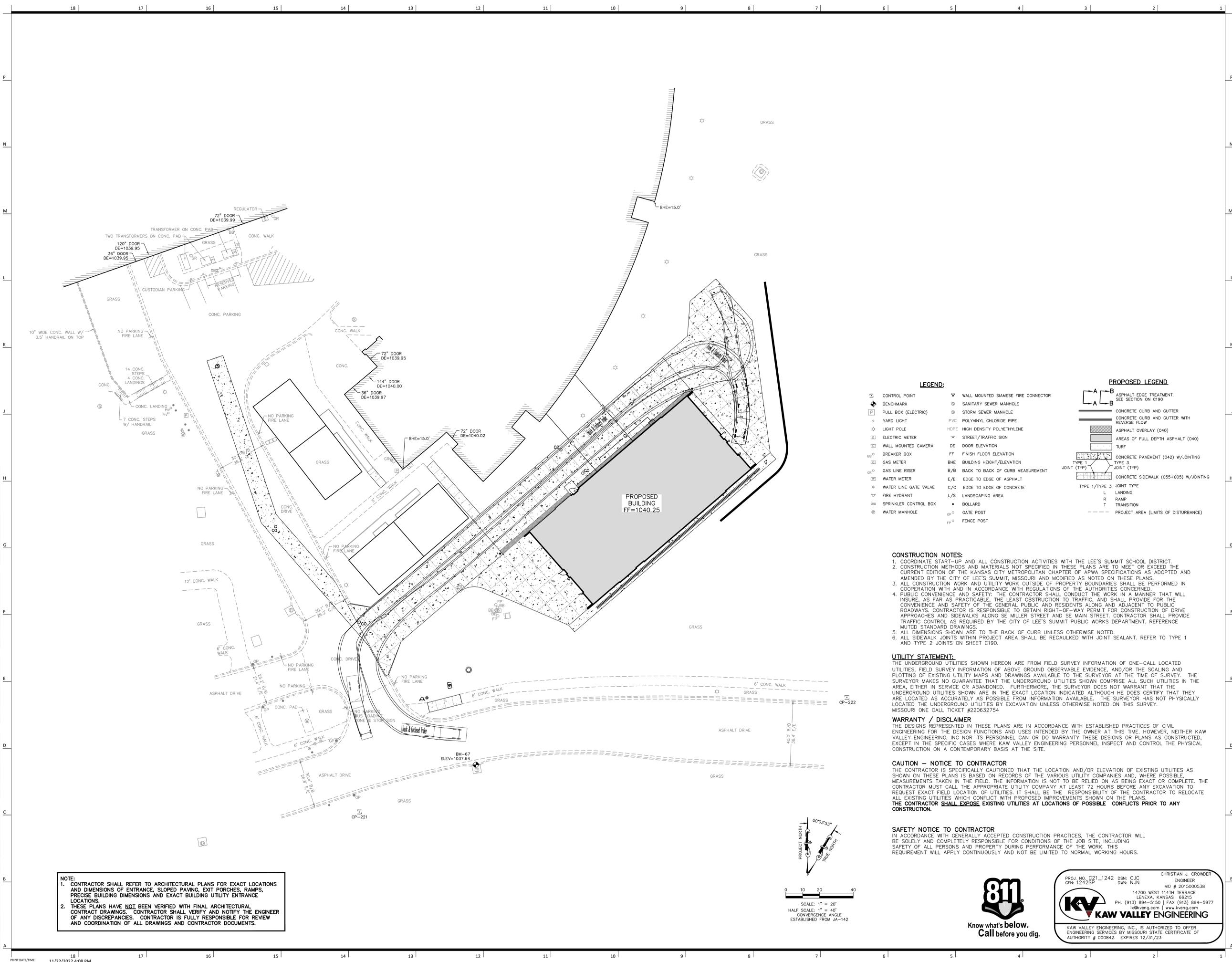
owner: Lee's Summit R-7 School
301 W Tudor Road
Lee's Summit, MO 64086

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
kveg.com

structural engineer: Bob D. Campbell &
4338 Bellevue
Kansas City, MO 64111
816.531.4144
www.bdc-engr.com

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



- LEGEND:**
- ⊕ CONTROL POINT
 - ⊕ BENCHMARK
 - ⊕ PULL BOX (ELECTRIC)
 - ⊕ YARD LIGHT
 - ⊕ LIGHT POLE
 - ⊕ ELECTRIC METER
 - ⊕ WALL MOUNTED CAMERA
 - ⊕ BREAKER BOX
 - ⊕ GAS METER
 - ⊕ GAS LINE RISER
 - ⊕ WATER METER
 - ⊕ WATER LINE GATE VALVE
 - ⊕ FIRE HYDRANT
 - ⊕ SPRINKLER CONTROL BOX
 - ⊕ WATER MANHOLE
 - ⊕ WALL MOUNTED SIAMASE FIRE CONNECTOR
 - ⊕ SANITARY SEWER MANHOLE
 - ⊕ STORM SEWER MANHOLE
 - ⊕ PVC POLYVINYL CHLORIDE PIPE
 - ⊕ HDPE HIGH DENSITY POLYETHYLENE
 - ⊕ STREET/TRAFFIC SIGN
 - DE DOOR ELEVATION
 - FF FINISH FLOOR ELEVATION
 - BHE BUILDING HEIGHT/ELEVATION
 - B/B BACK TO BACK OF CURB MEASUREMENT
 - E/E EDGE TO EDGE OF ASPHALT
 - C/C EDGE TO EDGE OF CONCRETE
 - L/S LANDSCAPING AREA
 - BOLLARD
 - ⊕ GATE POST
 - ⊕ FENCE POST
- PROPOSED LEGEND:**
- ASPHALT EDGE TREATMENT. SEE SECTION ON C190
 - CONCRETE CURB AND GUTTER
 - CONCRETE CURB AND GUTTER WITH REVERSE FLOW
 - ASPHALT OVERLAY (O40)
 - AREAS OF FULL DEPTH ASPHALT (O40)
 - TURF
 - CONCRETE PAVEMENT (O42) W/JOINTING
 - TYPE 1 JOINT (TYP)
 - TYPE 3 JOINT (TYP)
 - CONCRETE SIDEWALK (055+005) W/JOINTING
 - TYPE 1/TYP 3 JOINT TYPE
 - L LANDING
 - R RAMP
 - T TRANSITION
 - PROJECT AREA (LIMITS OF DISTURBANCE)

CONSTRUCTION NOTES:

- COORDINATE START-UP AND ALL CONSTRUCTION ACTIVITIES WITH THE LEE'S SUMMIT SCHOOL DISTRICT.
- CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED THE CURRENT EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APMAS SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT, MISSOURI AND MODIFIED AS NOTED ON THESE PLANS.
- 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.
- 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 PUBLIC ROADWAYS. CONTRACTOR IS RESPONSIBLE TO OBTAIN RIGHT-OF-WAY PERMIT FOR CONSTRUCTION OF DRIVE APPROACHES AND SIDEWALKS ALONG SE MILLER STREET AND SE MAIN STREET. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE CITY OF LEE'S SUMMIT PUBLIC WORKS DEPARTMENT. REFERENCE MUTCD STANDARD DRAWINGS.
- ALL DIMENSIONS SHOWN ARE TO THE BACK OF CURB UNLESS OTHERWISE NOTED.
- ALL SIDEWALK JOINTS WITHIN PROJECT AREA SHALL BE RECALCULATED WITH JOINT SEALANT. REFER TO TYPE 1 AND TYPE 2 JOINTS ON SHEET C190.

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 #220632754

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.

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.

Issue Date: September 9, 2022

NUMBER	DESCRIPTION	DATE
1	AS B1: CODE COMMENTS	11/22/2022

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

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

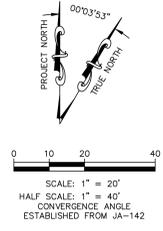


Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW TRUCK TURNING TEMPLATE

C101-A

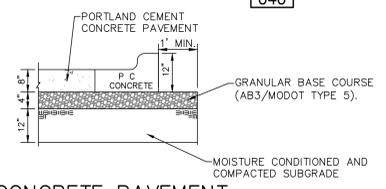
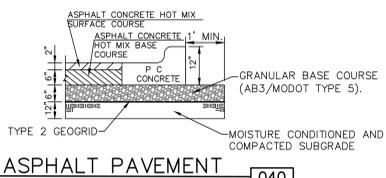
PROJ. NO. C21_1242 DSN: CJC
CIN: 1242SP DWN: NJN
ENGINEER
CHRISTIAN J. CROWDER
MO # 2015000538
14700 WEST 114TH TERRACE
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www.kveg.com | www.kveg.com
KAW VALLEY ENGINEERING
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/23



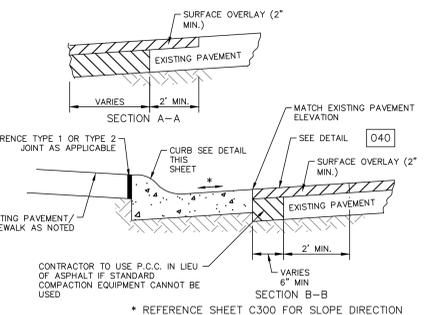
ASPHALT NOTES:
PAVING SHALL BE IN ACCORDANCE WITH THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200 AS AMENDED BELOW.

- MILLING FOR THE DRIVES AND PARKING LOTS SHALL BE COLD MILLED AS FOLLOWS:
1. EQUIPMENT: MILLING THE SURFACE OF PAVEMENTS SHALL BE COMPLETED BY USE OF A MILLING MACHINE CONFORMING TO THE FOLLOWING:
A. MACHINE: THE COLD MILLING MACHINE SHALL BE SELF-PROPELLED AND SHALL HAVE IN COMBINATION THE MEANS OF MILLING AND CUTTING, WITHOUT SOFTENING THE OLD SURFACE AND BLADING THE CUTTING INTO A SINGLE WINDOW, OR DEPOSITING THEM DIRECTLY INTO A TRUCK.
B. AIR POLLUTION: THE MACHINE SHALL BE EQUIPPED WITH A DUST SUPPRESSION SYSTEM INCLUDING WATER STORAGE TANKS AND HIGH PRESSURE SPRAY BARS.
C. OPERATING WIDTH: IT IS DESIRABLE THAT THE CUTTING WIDTH BE GREATER THAN 1 FEET (0.3 m). IN THE EVENT THE CUTTING WIDTH IS LESS THAN 1 FEET (0.3 m) CONTRACTOR IS RESPONSIBLE FOR ENSURING GRADE CONTROL AS NOTED ON PLANS.
D. CUTTING DRUM: THE CUTTING DRUM SHALL BE TOTALLY ENCLOSED TO PREVENT DISCHARGE OF ANY LOOSENED MATERIAL ADJACENT TO WORK AREAS.
2. CONSTRUCTION DETAILS
A. METHODS OF OPERATIONS FOR MILLING:
1. OPERATOR: THE MILLING MACHINE SHALL BE OPERATED BY AN EXPERIENCED AND CAPABLE OPERATOR.
2. UTILITIES: STREET SURFACES ADJACENT TO MANHOLE, WATER VALVES AND OTHER UTILITY EXTENSIONS, SHALL BE COMPLETELY REMOVED TO THE FULL DEPTH THE CUT SPECIFIED FOR THE STREET UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. MATERIAL DISPOSAL: THE MATERIAL WITHDREW BY THE MACHINE SHALL BE REMOVED FROM THE SURFACE OF THE PAVEMENT AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
4. SURFACE CONDITIONS: THE DRUM LACING PATTERNS SHALL PRODUCE A SMOOTH SURFACE AFTER MILLING WITH GROOVE DEPTHS NOT TO EXCEED 1/4 INCH (0.64 cm) AND GROOVE SPACING NOT TO EXCEED 1 INCH (2.54 cm) UNLESS OTHERWISE APPROVED BY THE ENGINEER.
B. TYPES OF CUTS TO BE MADE BY MILLING:
5. LEVELING: SUFFICIENT PASSES SHALL BE MADE SUCH THAT ALL IRREGULARITIES OR HIGH SPOTS ARE ELIMINATED, AND THAT 100% OF THE SURFACE IS MILLED.
6. AVERAGE DEPTH: SUFFICIENT PASSES, OR CUTS, SHALL BE MADE IN ORDER TO REMOVE A SPECIFIED DEPTH OVER THE ENTIRE STREET SECTION. THESE DEPTHS WILL BE DESIGNATED ON THE PLANS.
7. CURB CUT: SUFFICIENT PASSES, OR CUTS, SHALL BE MADE IN ORDER TO REMOVE A SPECIFIED DEPTH AT THE CURB FOR A SPECIFIED WIDTH. THE DEPTH AT THE WIDTH FURTHEST FROM THE CURB IS 0. THESE DIMENSIONS WILL BE DESIGNATED ON THE PLANS.
C. CLEANUP: ALL LOOSE ASPHALT AND DEBRIS SHALL BE REMOVED FROM THE STREET SURFACE AND CURB AND GUTTER. ANY MATERIAL AND DEBRIS THAT ADHERES TO THE CURB AND GUTTER SHALL BE REMOVED.

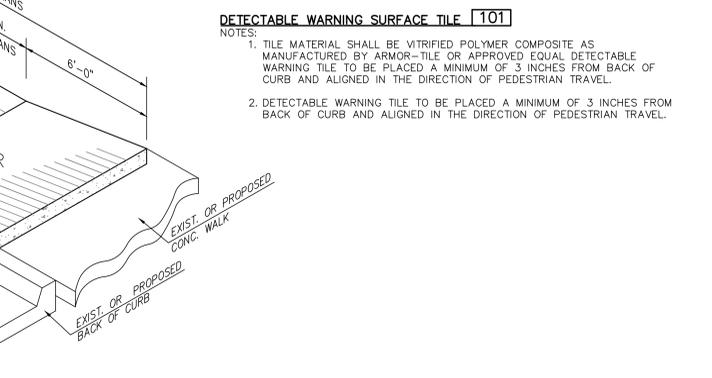
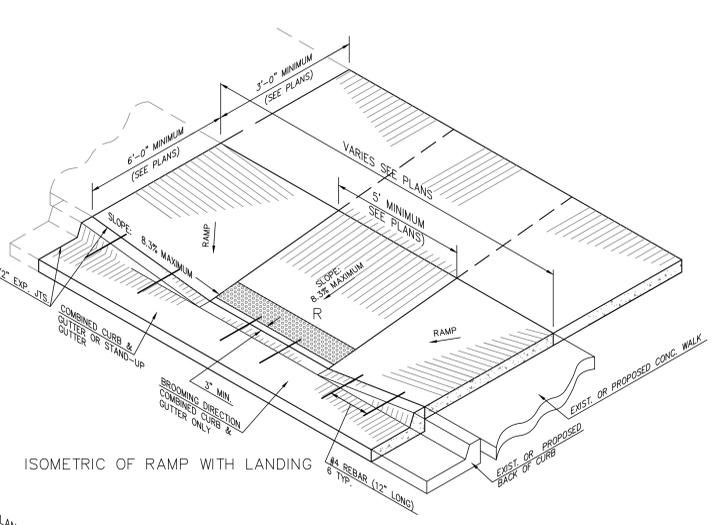
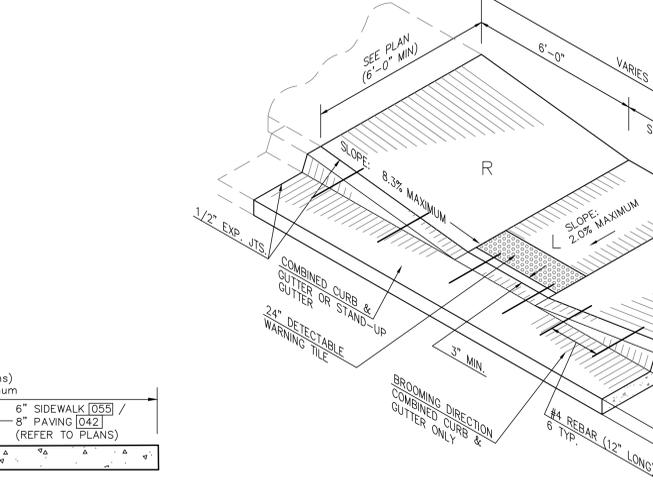
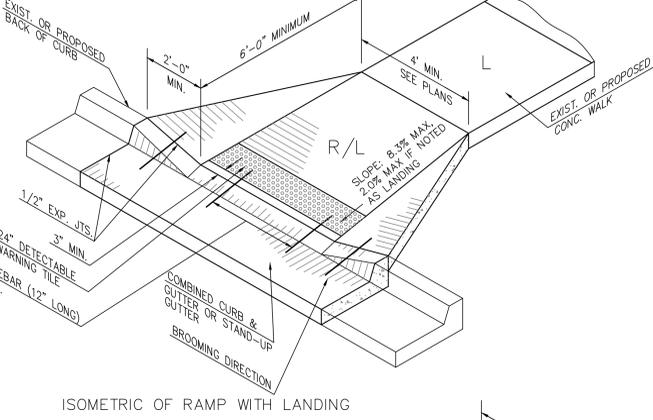
- CRACKS: REFER TO CRACK SEALING/FILLING GUIDELINES.
1. AREAS OF THE PAVEMENT REQUIRING PATCHING WILL BE DESIGNATED ON THE PLANS OR MARKED BY THE ENGINEER AFTER COMPLETION OF MILLING OPERATIONS FOR THE SECTION OF PAVEMENT UNDER CONSTRUCTION. THE DETERIORATED PAVEMENT WILL BE REMOVED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE SUBGRADE SHALL BE ADJUSTED TO PERMIT THE THICKNESS OF ASPHALT INDICATED ON THE PLANS. THE SUBGRADE SHALL CONSIST OF MODOT TYPE 5 AGGREGATE AND SHALL BE UNIFORMLY COMPACTED BY HAND TAMPING OR ROLLING. BITUMINOUS MIX FOR PATCHING WILL MEET THE REQUIREMENTS FOR APWA TYPE 1 OR 2 ASPHALT CONCRETE AS SPECIFIED IN THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200. AT THE TIME OF PLACING ASPHALT THE EDGE OF THE AREA TO BE PATCHED WILL BE COATED WITH SS-1H EMULSIFIED ASPHALT OR APPROVED EQUAL. THE ASPHALT IN THE PATCH SHALL BE PLACED IN TWO EQUAL LIFTS WITH EACH LIFT THOROUGHLY COMPACTED PRIOR TO PLACEMENT OF THE SUBSEQUENT LIFT.
2. CONSTRUCTION OF THE 2 INCH OVERLAY WILL BE PERFORMED IN ACCORDANCE WITH THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200 - ASPHALT CONCRETE SURFACE WITH THE FOLLOWING MODIFICATIONS:
3. THE APWA TYPE 3 ASPHALT CONCRETE MIX MAY CONTAIN RECYCLED ASPHALT CONTENT. RECYCLED ASPHALT MIX DESIGN APWA TYPE 3 (FRAP) AND APWA TYPE 1 OR 2 (FRAP) (FOR FULL DEPTH PATCH) MUST BE A 50-BLOW MARSHALL MIX MEETING THE AGGREGATE, GRADATION, AND VOLUMETRIC DESIGN REQUIREMENTS FOR APWA TYPE 3 OR APWA TYPE 3 (FRAP) FOR SURFACE COURSE AND APWA TYPE 1 OR 2 OR APWA TYPE 1 OR 2 (FRAP) FOR BASE COURSES AS DEFINED BY THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200, CURRENT EDITION. ANY SUBMITTED 50-BLOW MARSHALL MIX DESIGN MUST ALSO BE CHECKED FOR RESISTANCE TO STRIPPING DURING DESIGN USING AASHTO T-283 TO DETERMINE IF ANTI-STRIPPING AGENT IS NEEDED FOR THE SAME ASPHALT CONCRETE CHOSEN FOR THE PROJECT. THE INDEX OF RETAINED STRENGTH SHALL EXCEED 80%. ANY ASPHALT MIX SUPPLIED TO THE PROJECT DURING PLACEMENT WILL BE SUBJECT TO TESTING BY THE OWNERS REPRESENTATIVES USING THE AASHTO T-283 PROCEDURE FOR TENSILE STRENGTH RATIO.)
4. MEASURED DENSITY OF THE COMPLETED OVERLAY SHALL HAVE A COMPACTED DENSITY OF 92% TO 97% OF THE DAILY THEORETICAL MAXIMUM SPECIFIC GRAVITY (GMM) OF THE APWA TYPE 3 MIX SUPPLIED TO THE PROJECT.
5. AREAS OF THE PAVEMENT SURFACE ON THE DRIVES AND PARKING LOTS THAT ARE SHOWN TO HAVE SEGREGATION UPON COMPLETION OF FINAL ROLLING SHALL RECEIVE AN ADDITIONAL SURFACE TREATMENT TO CLOSE THE SURFACE VOIDS. THE SURFACE TREATMENT SHALL CONSIST OF MANUFACTURED SAND COATED WITH SS-1H EMULSION WORKED INTO THE SURFACE VOIDS TO YIELD A UNIFORM APPEARING SURFACE.



- 1. FLEXIBLE PAVEMENT SHALL BE IN ACCORDANCE WITH THE LATEST (FEBRUARY 2017) EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200 AS AMENDED BY PROJECT SPECIFICATIONS.
ASPHALT SURFACE COURSE - APWA TYPE 3-01
ASPHALT BASE COURSE - APWA TYPE 2-01
2. PORTLAND CEMENT CONCRETE FOR DRIVEWAYS SHALL BE A KOMM4K MIX AND SHALL MEET THE LATEST EDITION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SECTION 2200.

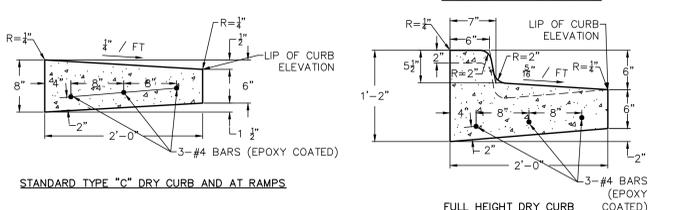
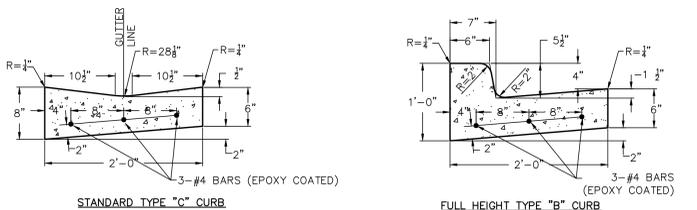


CONTRACTOR TO USE P.C.C. IN LIEU OF ASPHALT IF STANDARD COMPACTION EQUIPMENT CANNOT BE USED
* REFERENCE SHEET C300 FOR SLOPE DIRECTION



DETECTABLE WARNING SURFACE TILE 101

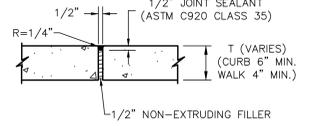
- NOTES:
1. TILE MATERIAL SHALL BE VITRIFIED POLYMER COMPOSITE AS MANUFACTURED BY ARMOR-TILE OR APPROVED EQUAL. DETECTABLE WARNING TILE TO BE PLACED A MINIMUM OF 3 INCHES FROM BACK OF CURB AND ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.
2. DETECTABLE WARNING TILE TO BE PLACED A MINIMUM OF 3 INCHES FROM BACK OF CURB AND ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.



ZERO HEIGHT CURB 002 FULL HEIGHT CURB 001

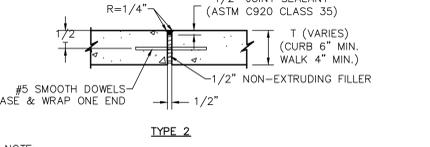
- CURB & GUTTER NOTES:
1. 1/2\"/>

CURB & GUTTER N.T.S



- NOTE:
1. TYPE 1 JOINTS SHALL BE PLACED WHERE NEW CONCRETE ABUTS EXISTING CONCRETE AND IN AREAS WHERE CONCRETE ABUTS BUILDINGS, UNLESS NOTED OTHERWISE.

EXPANSION JOINT - TYPE 1

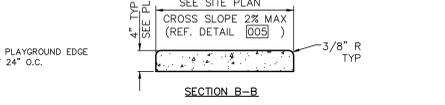
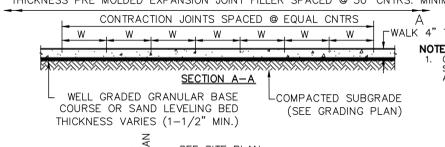
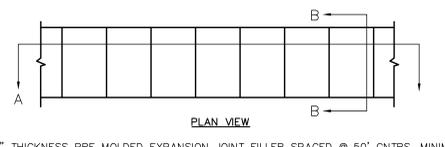


- NOTE:
1. TYPE 2 JOINTS SHALL BE PLACED AS NOTED AND AT ALL P.C.'S, P.T.'S AND TRANSITIONS, AND WHERE NEW CURB OR CONCRETE PAVEMENT TIES INTO EXISTING CURB OR CONCRETE PAVEMENT.
2. SMOOTH BARS SHALL BE 24\"/>

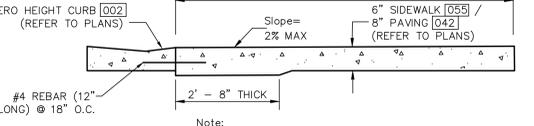
CONCRETE JOINTING DETAILS

CONCRETE AND SIDEWALK NOTES:

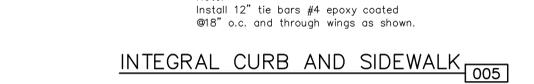
- 1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AND COMPLY WITH KOMM SPECIFICATIONS. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH APWA SECTION 2200.
2. REINFORCING STEEL SHALL BE GRADE 60 AND COMPLY WITH ASTM A615. EPOXY COATED BARS AS NOTED SHALL COMPLY WITH ASTM A775. ALL CUT ENDS OR DAMAGED AREAS SHALL BE FIELD REPAIRED WITH EPOXY COATING.
3. SIDEWALKS TO BE BROOM FINISHED.
4. SUBGRADE TO BE COMPACTED TO 90% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. MOISTURE CONTENT TO BE WITHIN A RANGE OF 2% BELOW TO 2% ABOVE OPTIMUM MOISTURE AS DEFINED BY ASTM D698.
5. SIDEWALK JOINTS MAY BE SAWN UNLESS OTHERWISE NOTED ON ARCHITECTURAL PLANS.



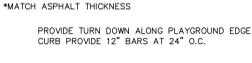
CONCRETE SIDEWALK 055



INTEGRAL CURB AND SIDEWALK 005



TURNDOWN



CONCRETE SIDEWALK 055

SIDEWALK RAMPS 060

PROJ. NO. C21-1242 DSN: CJC CHRISTIAN J. CROWDER
CIN: 12420ET DWN: NJN ENGINEER
MO # 2015000538
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LENEXA, KANSAS 66215
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KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/23

LEGEND:

- UNDERGROUND GAS
- GAS METER
- CONTROL POINT
- BENCHMARK
- GATE POST
- CHAIN LINK FENCE
- STREET/TRAFFIC SIGN
- UNDERGROUND FIBER OPTIC CABLE
- UNDERGROUND FIBER OPTIC (FROM RECORDS)
- TELEPHONE PEDESTAL
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA INLET
- CURB INLET
- SANITARY SEWER CLEAN OUT
- DOWN SPOUT
- FLOOR DRAIN
- FLARED END SECTION
- SANITARY SEWER LINE
- STORM SEWER LINE
- CORRUGATED METAL PIPE
- REINFORCED CONCRETE PIPE
- UNDERGROUND ELECTRIC
- OVERHEAD UTILITY LINE (# OF LINES)
- PULL BOX
- LIGHT POLE
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- UTILITY POLE W/ TRANSFORMER
- WATER LINE PER RECORD
- UNDERGROUND ELECTRIC PER RECORD
- TREE LINE

CONSTRUCTION NOTES:

- 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 25, 2022. ALL UTILITY PIPE LINES TO BE ABANDONED SHALL BE PLUGGED PER CITY AND STATE REGULATIONS.
- 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.
- ALL EXISTING UTILITIES ETC. LOCATED WITHIN THE BOUNDARIES OF THE PROPOSED BUILDING SHALL BE COMPLETELY REMOVED TO 10 FEET OUTSIDE OF BUILDING LINE.
- CONTRACTOR SHALL VERIFY THAT ALL UTILITIES TO EXISTING STRUCTURES HAVE BEEN DISCONNECTED PRIOR TO COMMENCING DEMOLITION.
- 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 SHALL BE PERFORMED IN COOPERATION WITH AND IN ACCORDANCE WITH REGULATIONS OF THE AUTHORITIES CONCERNED.

EROSION AND SEDIMENT CONTROL INSPECTION PROCEDURES

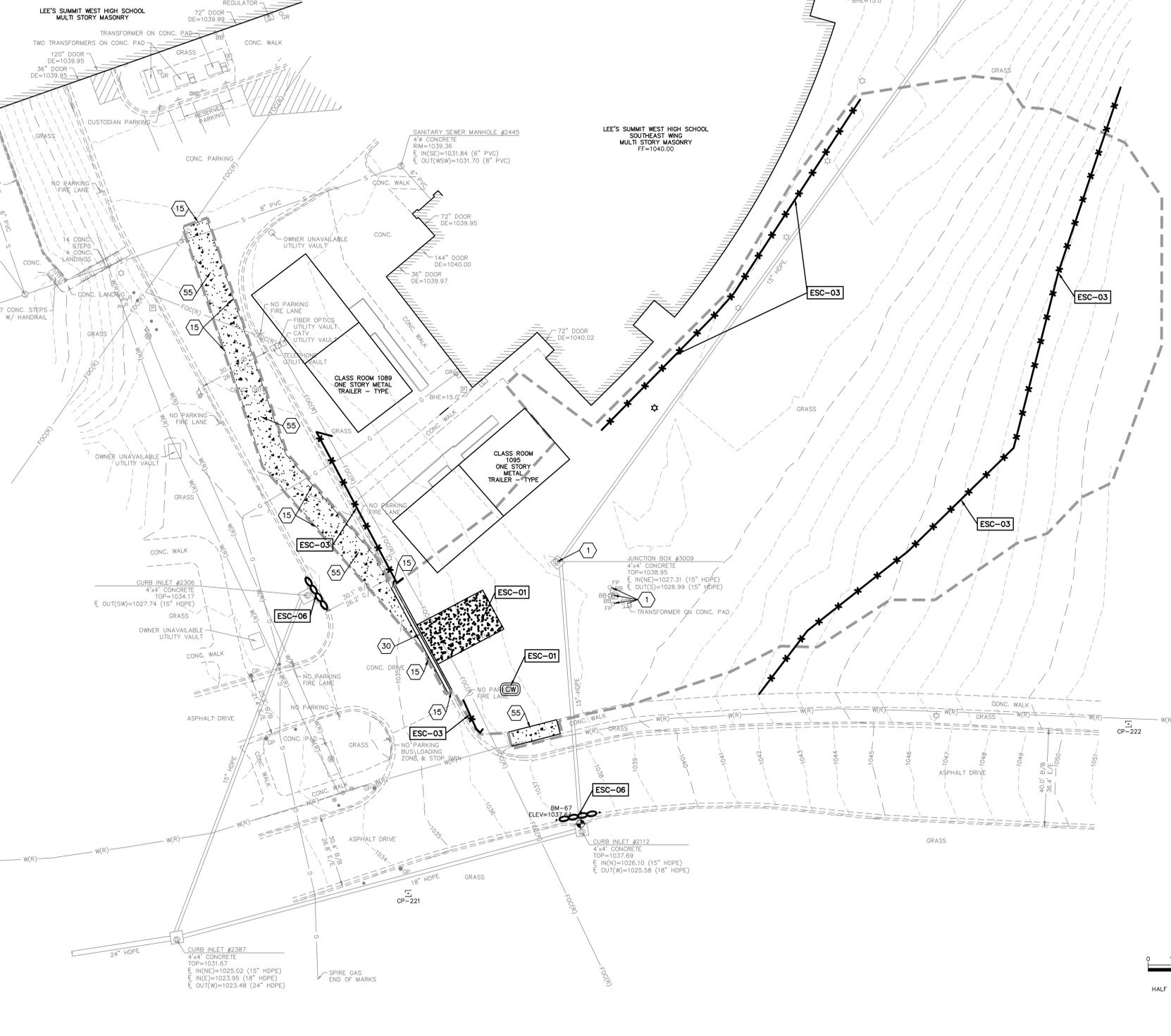
- THE FOLLOWING PROCEDURES WILL BE USED TO MAINTAIN EROSION AND SEDIMENTATION CONTROLS.
- ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL EVENT PRODUCING RUNOFF AND DAILY DURING PROLONGED RAINFALL PERIODS. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE MADE WITHIN 24 HOURS OF THE INSPECTION.
 - SEDIMENT WILL BE REMOVED FROM THE SILT BARRIERS WHEN IT HAS REACHED ONE-THIRD OF THE HEIGHT OF THE BARRIER.
 - SILT BARRIERS WILL BE INSPECTED FOR DEPTH OF ACCUMULATED SEDIMENT, TEARS, ATTACHMENT TO POSTS, AND STABILITY ON A WEEKLY BASIS.
 - TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
 - THE CONSTRUCTION MANAGER WILL SELECT INDIVIDUALS TO BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE, REPAIRS, AND REPORTING. THE DESIGNATED INDIVIDUALS WILL RECEIVE THE NECESSARY TRAINING FROM THE CONSTRUCTION MANAGER TO PROPERLY INSPECT AND MAINTAIN THE CONTROLS IN GOOD WORKING ORDER.

GENERAL NOTES:

- PROJECT AREA IS APPROXIMATE LIMITS OF CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING EARTHWORK OPERATIONS.
- THE CONTRACTOR SHALL MAINTAIN ALL SILT CONTROL MEASURES DURING CONSTRUCTION.
- ALL SILT SHALL REMAIN WITHIN THE CONSTRUCTION LIMITS. SURROUNDING PARKING LOTS AND PLAYGROUNDS SHALL BE KEPT CLEAR OF ALL MUD AND DEBRIS.
- A SEDIMENTATION BARRIER IS TO BE INSTALLED AS SHOWN.
- ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE SEDIMENTATION BARRIERS MAINTAINED AS NEEDED TO PREVENT SEDIMENTATION BYPASS OF THE BARRIER.
- SLOPES ARE TO BE LEFT IN A ROUGH CONDITION DURING GRADING.
- CURB INLET SEDIMENTATION BARRIERS ARE TO BE INSTALLED AROUND INLETS WHERE SEDIMENTATION IS A CONCERN. INLET BARRIERS SHALL BE FILTER BAGS.
- SEDIMENT IS TO BE REMOVED FROM STORM WATER DRAINAGE SYSTEMS.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL AS HE/SHE DEEMS NECESSARY.
- 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.
- TEMPORARY SEDIMENT FENCES/STRAW MATS TO REMAIN UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
- MUD AND DEBRIS SHALL BE CLEANED UP AT THE CONCLUSION OF EACH WORKING DAY, OR AFTER EACH RAINFALL IF SILT IS PRESENT.
- 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.
- INSTALL CONSTRUCTION ENTRANCE AS NOTED.
- AT COMPLETION OF SITE GRADING AND OTHER RELATED CONSTRUCTION ACTIVITIES, ALL DISTURBED AREAS WITHIN THE PROJECT SITE SHALL BE SEED, SOODED, OR LANDSCAPED AS SHOWN ON THE SITE. IF GRADING ACTIVITIES CEASE ON AN AREA OF THE SITE DISTURBED SLOPES SHALL BE TEMPORARILY SEED IN ACCORDANCE WITH PLANS.
- TORSOIL IS TO BE PLACED IN AREAS UNSUITABLE FOR VEGETATIVE GROWTH.
- STRIP TORSOIL PRIOR TO EXCAVATION, STOCKPILE AND SPREAD ONTO DISKED SUBGRADE (4" MIN) A THICKNESS OF 4 INCHES.
- 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.
- GOOD HOUSEKEEPING PRACTICES SHALL BE MAINTAINED ON SITE TO KEEP SOLID WASTE FROM ENTRY INTO WATERS.
- 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.
- EROSION CONTROL IS TO BE PLACED IN PHASING AS CONSTRUCTION PROGRESSES.
- 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.
- EROSION CONTROL SEDIMENT FENCE OR STRAW WATTLE SHALL BE INSTALLED 1'-0" BEHIND CURB & GUTTER OR SIDEWALK UPON COMPLETION OF BACKFILL OF CURB IN ALL AREAS WHERE SLOPES FROM DISTURBED AREAS DRAIN TOWARDS CURB OR SIDEWALK. UPON COMPLETION OF FINAL GRADING THE TOES OF ALL EMBANKMENTS IN EXCESS OF TWO FEET IN HEIGHT WILL HAVE EROSION CONTROL SEDIMENT FENCE INSTALLED.

DEMOLITION

- 1 TO REMAIN.
- 7 SIGN TO BE RELOCATED
- 15 SAW CUT LINE (FOR CONCRETE SAW CUT AT NEAREST CONTROL JOINT. FOR ASPHALT SAW CUT MINIMUM OF 6" FROM NEW CURB LINE). SEE N-C100 AND N-C200 SERIES SHEETS FOR LIMITS.
- 30 CONTRACTOR TO REMOVE CONCRETE CURBS TO CONSTRUCT IMPROVEMENTS. SEE SHEET C100 AND C200 FOR LIMITS.
- 55 CONTRACTOR TO REMOVE CONCRETE PAVING AND WALKS.



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 C4.16 AND C4.17.

- ESC-01 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT
- ESC-03 SEDIMENTATION FENCE
- ESC-06 CURB INLET PROTECTION
- ESC-07 AREA INLET PROTECTION

- EROSION & PROPOSED IMPROVEMENTS LEGEND:**
- 1218- EXISTING FINISHED 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

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.

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.

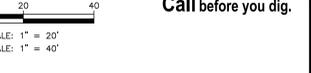
SAFETY NOTICE TO CONTRACTOR

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.



PROJ. NO. C21-1242 DSN: CJC
CPL: 1242DEM0 DWN: NJN
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KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF AUTHORITY # 000842. EXPIRES 12/31/23



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

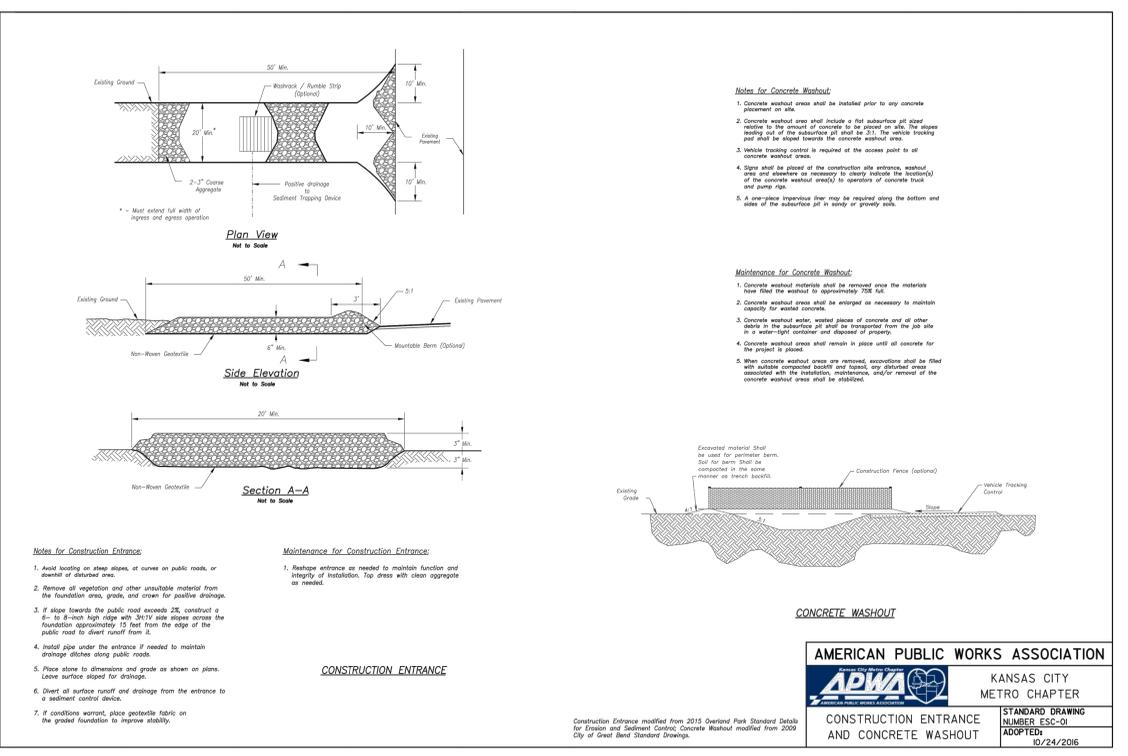
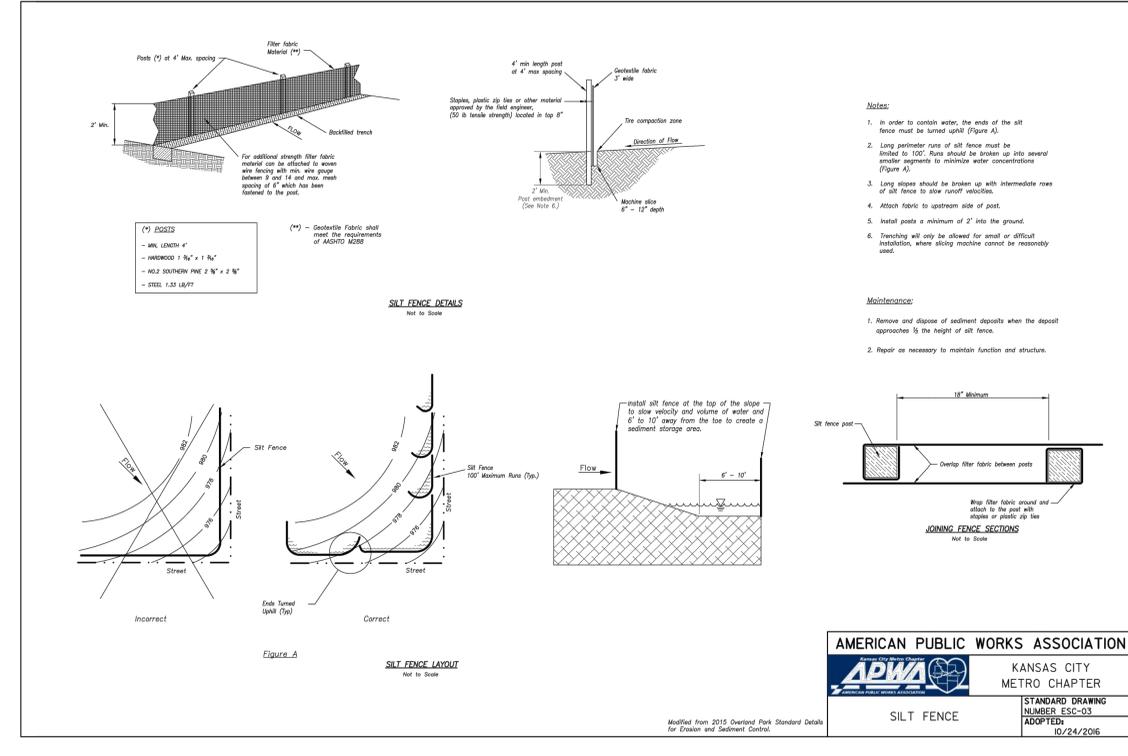
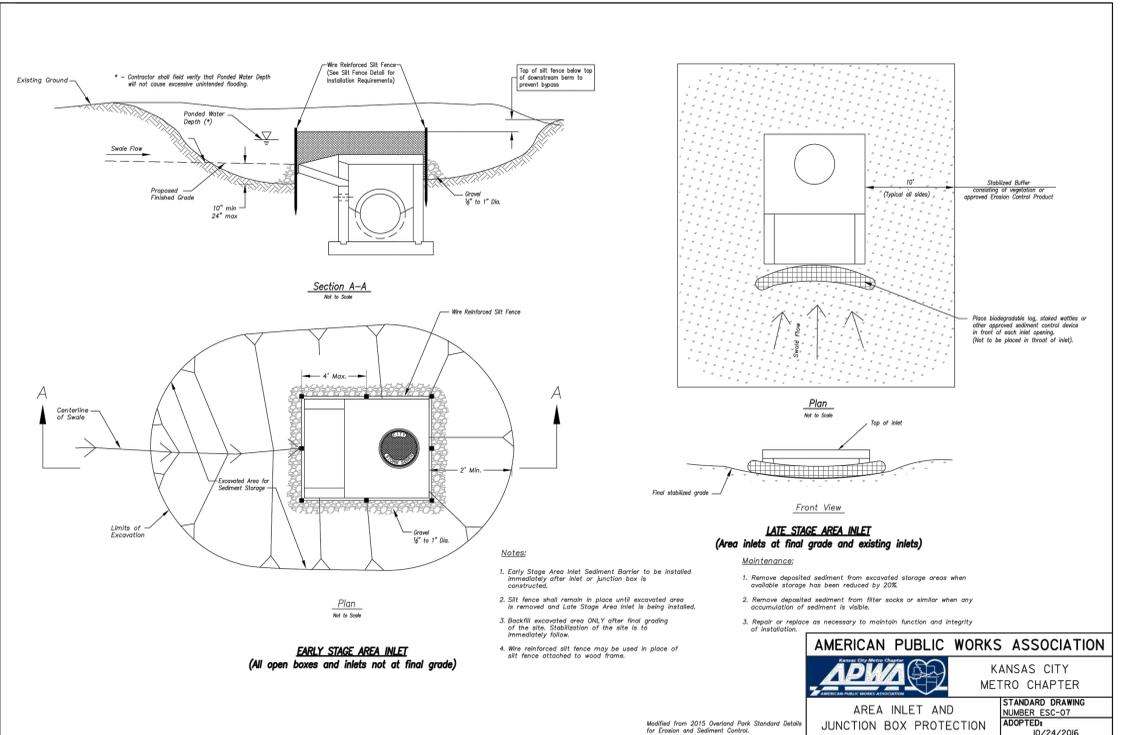
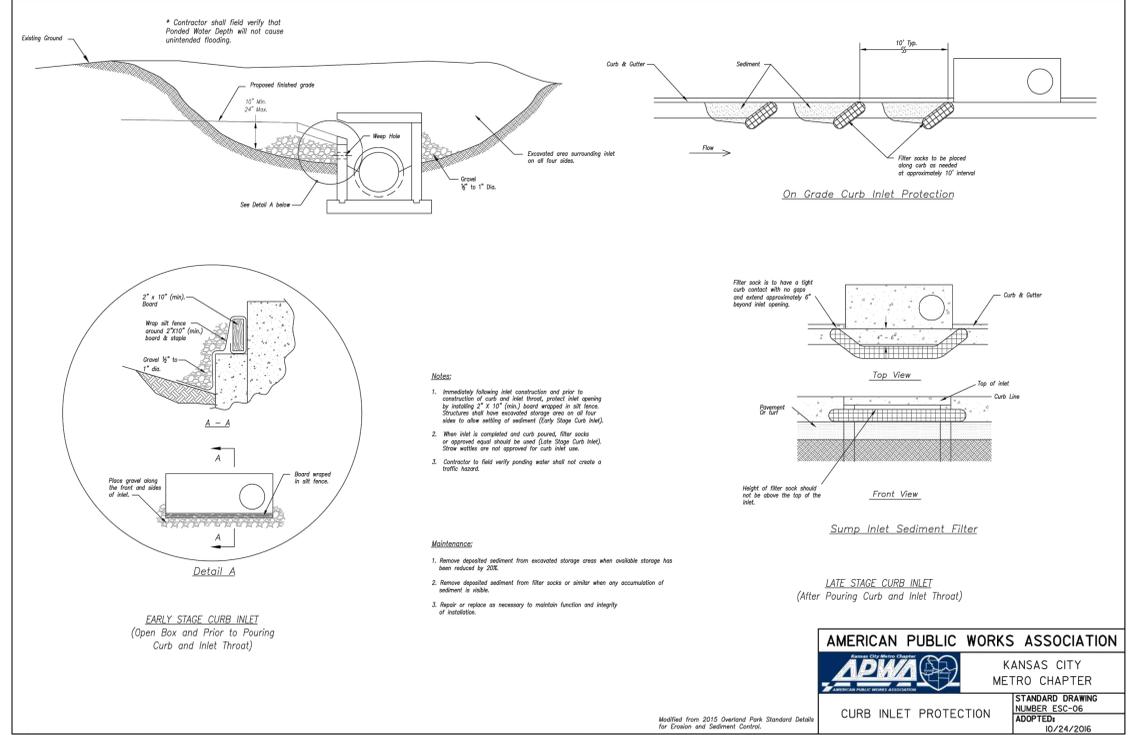
owner: Lee's Summit R-7 School
301 NE Tudor Road
Lee's Summit, MO 64086

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

structural engineer: Bob D. Campbell &
4338 Bellevue
Kansas City, MO 64111
913.485.0318
816.531.4144
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civil engineer: Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
913.485.0318
816.531.4144
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MEP/PT/Code: Henderson Engineers
8345 Lenexa Drive, Suite 300
Lenexa, KS 66214
816.742.5000
www.hendersonengineers.com



Issue Date: September 9, 2022

NUMBER	DESCRIPTION	DATE
1	AS 01 - CODE COMMENTS	11/22/2022

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

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Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW EROSION CONTROL DETAILS

C290-A

NUMBER	DESCRIPTION	DATE
1	AS BUILT - CODE COMMENTS	11/22/2022

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12/22/2022

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Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LEGEND (PROPOSED)

- 22.9 SPOT ELEVATION (ADD 1000).
- 1000 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT
- 1000 EXISTING GROUND CONTOUR (1' INTERVALS)
- SWALE
- LP LOW POINT
- HP HIGH POINT

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. CONSTRUCTION MANAGER SHALL DESIGNATE LOCATION OF STOCKPILE AREAS DURING CONSTRUCTION. ANY UNAUTHORIZED STOCKPILE SHALL BE REMOVE/RELOCATED AT THE CONTRACTORS EXPENSE.
2. 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.
3. 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.
4. 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.
5. 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.
6. IN ALL AREAS OF EXCAVATION, IF UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED, THE OWNER/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. ALL EXCAVATIONS SHALL BE CONSIDERED AS UNCLASSIFIED. REFER TO PROJECT GEOTECHNICAL REPORT.
8. ALL DISTURBED SLOPES ARE TO BE 3:1 OR FLATTER.
9. ALL SLOPES DISTURBED EXCEEDING 4:1 SHALL BE HYDROSEEDDED, SODDED OR PROTECTED BY EROSION CONTROL BLANKETS THAT WILL PREVENT EROSION AND PLACED SUCH THAT THE SURFACE IS FLUSH WITH THUNDERING GROUND AND SHAPED TO CHANNEL WATER IN DIRECTIONS INDICATED. SEE GENERAL NOTES ON THIS SHEETS.
10. 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 SEEDDED, 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.
11. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS.
12. 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.
13. 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.
14. IF ANY OF THESE NOTES CONFLICT WITH THE PROJECT GEOTECHNICAL REPORT AND ALL ADDENDUMS PREPARED BY CFS ENGINEERS DATED JULY 22, 2022 (CFS PROJECT NO. 22-5547), RECOMMENDATIONS IN GEOTECHNICAL REPORT SHALL GOVERN.

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.
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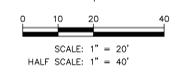
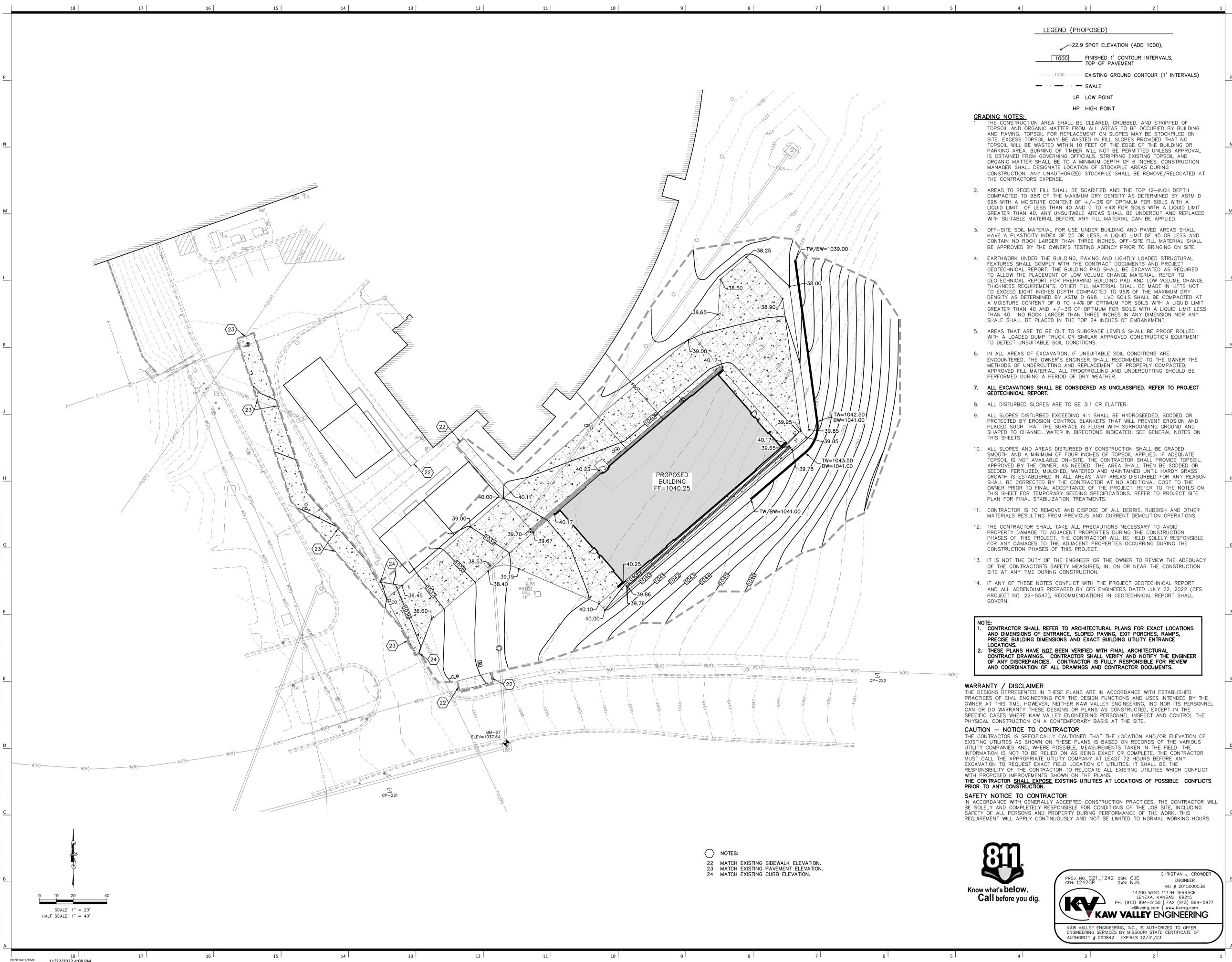


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CPL: 1242GP ENGINEER
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KAW VALLEY ENGINEERING

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

- NOTES:**
- 22 MATCH EXISTING SIDEWALK ELEVATION.
 - 23 MATCH EXISTING PAVEMENT ELEVATION.
 - 24 MATCH EXISTING CURB ELEVATION.



**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

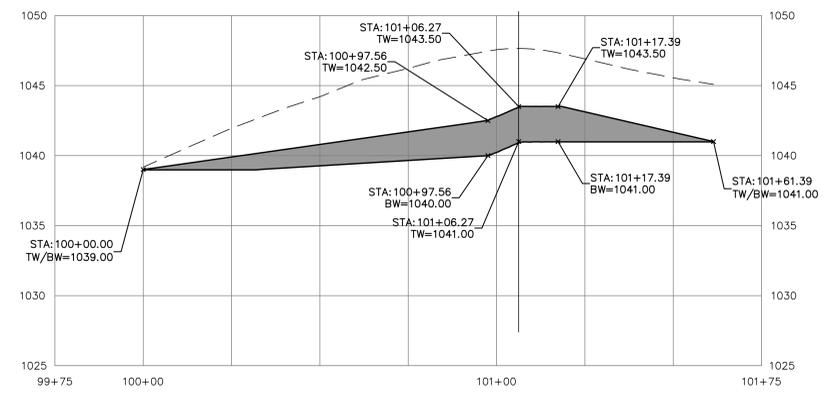
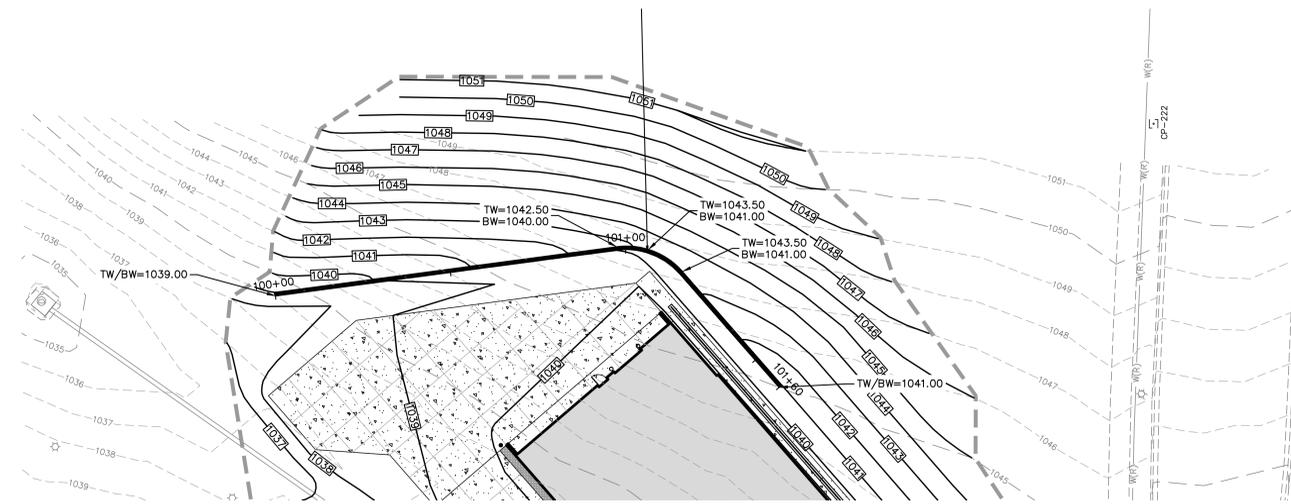
owner: Lee's Summit R-7 School
303 W Tudor Road
Lee's Summit, MO 64086

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

civil engineer: Kaw Valley Engineering
14700 West 114th Terrace
Lenexa, KS 66215
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structural engineer: Bob D. Campbell &
4338 Bellevue
Kansas City, MO 64111
816.531.4144
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MEP/PT/Code: Henderson Engineers
8345 Lenexa Drive, Suite 300
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www.hendersonengineers.com



Issue Date: September 9, 2022

NUMBER	DESCRIPTION	DATE
1	AS-BUILT COMMENTS	11/22/2022

**RELEASED FOR
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As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
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Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

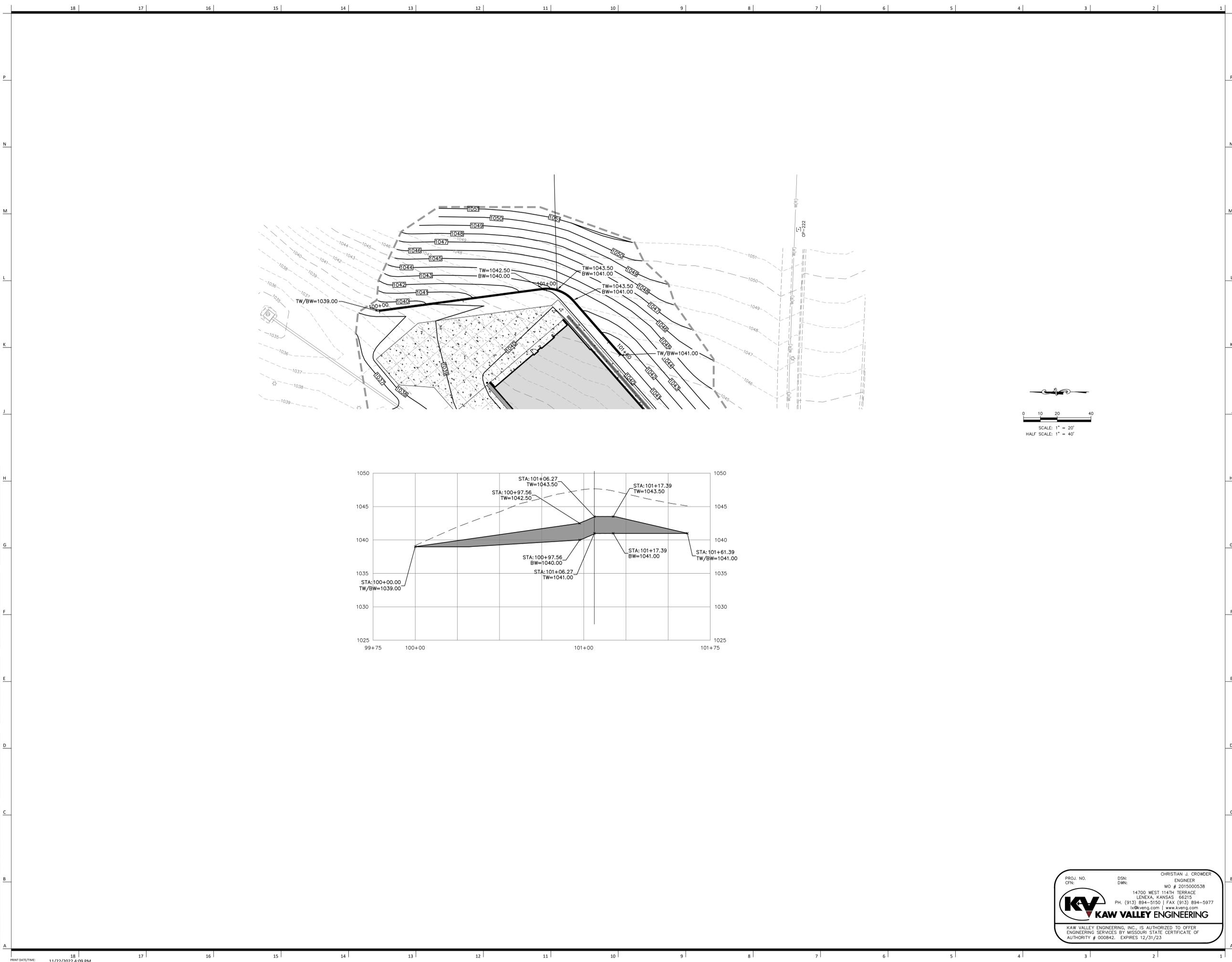
**LSW RETAINING WALL
PLAN AND PROFILE**

C310-A

PROJ. NO. _____ DSN: CHRISTIAN J. CROWDER
CFN: _____ DWN: ENGINEER
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KV KAW VALLEY ENGINEERING

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



UTILITY NOTES:

- EXCAVATION, TRENCHING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2100 GRADING AND SITE PREPARATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
- ALL BACKFILL SHALL BE TAMPED, BACKFILL WITHIN THE RIGHT-OF-WAY AND UNDER PARKING AREAS AND SLABS SHALL BE 95% COMPACTION OF OPTIMUM MOISTURE.
- CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY OF LEE'S SUMMIT UNLESS DULY AUTHORIZED TO DO SO. 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.** CONTRACTOR SHALL NOTIFY THE KOMO WSD 48 HOURS MINIMUM.
- CONTRACTOR TO INSTALL TRACING TAPE ALONG ALL NON-METALLIC 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.
- A MINIMUM HORIZONTAL DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. REFERENCE APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
- CONTRACTOR TO SCHEDULE ALL INSPECTIONS FOR SEWER MAIN CONNECTIONS THROUGH THE PUBLIC WORKS DEPARTMENT.

AREA INLET #2125
4x4 CONCRETE
TOP=1035.02
E. OUT(SW)=1030.45 (15" HDPE)
NOTE: NO STEPS.

SANITARY SEWER MANHOLE #2445
4x4 CONCRETE
RIM=1039.36
E. IN(S)=1031.84 (6" PVC)
E. OUT(SW)=1031.70 (8" PVC)

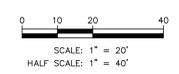
SANITARY SEWER MANHOLE #2447
4x4 CONCRETE
RIM=1027.45
E. IN(E)=1020.11 (6" PVC)
E. IN(NW)=1019.92 (6" PVC)
E. OUT(W)=1019.87 (6" PVC)

NOTES:

- 50 GAS SERVICE LINE (REFER TO MEP PLANS)
- 50A GAS METER (REFER TO MEP PLANS)
- 52 PROPOSED ELECTRIC SERVICE LINE (REFER TO MEP PLANS)
- 53 PROPOSED FIBER SERVICE LINE (REFER TO MEP PLANS)
- 60 PROPOSED STORM SEWER (SEE N-C600 SERIES SHEETS)
- 61 PROPOSED ROOF DRAIN
- 70 4" SCH 40 PVC SANITARY SEWER SERVICE LINE (SEE SHEET C700-A)
- 70A SANITARY SEWER SERVICE CONNECTION TO BUILDING (SEE SHEET C700-A)
- 80 2" TYPE K COPPER DOMESTIC WATER SERVICE LINE (SEE SHEET C800-A)
- 80A POINT OF CONNECTION - DOMESTIC WATER SERVICE (PROVIDE 8"x2" TEE AND GATE VALVE ON DOMESTIC LINE)
- 80B POINT OF CONNECTION TO BUILDING - DOMESTIC WATER SERVICE (SEE MEP PLANS)
- 80C 1 1/2" WATER METER IN VAULT
- 81 6" PVC AWWA C900 FIRE PROTECTION LINE (SEE SHEET C800-A)
- 81A POINT OF CONNECTION - FIRE PROTECTION LINE
- 82 PROPOSED FIRE HYDRANT ASSEMBLY (SEE SHEETS C800-A AND C890-A)

DETAILS SEE SHEET C790-A FOR THE FOLLOWING

- 500 SANITARY SEWER MANHOLE
- 510 CLEANOUT



NOTE:
1. REFER TO SHEET N-EG01 FOR ADDITIONAL SITE ELECTRICAL AND TELECOM REQUIREMENTS FOR COMMUNICATIONS.
2. ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR.

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.

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 TEMPORARY 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.



PROJ. NO. C21-1242 DSN: CJC CHRISTIAN J. CROWDER
CIN: 1242UR DWN: NJN ENGINEER
MO # 2015000538
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LENEXA, KANSAS 66215
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KAW VALLEY ENGINEERING

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

Issue Date: September 9, 2022

NUMBER	DESCRIPTION	DATE
1	AS B1 - CODE COMMENTS	11/22/2022

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

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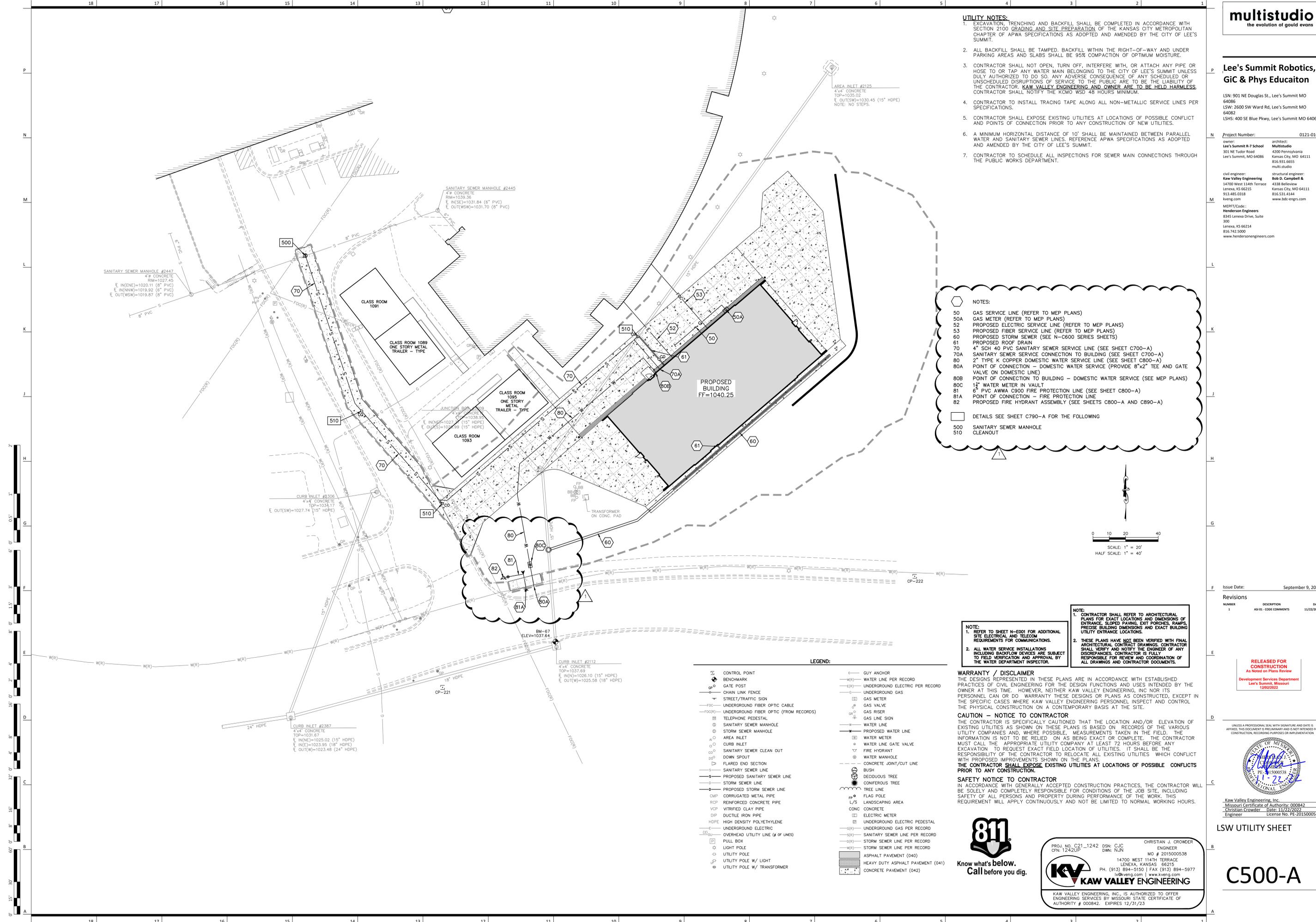
Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW UTILITY SHEET

C500-A

LEGEND:

<ul style="list-style-type: none"> □ CONTROL POINT ○ BENCHMARK ○ GATE POST ○ CHAIN LINK FENCE ▽ STREET/TRAFFIC SIGN —FOC— UNDERGROUND FIBER OPTIC CABLE —FOOR— UNDERGROUND FIBER OPTIC (FROM RECORDS) □ TELEPHONE PEDESTAL □ SANITARY SEWER MANHOLE ○ STORM SEWER MANHOLE ○ CURB INLET ○ SANITARY SEWER CLEAN OUT ○ DOWN SPOUT ▽ FLARED END SECTION — SANITARY SEWER LINE — PROPOSED SANITARY SEWER LINE — STORM SEWER LINE — PROPOSED STORM SEWER LINE — CORRUGATED METAL PIPE — RCP REINFORCED CONCRETE PIPE — VCP VITRIFIED CLAY PIPE — DIP DUCTILE IRON PIPE — HDPE HIGH DENSITY POLYETHYLENE — UNDERGROUND ELECTRIC — OVERHEAD UTILITY LINE (# OF LINES) □ PULL BOX ○ LIGHT POLE ○ UTILITY POLE ○ UTILITY POLE W/ LIGHT ○ UTILITY POLE W/ TRANSFORMER 	<ul style="list-style-type: none"> — GUY ANCHOR —(R)— WATER LINE PER RECORD —(E)— UNDERGROUND ELECTRIC PER RECORD —(G)— UNDERGROUND GAS □ GAS METER □ GAS VALVE □ GAS RISER □ GAS LINE SIGN — WATER LINE — PROPOSED WATER LINE □ WATER METER □ WATER LINE GATE VALVE ▽ FIRE HYDRANT ○ WATER MANHOLE — CONCRETE JOINT/CUT LINE ○ BUSH ○ DECIDUOUS TREE ○ CONIFEROUS TREE ○ TREE LINE ○ FLAG POLE ○ L/S LANDSCAPING AREA CONC CONCRETE □ ELECTRIC METER □ UNDERGROUND ELECTRIC PEDESTAL —(G)— UNDERGROUND GAS PER RECORD —(S)— SANITARY SEWER LINE PER RECORD —(R)— STORM SEWER LINE PER RECORD —(W)— STORM SEWER LINE PER RECORD — ASPHALT PAVEMENT (040) — HEAVY DUTY ASPHALT PAVEMENT (041) — CONCRETE PAVEMENT (042)
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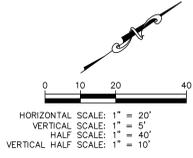
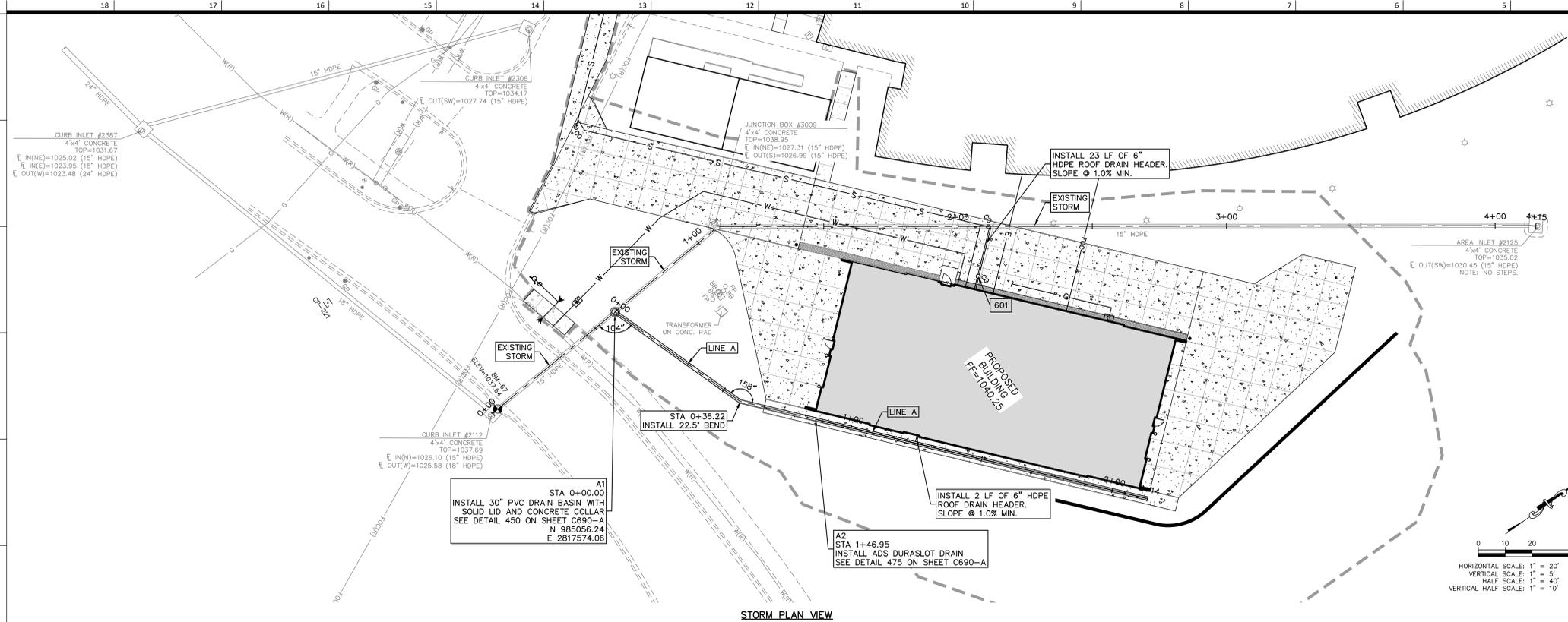


STORM SEWER CONSTRUCTION NOTES:

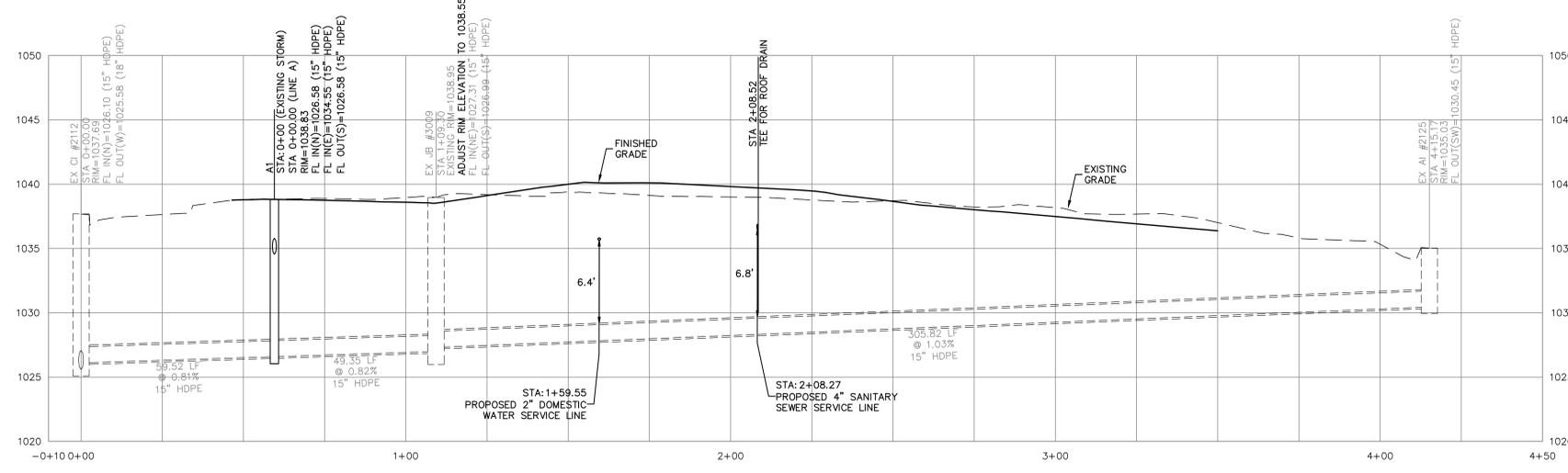
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2600 STORM SEWER OF THE KANSAS CITY METRO CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS, REFERENCE APWA SPECIFICATION SECTION 2102.4 FOR EXCAVATION, TRENCHING AND BACKFILLING FOR PIPE AND STORM STRUCTURES.
- A MINIMUM OF 18" COVER SHALL BE PROVIDED PRIOR TO AND MAINTAINED AFTER INSTALLATION OF STORM SEWER.
- ALL COORDINATES FOR CURB INLETS ARE TO THE MIDDLE OF THE INSIDE FRONT FACE. ALL COORDINATES FOR PVC STRUCTURES AND CONCRETE YARD INLETS ARE TO THE CENTER OF THE STRUCTURE.
- ALL JUNCTION BOXES/AREA INLETS HAVE ONE COORDINATE PROVIDED AT THE CENTER OF STRUCTURE. SEE PLAN FOR CLARIFICATION. ORIENT STRUCTURES PARALLEL TO ADJACENT CURB, BUILDING OR WALL FACE, UNLESS NOTED OTHERWISE.
- RIM ELEVATION IS PROVIDED AT COORDINATE. UNLESS NOTED OTHERWISE, CONTRACTOR TO ADJUST ELEVATION OF RIM AS REQUIRED TO MATCH SLOPE OF ADJACENT CURB LINE. REFER TO GRADING PLAN (C300 SERIES SHEETS).
- ALL EXISTING UTILITIES INDICATED ON THE DRAWING ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR TO OBTAIN THE LOCATION OF SAME SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THEIR EXPENSE.
- ALL BACKFILL SHALL BE COMPACTED TO 95 PERCENT STANDARD DENSITY AT OPTIMUM MOISTURE.
- ALL EXCAVATION BENEATH THE STREETS AND PARKING LOTS FOR DRAINAGE PIPE LESS THAN 4'-0" IN DIAMETER SHALL BE BACKFILLED WITH AGGREGATE TO FOUR FEET (4') PAST BACK OF CURB IN ACCORDANCE WITH APWA SPECIFICATIONS SECTION 2102.4.
- RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT THEIR EXPENSE.
- IF PRECAST STORM STRUCTURES ARE TO BE USED ON THIS PROJECT, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND HAVE THEM APPROVED BY THE ENGINEER PRIOR TO FABRICATION OF THE STRUCTURES. FAILURE TO DO SO SHALL BE CAUSE FOR REJECTION.
- ALL HDPE PIPE JOINTS SHALL BE WATER TIGHT.

UTILITY NOTES:

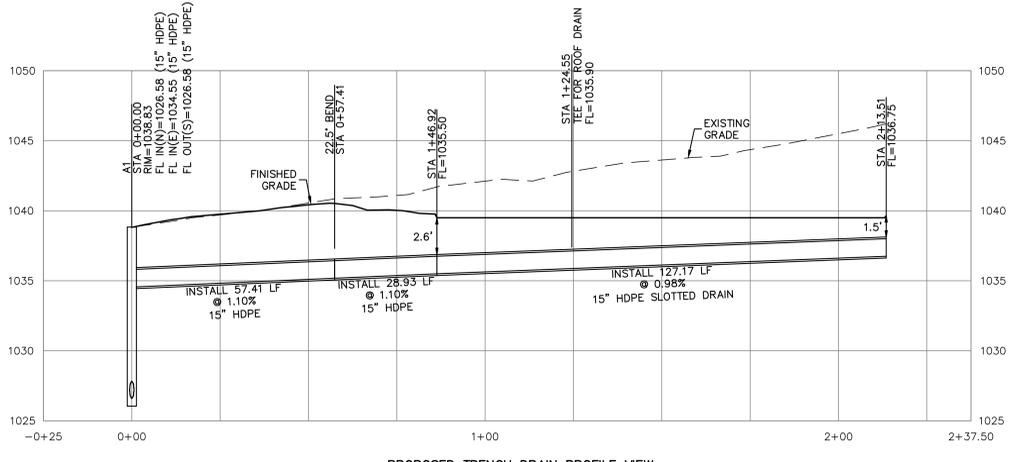
- EXCAVATION, TRENCHING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2100 GRADING AND SITE PREPARATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
- ALL BACKFILL SHALL BE TAMPED. BACKFILL WITHIN THE RIGHT-OF-WAY AND UNDER PARKING AREAS AND SLABS SHALL BE 90% COMPACTION OF OPTIMUM MOISTURE.
- CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY OF LEE'S SUMMIT UNLESS DULY AUTHORIZED TO DO SO. ANY ADVERSE CONSEQUENCES 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.** CONTRACTOR SHALL NOTIFY THE KCMO 48 HOURS MINIMUM PRIOR TO ANY SUCH DISRUPTIONS.
- CONTRACTOR TO INSTALL TRACING TAPE ALONG ALL NON-METALLIC 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.
- A MINIMUM HORIZONTAL DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. REFERENCE APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
- CONTRACTOR TO SCHEDULE ALL INSPECTIONS FOR SEWER MAIN CONNECTIONS THROUGH THE PUBLIC WORKS DEPARTMENT.



STORM PLAN VIEW



PROPOSED STORM PROFILE VIEW



PROPOSED TRENCH DRAIN PROFILE VIEW

LEGEND:

⊕	CONTROL POINT	—S—	SANITARY SEWER LINE
⊕	BENCHMARK	—PVC—	POLYVINYL CHLORIDE PIPE
⊕	PULL BOX	—HDPE—	HIGH DENSITY POLYETHYLENE
⊕	YARD LIGHT	—ST—	STREET/TRAFFIC SIGN
⊕	LIGHT POLE	—DE—	DOOR ELEVATION
⊕	ELECTRIC METER	—FF—	FINISH FLOOR ELEVATION
⊕	WALL MOUNTED CAMERA	—BHE—	BUILDING HEIGHT/ELEVATION
⊕	BREAKER BOX	—B/B—	BACK TO BACK OF CURB MEASUREMENT
⊕	BREAKER GAS	—E/E—	EDGE TO EDGE OF ASPHALT
⊕	UNDERGROUND GAS	—C/C—	EDGE TO EDGE OF CONCRETE
⊕	GAS METER	—L/S—	LANDSCAPING AREA
⊕	GAS RISER	•	BOLLARD
—W/P—	WATER LINE (RECORD)	⊕	GATE POST
⊕	WATER METER	⊕	FENCE POST
⊕	WATER LINE GATE VALVE	—	EXISTING SPOT ELEVATION
⊕	FIRE HYDRANT	—	EXISTING GRADE 1' CONTOUR
⊕	SPRINKLER CONTROL BOX	—	EXISTING GRADE 5' CONTOUR
⊕	WATER MANHOLE	⊕	ASPHALT PAVEMENT (040)
⊕	WALL MOUNTED SIAMASE FIRE CONNECTOR	⊕	HEAVY DUTY ASPHALT PAVEMENT (041)
⊕	SANITARY SEWER MANHOLE	⊕	CONCRETE PAVEMENT (042)
⊕	STORM SEWER MANHOLE		

NOTE:
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PROJ. NO. C21-1242 DSN: CJC
CPL: 2142D0FP
CHRISTIAN J. CROWDER
ENGINEER
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KAW VALLEY ENGINEERING

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

Issue Date: September 9, 2022

Revisions

NUMBER	DESCRIPTION	DATE
1	ADD 01 - CODE COMMENTS	11/22/2022

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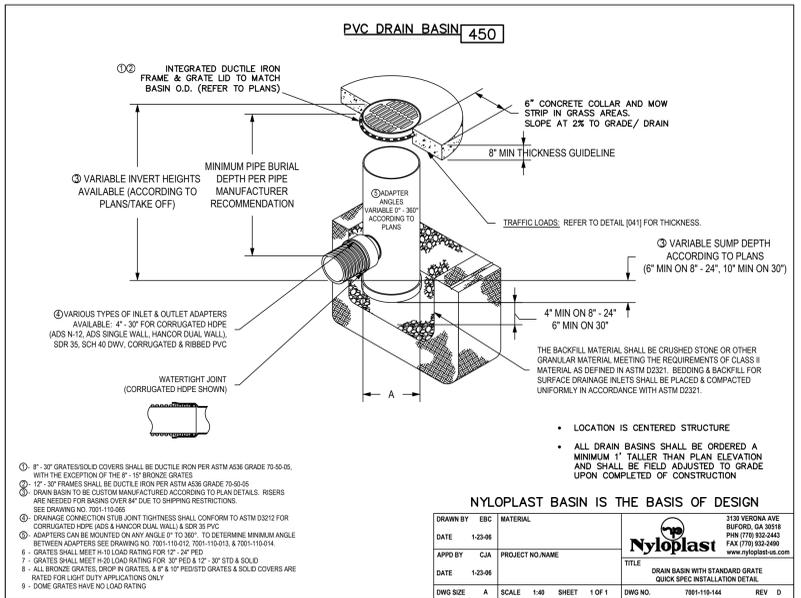
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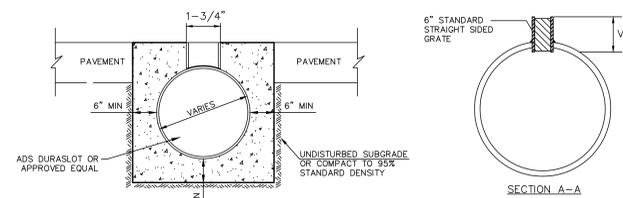
Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW STORM PLAN AND PROFILE

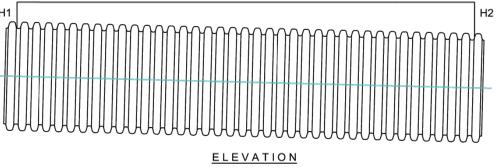
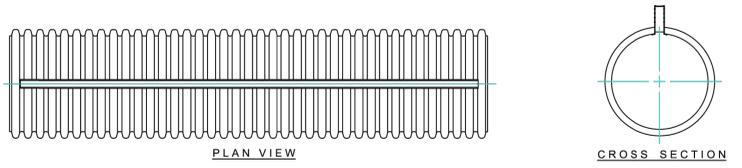
C600-A



- NOTES:**
1. GRATE MATERIAL SHALL CONFORM TO THE DETAILS SHOWN AND CONFORM TO ASTM A-36, OR A570, GRADE 36. HOT DIP GALVANIZED PER ASTM A-123.
 2. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
 3. BACKFILL TO WITHIN 10" OF THE SURFACE WITH 1500 PSI GROUT. ONCE THE GROUT HAS CURED, FILL THE REMAINING 10" WITH 4000 PSI AE CONCRETE.
 4. ADDITIONAL GRATES MAY BE STACKED FOR INCREASED HEIGHT.
 5. CUT CONTRACTION JOINTS 8' ON CENTER IN CONCRETE SURFACE.



6"-24" DURASLOT® Pipe With Variable Slot Riser



PIPE DIAM.	PRODUCT # (GRATED)	PRODUCT # (OPEN TOP)
6"	0690DS	0690DSOT
8"	0890DS	0890DSOT
10"	1090DS	1090DSOT
12"	1290DS	1290DSOT
15"	1590DS	1590DSOT
18"	1890DS	1890DSOT
24"	2490DS	2490DSOT

NOTE: H1 and H2 vary based on project specifications.

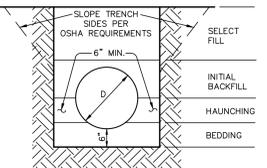
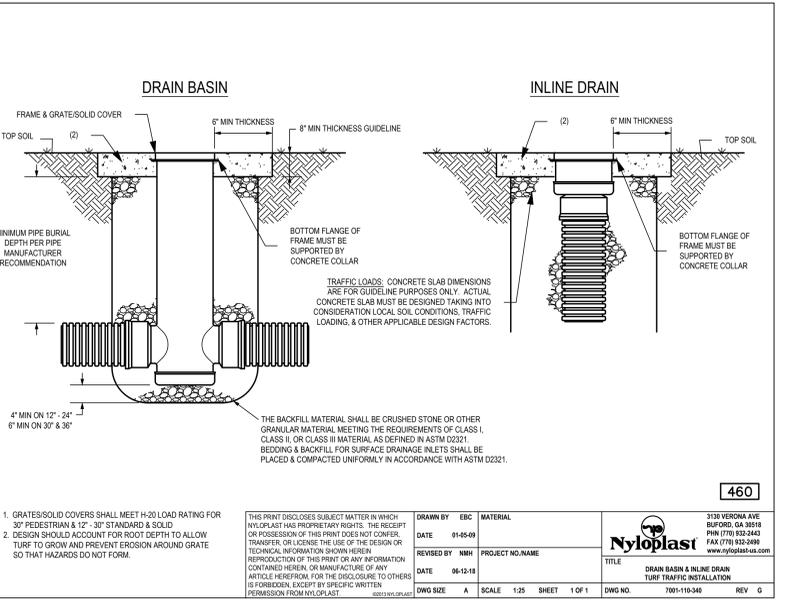
REV.	DESCRIPTION	BY	DATE

© 2011 ADS, INC.
ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. ADS HAS NOT INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC TO THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEET OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

4540 TRILEMAN BLVD
HILLIARD, OHIO 43026

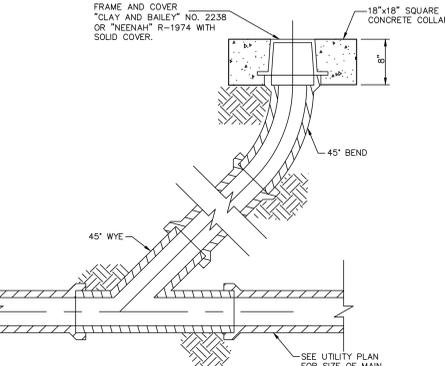
ADS
Advanced Drainage Systems, Inc.

DRAWING NUMBER: 1 OF 1



- FLEXIBLE PIPE: INCLUDES CORRUGATED POLYETHYLENE PIPE AND/OR POLYVINYL CHLORIDE PIPE.
- RIGID PIPE: INCLUDES REINFORCED CONCRETE, DUCTILE IRON, & CAST IRON
1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.
 2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS I OR II (REF. ASTM D2321) GRANULAR MATERIAL AND SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

TRENCH AND BEDDING DETAILS
REFER TO KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS SECTION 2102.4



PROJ. NO. C21-1242 DSN: CJC CHRISTIAN J. CROWDER
CPL: 124202T DWN: NJN ENGINEER
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Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW STORM SEWER DETAILS

C690-A

**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 W 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
kveg.com

structural engineer: Bob D. Campbell &
4338 Bellevue
Kansas City, MO 64111
816.531.4144
www.bdc-engrs.com

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

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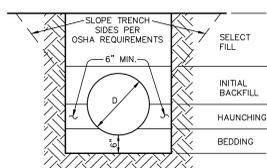
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LSW SANITARY SEWER DETAILS

C790-A



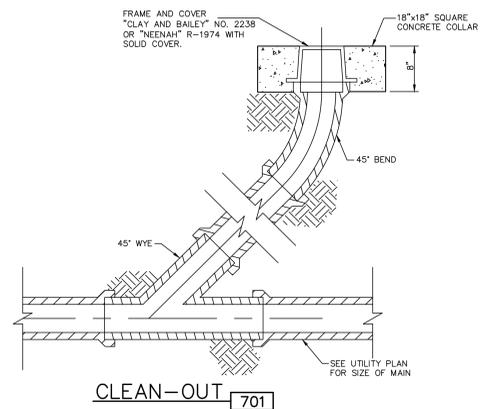
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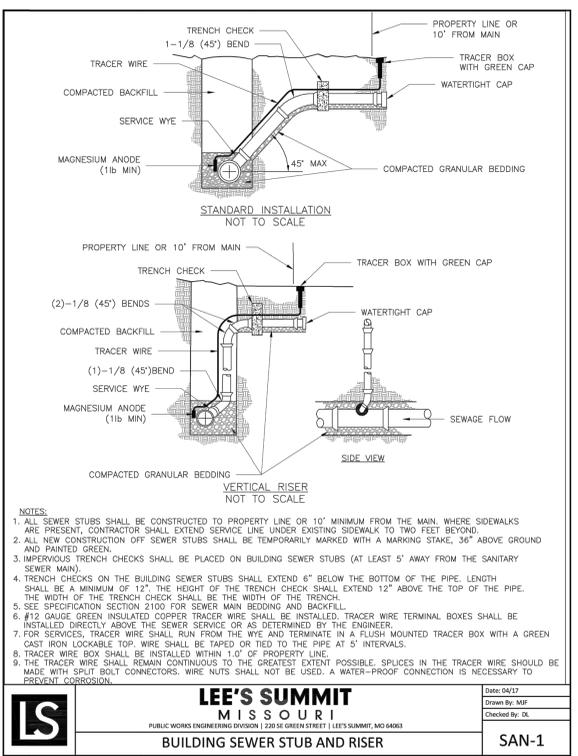
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TRENCH AND BEDDING DETAILS

REFER TO KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS SECTION 2102.4



CLEAN-OUT 701

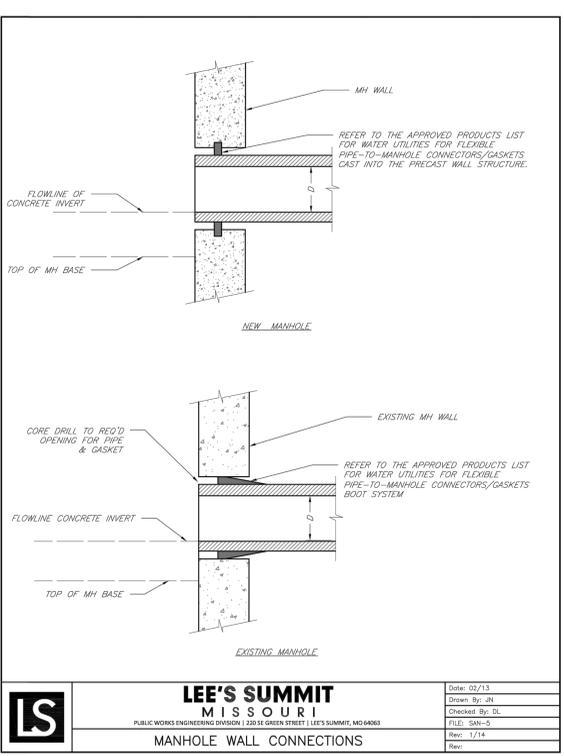


- NOTES:**
- ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
 - ALL NEW CONSTRUCTION OFF SEWER STUBS SHALL BE TEMPORARILY MARKED WITH A MARKING STAKE, 3/4" ABOVE GROUND AND PAINTED GREEN.
 - IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
 - TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
 - SEE SPECIFICATION SECTION 2100 FOR SEWER MAN BEDDING AND BACKFILL.
 - #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
 - FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
 - TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
 - THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 2201 SE GREEN STREET | LEE'S SUMMIT, MO 64083

Drawn By: MJF
Checked By: DL

SAN-1

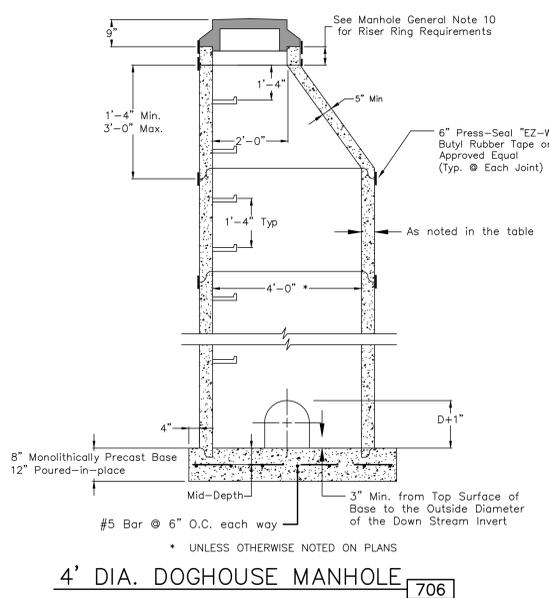


LEE'S SUMMIT MISSOURI
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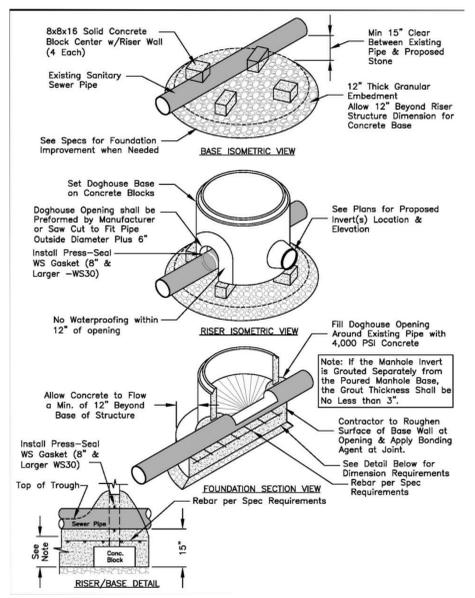
Drawn By: JH
Checked By: DL

MANHOLE WALL CONNECTIONS

Date: 02/13
Rev: 1/14



4' DIA. DOGHOUSE MANHOLE 706



PROJ. NO. C21-1242 DSN: CJC CHRISTIAN J. CROWDER
CPL: 1242DET DWN: NJN ENGINEER
MO # 2015000538
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KAW VALLEY ENGINEERING

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

18' 17' 16' 15' 14' 13' 12' 11' 10' 9' 8' 7' 6' 5' 4' 3' 2' 1'

WATER LINE MATERIALS AND CONSTRUCTION NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 3900 WATER MAINS OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS, CURRENT EDITION.
- CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO CITY OF LEE'S SUMMIT UTILITIES DEPARTMENT UNLESS DULY AUTHORIZED TO DO SO BY THE WATER DISTRICT. 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. CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE CITY OF LEE'S SUMMIT WATER UTILITIES OPERATIONS DEPARTMENT PRIOR TO STARTING ANY WORK.
- THE UTILITIES AS SHOWN ON THESE DRAWINGS WERE DEVELOPED FROM THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE. CONTRACTOR SHALL POT-HOLE AND EXPOSE ALL UTILITIES AT LEAST 500 FEET IN ADVANCE OF WATER MAIN CONSTRUCTION, DETERMINING THE DEPTH, SIZE, AND MATERIAL OF THE UTILITIES IN PROXIMITY TO THE PROPOSED WATER MAIN ALIGNMENT. DEFLECT PIPE TO MAINTAIN MINIMUM 5 FEET HORIZONTAL AND 18 INCH VERTICAL CLEARANCES BETWEEN PROPOSED WATER MAIN AND EXISTING UTILITIES. SEPARATION WITH NON-POTABLE LINES REQUIRES 18 INCH VERTICAL CLEARANCE. SEE CONST. NOTE 8.
- THE CONTRACTOR SHALL FURNISH AND INSTALL, AT NO EXTRA COST, ALL FITTINGS AND RESTRAINING DEVICES REQUIRED TO PROVIDE PROPER HORIZONTAL AND VERTICAL ALIGNMENT FOR THE NEW WATER SERVICE, CONNECTING TO EXISTING WATER MAIN, AND INSTALLATION OF FIRE HYDRANTS AT THE PROPER LOCATION AND ELEVATION, WHETHER OR NOT THE FITTINGS ARE CALLED OUT ON THESE PLANS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL, AT NO EXTRA COST, ALL TEMPORARY BLOW-OFF ASSEMBLIES, FITTINGS, AND RESTRAINING DEVICES NECESSARY FOR TEMPORARY CONNECTIONS FOR PRESSURE TESTING, CHLORINATING, DE-CHLORINATING, AND FLUSHING THE NEW WATER MAINS AND SERVICE LINES. THE CONTRACTOR SHALL REMOVE ANY CORPORATION COCKS USED FOR TESTING OR CHLORINATING AND REPLACE THEM WITH TAPERED BRASS PLUGS PRIOR TO PLACING NEW MAINS IN SERVICE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED PERMITS, PAYING ALL FEES AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
- ALL DISTURBED AREAS SHALL BE SEEDED OR STABILIZED AS NOTED ON PLANS.
- WHEN WATER MAINS AND SANITARY SEWERS CROSS, A MINIMUM OF 18 INCHES OF CLEARANCE SHALL BE MAINTAINED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF SANITARY SEWER. WHEN 18 INCHES OF CLEARANCE CANNOT BE MAINTAINED OR WHEN A WATER MAIN MUST CROSS UNDER A SANITARY SEWER, THE SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE, PVC PRESSURE PIPE OR PRE-STRESSED CONCRETE CYLINDER PIPE FOR A DISTANCE OF 10.0 FEET ON EACH SIDE OF THE CROSSING. WHEN A WATER MAIN IS CONSTRUCTED PARALLEL TO A SANITARY SEWER, THE HORIZONTAL SEPARATION SHALL BE 10.0 FEET MEASURED FROM THE OUTSIDE OF THE PIPE OR STRUCTURE. IF A VERTICAL SEPARATION OF 18 INCHES CANNOT BE MAINTAINED AND IF THE WATER MAIN IS CONSTRUCTED CLOSER THAN 10.0 FEET TO THE SANITARY SEWER, THE SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE, PVC PRESSURE PIPE OR PRE-STRESSED CONCRETE CYLINDER PIPE, AND SHALL BE PRESSURE TESTED FOR WATER TIGHTNESS.
- CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS, COORDINATES AND ELEVATIONS BEFORE PROCEEDING WITH NEW WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. NO NEW CONSTRUCTION SHOULD BE PERFORMED BY "SCALING" FROM THE PLANS.
- ALL EXCAVATION AND BACKFILL SHALL MEET OR EXCEED THE PROJECT SPECIFICATION. ALL TRENCHES SHALL BE BACKFILLED IN UNIFORM LIFTS NOT TO EXCEED 8 INCHES IN LOOSE MEASUREMENT. EACH LIFT SHALL BE COMPACTED TO THE REQUIRED DENSITY PRIOR TO THE NEXT LIFT BEING PLACED. THE BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF WITHIN A RANGE OF OPTIMUM TO BE 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR SOILS WITH A LIQUID LIMIT OF GREATER THAN 40 AND 1/2-3% OF OPTIMUM FOR SOILS WITH A LIQUID LIMIT LESS THAN 40 AS DEFINED BY THE STANDARD PROCTOR (ASTM-D698) UNDER AREAS TO BE PAVED. THE BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE, PLUS 4% IN AREAS NOT TO BE DEVELOPED. COMPACTION TESTS SHALL BE TAKEN AT EACH PAVEMENT CROSSING AND AT LOCATIONS DESIGNATED BY THE ENGINEER. ALL TRENCH BACKFILL WHICH DOES NOT MEET THE REQUIRED DENSITY, SHALL BE RE-EXCAVATED AND RE-COMPACTED UNTIL THE REQUIRED DENSITY IS OBTAINED. COPIES OF ALL COMPACTION TEST REPORTS SHALL BE PROVIDED TO THE ENGINEER.
- NO ROCK LARGER THAN FOUR INCHES MAXIMUM DIMENSION SHALL BE PLACED WITHIN TWO FEET OF THE TOP OF THE PIPE. NO ROCK GREATER THAN ONE FOOT SHALL BE PLACED IN ANY EXCAVATION AS A BACKFILL.
- LOCATIONS SHOWN FOR PROPOSED WATER LINES ARE APPROXIMATE. VARIATIONS MAY BE MADE, WITH APPROVAL OF THE ENGINEER TO AVOID CONFLICTS.
- TAPS 1 1/2" AND LARGER AT EXISTING MAIN WILL BE RESPONSIBILITY OF THE CONTRACTOR. WORK WILL BE COORDINATED WITH THE WATER DISTRICT.
- ALL DUCTILE IRON PIPE AND FITTINGS SHALL COMPLY WITH SECTIONS 3901 B & C OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS SUBJECT TO THE CITY'S CURRENTLY ADOPTED FIRE CODE. THICKNESS SHALL BE SPECIAL THICKNESS CLASS 50.
- ALL POLYVINYL CHLORIDE PIPE AND FITTINGS SHALL COMPLY WITH SECTION 3901 B & D OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS SUBJECT TO RESTRICTION OF THE CITY'S CURRENTLY ADOPTED FIRE CODE. THE MINIMUM PRESSURE CLASS SHALL BE CLASS 235.
- SERVICE LINES 2 INCHES IN DIAMETER AND SMALLER SHALL BE MADE OF TYPE K SOFT COPPER, COMPLYING WITH ASTM B88.
- ALL VALVES AND OTHER MATERIALS SHALL CONFORM TO SECTIONS 3901 E THRU S. REFER TO THE CITY'S APPROVED MATERIALS LIST.
- CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3902 OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
- WATER LINES SHALL HAVE A MINIMUM COVER OF 42" DEEPER EXCAVATIONS FOR CLEARANCE AT EXISTING PROPOSED UTILITIES IS ACCEPTABLE. REFERENCE CONST. NOTES 3 AND 8. FOR WATER MAINS CONSTRUCTED UNDER DRIVES OR PARKING AREAS THE DRIVES OR PARKING AREAS ARE TO BE SUBGRADED PRIOR TO WATER MAIN CONSTRUCTION.
- WHERE FIRE HYDRANTS ARE NOT LOCATED AT THE END OF LINES, THE CONTRACTOR SHALL FURNISH A FLUSHING DEVICE.
- ALL TREES SHALL BE SPARED UNLESS MARKED. REFERENCE PROJECT LAND DISTURBANCE PLANS.
- THRUST BLOCKS OR APPROVED JOINT RESTRAINTS SHALL BE PROVIDED AT TEES, BENDS, AND HYDRANT ASSEMBLIES.
- CONSTRUCTION INSPECTION WILL BE PROVIDED BY OWNER.
- CONTRACTOR SHALL INSTALL PIPE, BENDS AND FITTINGS A NECESSARY TO MAKE A COMPLETE OPERATIONAL SYSTEM. LINE IS TO BE AS-BUILT. CONTRACTOR SHALL MAINTAIN "AS CONSTRUCTED DRAWINGS" TO BE SUPPLIED TO LEE'S SUMMIT SCHOOL DISTRICT NOTING VALVE AND FITTING LOCATIONS AT THE END PROJECT.
- CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF NEW UTILITIES.
- A MINIMUM HORIZONTAL DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. REFERENCE APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT. PROVIDE SOLID SLEEVES AS REQUIRED.
- THE CONTRACTOR SHALL FLUSH, DISINFECT AND COMPLETE HYDROSTATIC AND LEAKAGE TESTS ON WATER MAINS IN ACCORDANCE WITH SECTIONS 3902 C & D OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.

UTILITY NOTES:

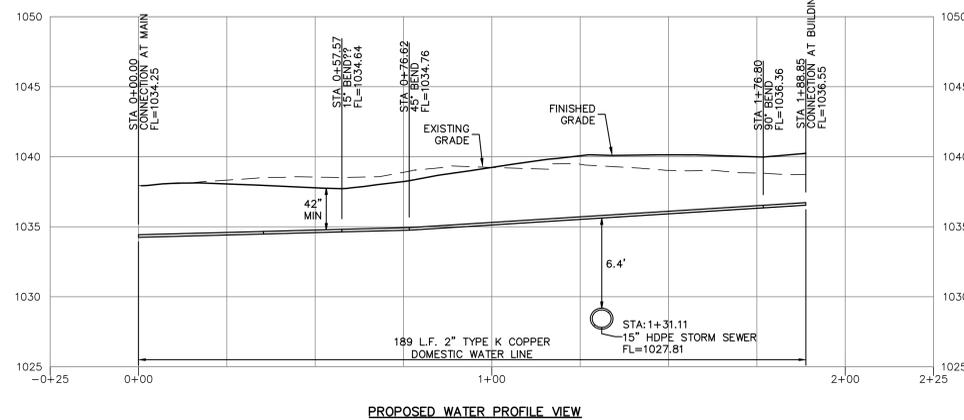
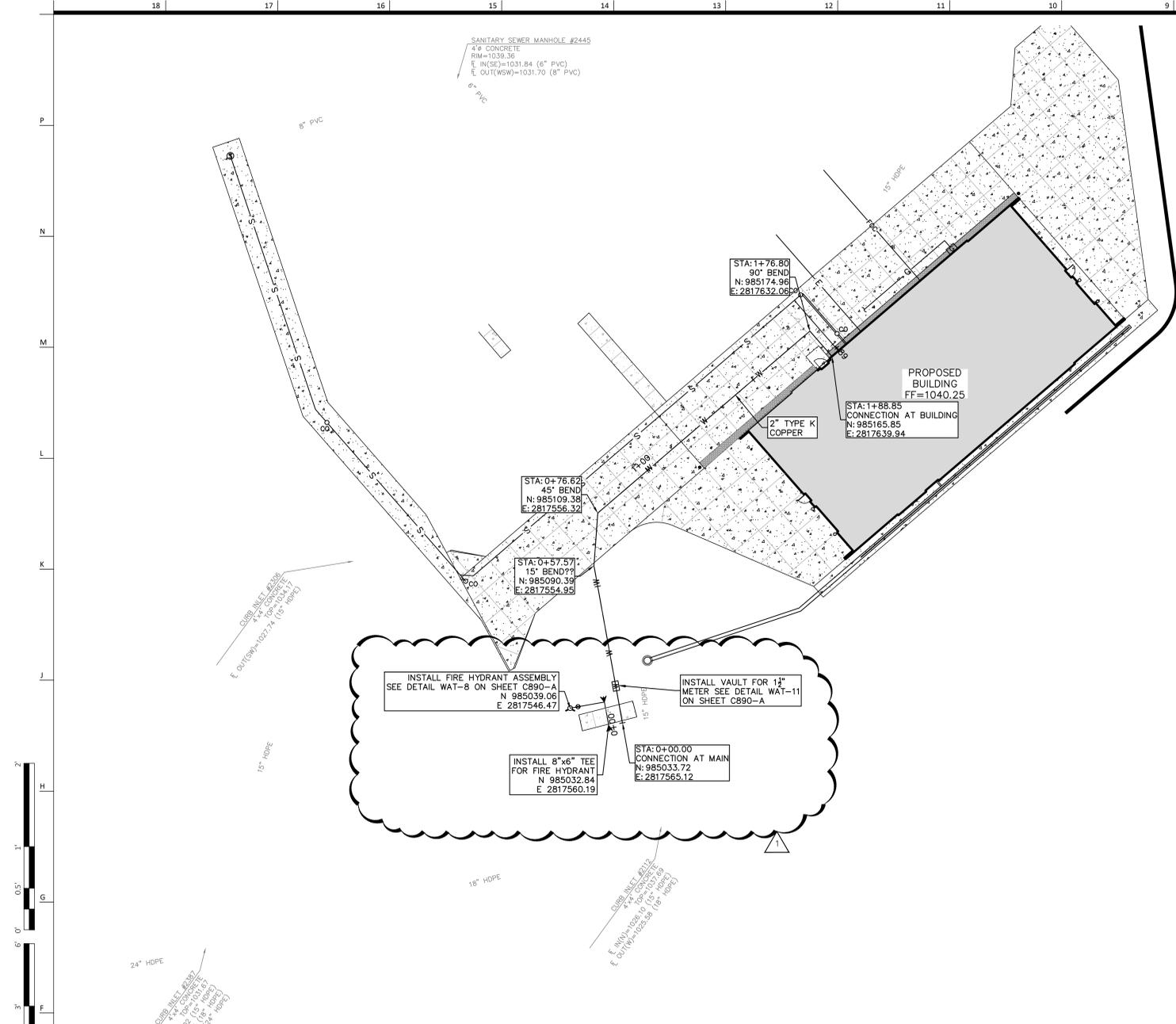
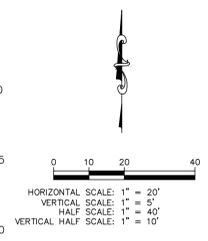
- EXCAVATION, TRENCHING AND BACKFILL SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 2100 GRADING AND SITE PREPARATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT.
- ALL BACKFILL SHALL BE TAMPED. BACKFILL WITHIN THE RIGHT-OF-WAY AND UNDER PARKING AREAS AND SLABS SHALL BE 95% COMPACTION OF OPTIMUM MOISTURE.
- CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY OF LEE'S SUMMIT UNLESS DULY AUTHORIZED TO DO SO. 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. CONTRACTOR SHALL NOTIFY THE KCMO WSD 48 HOURS MINIMUM PRIOR TO INSTALLING TAPS ALONG ALL NON-METALLIC 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.
- A MINIMUM HORIZONTAL DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. REFERENCE APWA SPECIFICATIONS AS ADOPTED AND AMENDED BY THE CITY OF LEE'S SUMMIT. PROVIDE SOLID SLEEVES AS REQUIRED.
- THE CONTRACTOR SHALL FLUSH, DISINFECT AND COMPLETE HYDROSTATIC AND LEAKAGE TESTS ON WATER MAINS IN ACCORDANCE WITH SECTIONS 3902 C & D OF THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.

LEGEND:

- ☒ CONTROL POINT
- ☒ BENCHMARK
- ☒ YIELD BOX
- ☒ YARD LIGHT
- ☒ LIGHT POLE
- ☒ ELECTRIC METER
- ☒ WALL MOUNTED CAMERA
- ☒ BREAKER BOX
- ☒ UNDERGROUND GAS
- ☒ GAS METER
- ☒ GAS RISER
- ☒ WATER LINE (RECORD)
- ☒ WATER METER
- ☒ WATER LINE GATE VALVE
- ☒ FIRE HYDRANT
- ☒ SPRINKLER CONTROL BOX
- ☒ WATER MANHOLE
- ☒ WALL MOUNTED SIAMASE FIRE CONNECTOR
- ☒ SANITARY SEWER MANHOLE
- ☒ STORM SEWER MANHOLE
- ☒ SANITARY SEWER LINE
- ☒ PVC POLYVINYL CHLORIDE PIPE
- ☒ HDPE HIGH DENSITY POLYETHYLENE
- ☒ STREET/TRAFFIC SIGN
- ☒ DOOR ELEVATION
- ☒ FINISH FLOOR ELEVATION
- ☒ BHE BUILDING HEIGHT/ELEVATION
- ☒ B/B BACK TO BACK OF CURB MEASUREMENT
- ☒ E/E EDGE TO EDGE OF ASPHALT
- ☒ C/C EDGE TO EDGE OF CONCRETE
- ☒ L/S LANDSCAPING AREA
- ☒ BOLLARD
- ☒ GATE POST
- ☒ FENCE POST
- ☒ EXISTING SPOT ELEVATION
- 1049--- EXISTING GRADE 1' CONTOUR
- 1050--- EXISTING GRADE 5' CONTOUR
- ☒ ASPHALT PAVEMENT (040)
- ☒ HEAVY DUTY ASPHALT PAVEMENT (041)
- ☒ CONCRETE PAVEMENT (042)

☐ DETAILS - SEE SHEET C890-A FOR THE FOLLOWING DETAILS

- WAT-1 HORIZONTAL THRUST BLOCKS
- WAT-6 TRENCH CHECK
- WAT-8 HYDRANT WITH 90 DEGREE BEND
- WAT-11 SERVICE CONNECTION/METER WELL



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 WARRANT 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.



PROJ. NO. C21-1242 DSN: CJC
CPL: 1242WFP DWN: NJN
ENGINEER: CHRISTIAN J. CROWDER
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x@kveg.com | www.kveg.com

KAW VALLEY ENGINEERING

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

**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: 0321-0100

owner: Lee's Summit R-7 School
301 West 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
kveg.com

structural engineer: Bob D. Campbell &
4338 Bellevue
Kansas City, MO 64111
816.531.4144
www.bdc-engrs.com

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

Issue Date: September 9, 2022

NUMBER	DESCRIPTION	DATE
1	AS BUILT - CODE COMMENTS	11/22/2022

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
12/02/2022

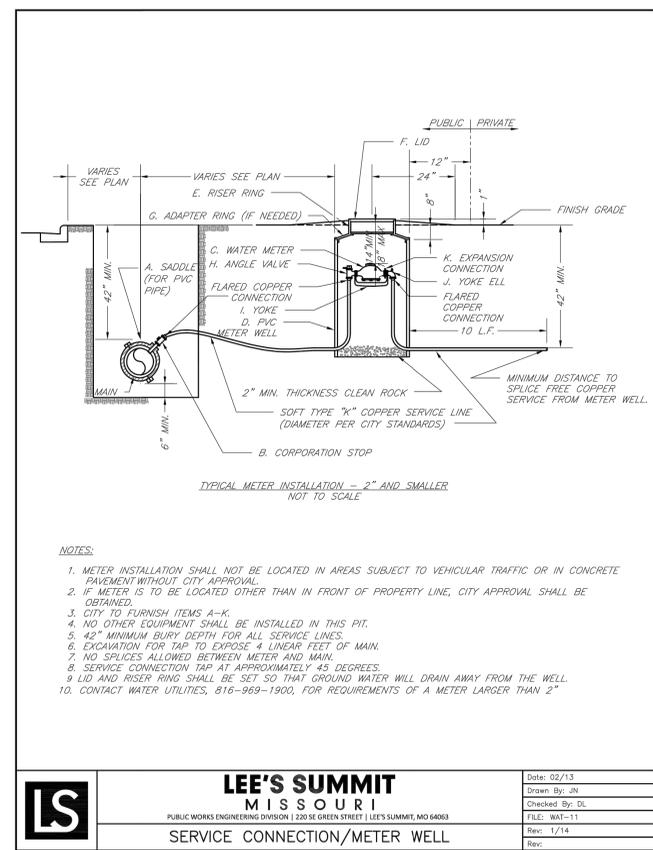
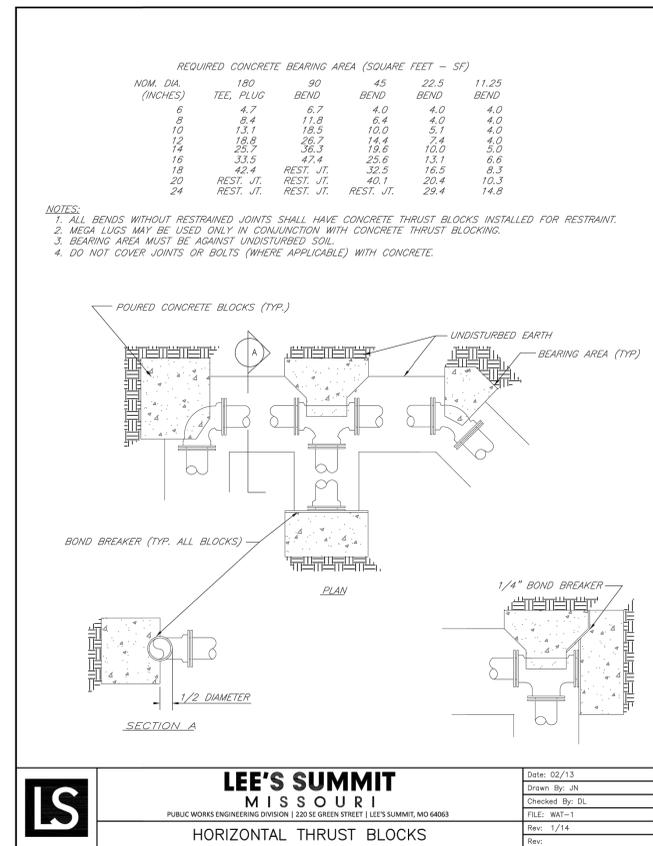
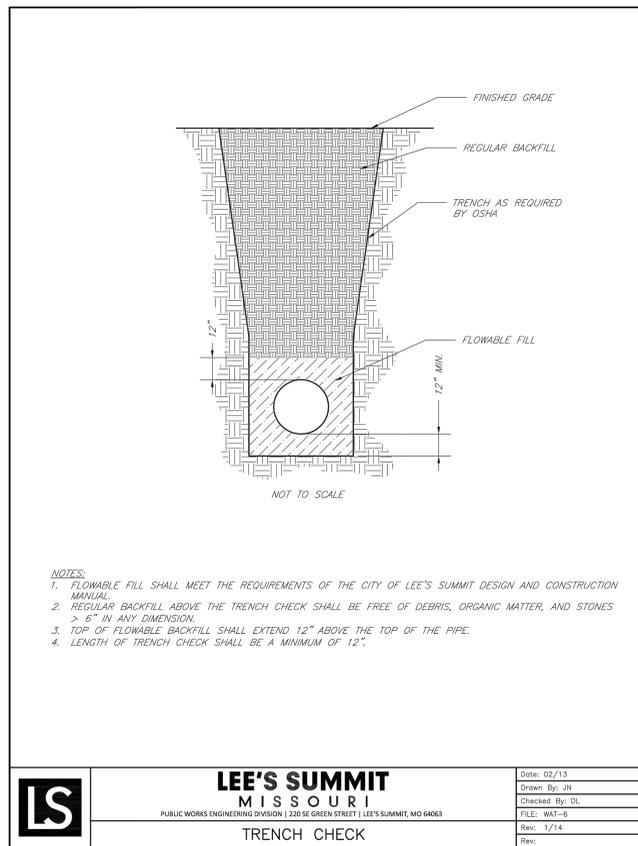
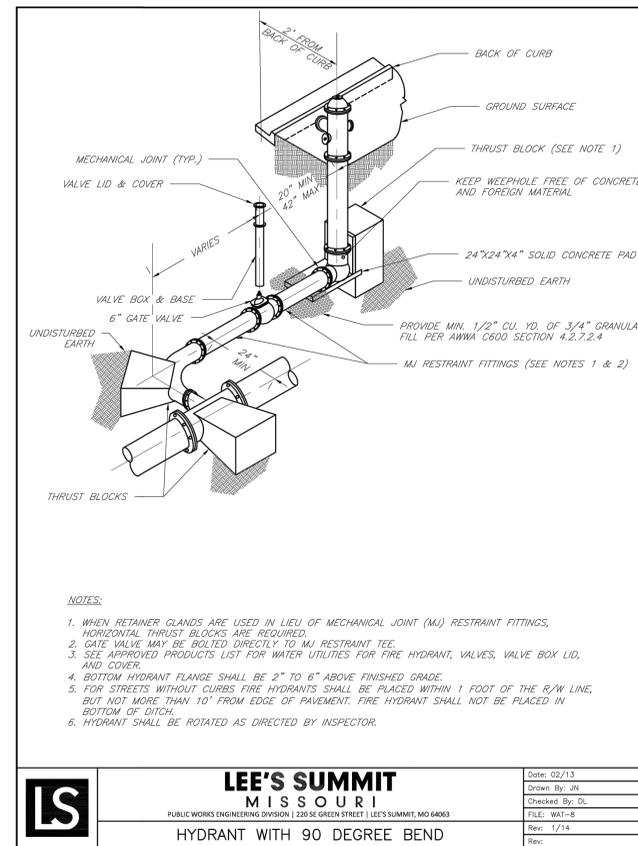
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Kaw Valley Engineering, Inc.
Missouri Certificate of Authority: 000842
Christian Crowder Date: 11/22/2022
Engineer License No. PE-2015000538

LSW WATER DETAIL SHEET

C890-A



PROJ. NO. C21-1242 DSN: CJC
CIN: 1242DET DWN: NJN
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LSR7 Robotics, GiC & Phys Education

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

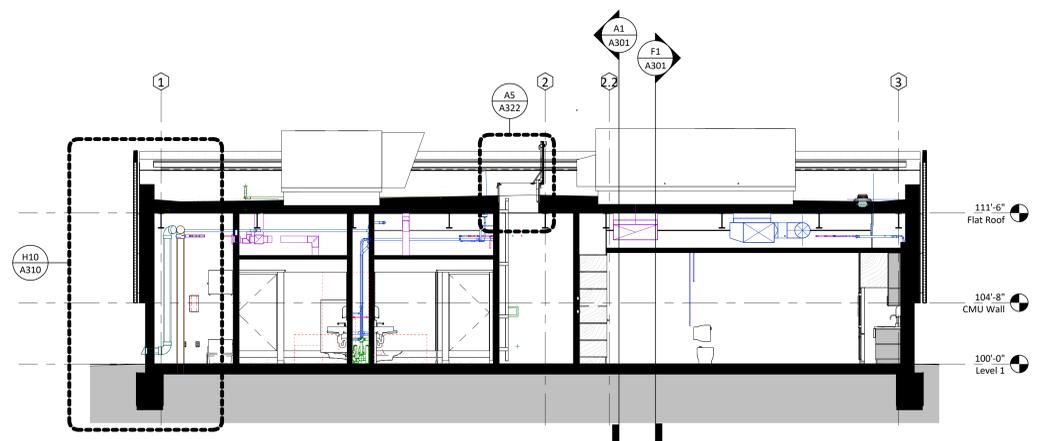
owner: Lee's Summit R-7 School
 303 NE Tudor Road
 Lee's Summit, MO 64086

architect: Multistudio
 4200 Pennsylvania
 Kansas City, MO 64111
 816.931.6655
 multi.studio

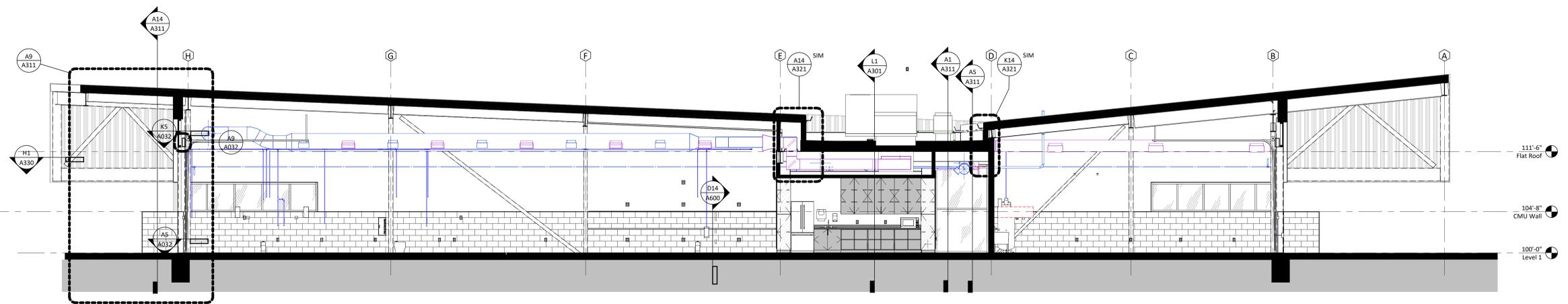
civil engineer: Kaw Valley Engineering
 14700 West 114th Terrace
 Lenexa, KS 66215
 913.485.0318
 kveng.com

structural engineer: Bob D. Campbell &
 4338 Bellevue
 Kansas City, MO 64111
 816.531.4144
 www.bdc-engrs.com

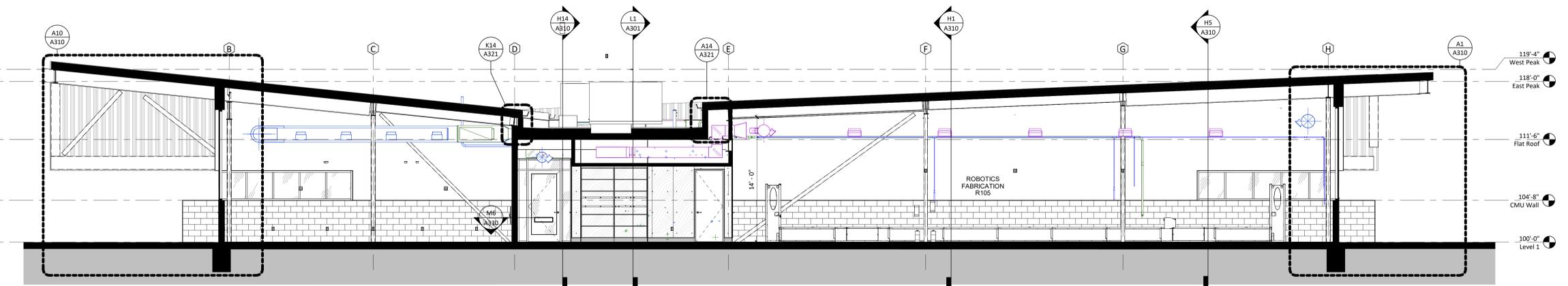
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 Henderson Engineers
 8345 Lenexa Drive, Suite 300
 Lenexa, KS 66214
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LSN / LSW - Building Section 3 L1
 3/16" = 1'-0"



LSN / LSW - Building Section 2 F1
 3/16" = 1'-0"



LSN / LSW - Building Section 1 A1
 3/16" = 1'-0"

Issue Date: September 5, 2022

Revisions

NUMBER	DESCRIPTION	DATE

RELEASED FOR CONSTRUCTION
 As Noted on Plans Review
 Development Services Department
 Lee's Summit, Missouri
 15022022

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