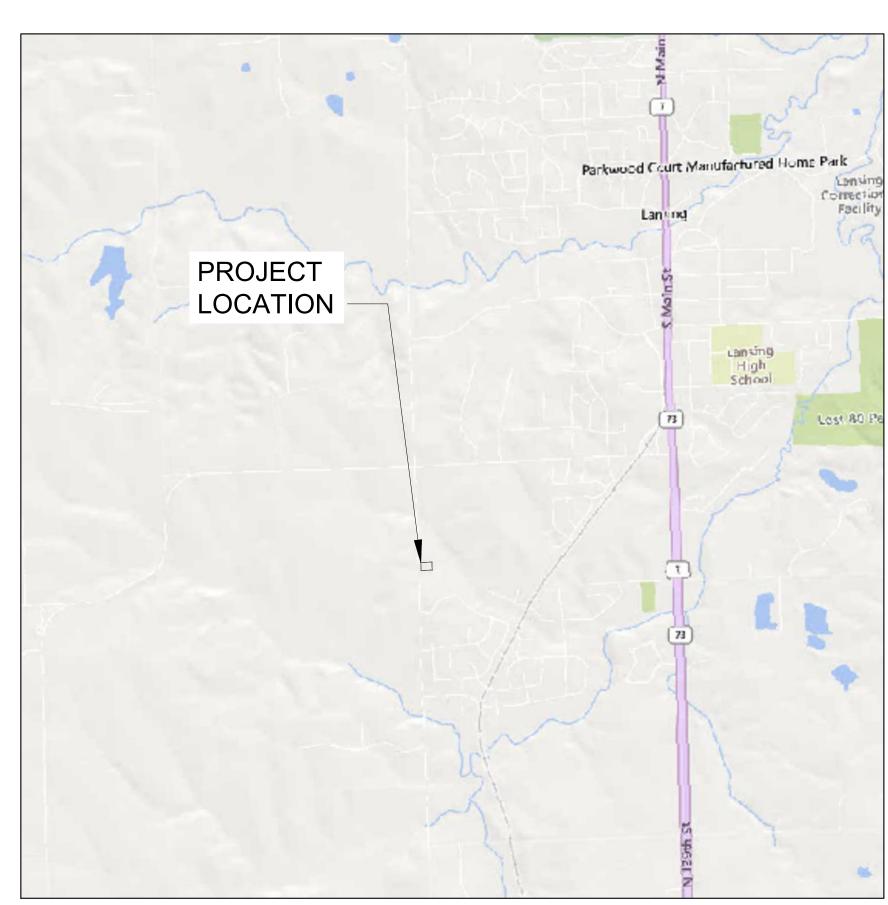
# MMI - ILA SHELTER KS - MCI 1.12 LANSING, KS

Reviewed By WW Dept No Comments

08/22/2025 8:57:09 AM By azell

Reviewed by Community of Economic Development
08/29/2025 2:13:16 PM by jgentzle
See Review Comments



VICINITY MAP
SCALE: 1" = 2000'



REFERENCE: AERIAL PHOTOGRAPHIC OBTAINED FROM MICROSOFT BING TOPOGRAPHIC MAP CITY OF LANSING QUADRANGLE DATED 2024

Sheet	Sheet Title				
Number	SHEEL HILE				
1	COVER SHEET				
2	GENERAL NOTES				
3	EXISTING CONDITIONS				
4	DEMOLITION				
5	GRADING PLAN				
6	EROSION CONTROL PLAN				
7	EROSION CONTROL NOTES & DETAILS				
8	EROSION CONTROL NOTES & DETAILS				
9	PROPOSED EASEMENT EXHIBIT				
10	SITE PLAN				
11	SIGHT DISTANCE EXHIBIT				
12	SITE DETAILS-1				
13	SITE DETAILS-2				
14	SITE DETAILS-3				
15	SITE DETAILS-4				
16	STRUCTURAL DETAILS-1				
17	STRUCTURAL DETAILS-2				
18	ELECTRICAL GENERAL NOTES, SYMBOL LEGENDS, AND ABBREVIATIONS				
19	ELECTRICAL SITE PLAN				
20	ELECTRICAL SITE GROUNDING PLAN				
21	ELECTRICAL SITE CONDUIT TRACING PLAN				
22	ELECTRICAL SPECIFICATIONS				
23	ELECTRICAL ONE-LINE DIAGRAM				
24	LANDSCAPE PLAN				
25	UNDERGROUND UTILITY PLAN				

Sheet List Table



AERIAL MAP
SCALE: 1" = 600'



REFERENCE: AERIAL PHOTOGRAPHIC OBTAINED FROM MICROSOFT BING TOPOGRAPHIC MAP CITY OF LANSING QUADRANGLE DATED 2024



**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025

AECOM

PROJE

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

CLIE

Middle Mile Infrastructure

CONSULTANT

AECOM Technical Services, Inc. 10 Patewood Drive, Suite 500 Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com



REGISTRATION

ISSUE/REVISION

I/R DATE DESCRIPTION

PROJECT NUMBER

60645418

SHEET TITLE

COVER SHEET

## PROJECT NARRATIVE

THE PROJECT IS LOCATED IN THE CITY OF LANSING, KANSAS. THE PROJECT INCLUDES THE CONSTRUCTION OF ONE FIBER ILA HUTS WITH ASSOCIATED FENCING, GRADING, AND GRAVEL SURFACE.

#### CONSTRUCTION SEQUENCE

- 1. STEP 1: ENSURE ALL NECESSARY PERMITS ARE ACQUIRED AND CONDUCT A PRE-CONSTRUCTION MEETING WITH THE A/E CONSTRUCTION MANAGER PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES
- 2. STEP 2: HOLD PRE-CONSTRUCTION MEETING WITH NECESSARY PARTIES
- 3. STEP 3: INSTALL INITIAL SEDIMENT & EROSION CONTROL BMP's PRIOR TO COMMENCING CONSTRUCTION **ACTIVITIES**
- STEP 4: COMPLETE DEMOLITION, UTILITY INSTALLATION AND ROUGH GRADING AS SHOWN IN CONSTRUCTION PLANS. COMPLETE INSTALLATION OF ABOVE GROUND INFRASTRUCTURE AND FINE GRADING AS SHOWN IN CONSTRUCTION PLANS. ENSURE FINAL STABILIZATION OF ALL DISTURBED SURFACES IS ACHIEVED PRIOR TO DEMOBILIZATION.
- STEP 5: SUBMIT NOTICE(S) OF TERMINATION AS REQUIRED TO ALL APPLICABLE PERMITTING AGENCY(IES).

### **GENERAL NOTES**

- ENSURE THAT ALL REQUIRED PERMITS AND OTHER SUBMITTALS ARE IN HAND PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- 2. UTILITIES ARE ILLUSTRATED FOR INFORMATION PURPOSES ONLY. THE CLIENT WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF UTILITY LOCATIONS, SIZES, DEPTHS, OR FOR COMPLETENESS OF UTILITY INFORMATION. FOR ANY UTILITIES LOCATED DIFFERENTLY THAN SHOWN ON THE PLAN THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER
- PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY AND MEET WITH ALL UTILITIES AFFECTED TO DETERMINE UTILITY LOCATIONS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE CAUSED BY THEIR OPERATIONS OR THOSE OF THEIR AGENTS. THE CONTRACTOR SHALL HOLD THE CLIENT HARMLESS FOR ANY THIRD-PARTY INCONVENIENCE CREATED BY WORK OF THEIR OWN FORCES OR THAT OF THEIR AGENTS. ANY DAMAGES INCURRED SHALL BE THE CONTRACTORS FINANCIAL RESPONSIBILITY.
- ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION. OTHER UTILITIES MAY NOT BE SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF WORK.
- 4. CONTACT KANSAS UTILITY LOCATE 811 PRIOR TO BEGINNING CONSTRUCTION.
- 5. WARNING: OVERHEAD UTILITIES. UNLESS OTHERWISE NOTED FOR RELOCATION, THE CONTRACTOR IS TO WORK UNDER ALL EXISTING OVERHEAD UTILITIES.
- NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR MAY MAKE THEIR OWN INVESTIGATION TO DETERMINE SUBSURFACE CONDITIONS.
- IT IS THE OBLIGATION OF THE CONTRACTOR TO MAKE THEIR OWN INTERPRETATION OF ALL SURFACE AND SUBSURFACE DATA THAT IS AVAILABLE AS TO THE NATURE AND EXTENT OF THE MATERIALS TO BE EXCAVATED AND WASTED. GRADED AND COMPACTED. THE INFORMATION SHOWN ON THESE PLANS AND SPECIFICATIONS DOES NOT IN ANY WAY GUARANTEE THE AMOUNT OR NATURE OF THE MATERIAL WHICH MAY BE ENCOUNTERED.
- ALL INITIAL EROSION. SEDIMENTATION. & POLLUTION CONTROLS AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR EMPLOYEES A WORKPLACE FREE FROM RECOGNIZED HEALTH AND SAFETY HAZARDS
- 10. CONTRACTOR SHALL CLEARLY MARK AND MAINTAIN PROPERTY CORNER MONUMENTATION AND BENCHMARKS AND WILL BE RESPONSIBLE FOR THE COST OF REPLACING THEM IF DISTURBED OR
- 11. THE CONTRACTOR SHALL SAWCUT EXISTING ASPHALT AND/OR CONCRETE SURFACES PRIOR TO REMOVAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SAW CUT WIDTH SHALL BE 1 FOOT MINIMUM FROM THE EXISTING EDGE OF PAVEMENT. SAW CUT PAVEMENT SHALL BE REPLACED AS WELL AS ADDITIONAL PAVEMENT REQUIRED TO TIE-IN TO FACE OF PROPOSED CURB AND GUTTER.
- 12. NO DEMOLITION MATERIALS SHALL BE DISPOSED OF ON-SITE. ALL VEGETATION (UNLESS OTHERWISE NOTED), EXISTING ASPHALT PAVEMENT, ORGANICS AND UNSUITABLE BEARING SOILS SHALL BE STRIPPED FROM THE SURFACE WITHIN THE CONSTRUCTION LIMITS AND DISPOSED OF LEGALLY OFFSITE AT A LOCATION APPROVED BY THE LOCAL JURISDICTION FOR THE HANDLING AND DEMOLITION OF DEBRIS.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING THE BORROW MATERIAL NECESSARY AS SPECIFIED SPECIFICATIONS FOR THE CONSTRUCTION OF THIS PROJECT. ALL STRUCTURAL FILL PLACED AS A PART OF THIS PROJECT SHALL BE PLACED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- 14. LIMITS OF PROPOSED SLOPES ARE INDICATED IN THE PLANS, DETAILS AND STANDARD DRAWINGS. THE MAXIMUM SLOPE SHALL NOT EXCEED A 3:1 (HORIZONTAL TO VERTICAL) UNLESS DESIGNATED BY THE ENGINEER. A CUT SLOPE OF 2:1 MAXIMUM WILL BE USED ONLY AS DIRECTED BY THE ENGINEER
- 15. BACKFILL MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE OPTIMUM COMPACTION FOR ANY SOIL CLASSIFICATION AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO D-1557. BACKFILL MATERIAL SHALL BE CLEAN AND FREE OF ROOTS, ROCK OR DELETERIOUS MATTER. CONTRACTOR SHALL CORRECT ANY DAMAGE TO CURBING OR PAVING CAUSED BY TRENCH SETTLEMENT WHICH OCCURS WITHIN 12 MONTHS OF PROJECT ACCEPTANCE.
- 16. THE CONTRACTOR SHALL LEAVE THE SITE IN A CLEAN AND NEAT CONDITION AS WELL AS PERFORM REGULAR MAINTENANCE.
- 17. CONTRACTOR SHALL PROTECT ALL ADJACENT LANDS FROM DAMAGE DURING DEMOLITION WORK, ANY OFF-SITE AREAS DISTURBED SHALL BE RETURNED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION PRIOR TO CONSTRUCTION.
- 18. ALL STRUCTURES NOT LABELED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE DURING ALL PHASES OF CONSTRUCTION. ANY STRUCTURES THAT ARE TO REMAIN THAT ARE DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION AT NO ADDITIONAL COST.
- 19. A RIGHT-OF-WAY PERMIT SHALL BE OBTAINED PRIOR TO PERFORMING CONSTRUCTION ACTIVITY IN THE CITY OF LANSING RIGHT-OF-WAY
- 20. CHLORINATED DISINFECTED WATER SHALL NOT BE DISCHARGED INTO THE STORMWATER SYSTEM

#### **EROSION CONTROL NOTES**

- PRIOR TO THE LAND DISTURBING CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE AREA SITE DEVELOPMENT INSPECTOR.
- 2. THE CONTRACTOR SHALL OBSERVE THE PROJECT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO INSURE THAT LAND STRIPPED OF IT'S NATURAL COVER IS EXPOSED ONLY IN SMALL QUANTITIES.
- 3. NO STAGING AREAS, MATERIAL STORAGE, CONCRETE WASH OUT AREAS, OR DEBRIS BURN AND BURIAL HOLES SHALL BE LOCATED WITHIN 500 FEET OF DESIGNATED TREE PROTECTION AREAS.
- A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES
- 5. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES
- 6. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE AND ALL STREAM BUFFERS SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITY SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
- PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE OR ONTO ANY PUBLIC ROADWAY.
- 8. THE FOLLOWING INITIAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY:
- a. THE CONSTRUCTION EXIT, CONSISTING OF A MINIMUM PAD SIZE OF 20 FEET BY 50 FEET WITH A MINIMUM OF 6" THICK STONE. SHALL BE PLACED AS SHOWN ON THE PLAN. THE STONE SIZE SHOULD CONSIST OF COURSE AGGREGATE BETWEEN 1-1/2" & 3-1/2" IN DIAMETER AND OVERLAID ON A GEOTEXTILE UNDERLINER. THE GEOTEXTILE UNDERLINER SHALL MEET THE REQUIREMENTS OF AASHTO M288-96. SECTION 7.3 SEPARATION REQUIREMENTS.
- b. IMMEDIATELY AFTER ESTABLISHMENT OF CONSTRUCTION ENTRANCE/EXITS, ALL PERIMETER EROSION CONTROL AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE CLEARING PHASE EROSION CONTROL PLAN.
- c. SILT FENCE SHOULD BE INSTALLED AT THE PERIMETER OF THE DISTURBED AREA AS SHOWN ON THE PLAN. THE SILT FENCE SHOULD BE PLACED IN ACCORDANCE WITH LATEST KANSAS DEPARTMENT OF TRANSPORTATION (KDOT) STANDARDS AND MEETING THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. THE SILT FENCE SHOULD BE KEPT ERECT AT ALL TIMES AND REPAIRED WHEN REQUESTED BY THE SITE INSPECTOR OR THE PROJECT DESIGN PROFESSIONAL OF RECORD. SILT SHOULD BE REMOVED WHEN ACCUMULATION REACHES 1/2 HEIGHT OF BARRIER. THE PERIMETER SILT FENCE SHOULD BE INSPECTED DAILY FOR ANY FAILURES. ANY FAILURES OF SAID FENCING SHOULD BE REPAIRED IMMEDIATELY
- d. INLET SEDIMENT PROTECTION MEASURES SHALL BE INSTALLED ON ALL EXISTING STORM STRUCTURES AS SHOWN ON THE PLAN. SEE SEPARATE DETAILS FOR SPECIFICS ON TYPE OF INLET PROTECTION SPECIFIED.
- e. STONE CHECK DAMS SHALL BE INSTALLED IN AREAS OF CONCENTRATED FLOWS AS SHOWN ON THE PLAN.
- f. TREE PROTECTION FENCING/SILT FENCING SHOULD BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBANCE ACTIVITY AND MAINTAINED UNTIL FINAL LANDSCAPE IS INSTALLED. THE TREE PROTECTION FENCING/SILT FENCING SHOULD BE INSPECTED DAILY. ANY FAILURES OF SAID FENCING SHOULD BE REPAIRED IMMEDIATELY.
- 9. AFTER INSTALLATION OF INITIAL EROSION CONTROL MEASURES THE SITE CONTRACTOR SHALL SCHEDULE AN INSPECTION BY THE PROJECT DESIGN PROFESSIONAL. NO OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE PROJECT DESIGN PROFESSIONAL APPROVES THE INSTALLATION OF SAID EROSION CONTROL MEASURES. IF UNFORESEEN CONDITIONS EXIST IN THE FIELD THAT WARRANT ADDITIONAL EROSION CONTROL MEASURES, THE CONTRACTOR MUST CONSTRUCT ANY ADDITIONAL EROSION CONTROL DEVICES DEEMED NECESSARY BY THE SITE INSPECTION.
- 10. AFTER APPROVAL OF THE INITIAL EROSION CONTROL INSTALLATION, THE CONTRACTOR MAY PROCEED WITH CLEARING AND GRUBBING ACTIVITIES. AS CLEARING PERMITS, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT PONDS AND DIVERSION DIKES AS SHOWN ON THE CLEARING PHASE PLAN TO CONTROL EROSION AND STORM WATER RUN OFF.
- 11. THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION CONTROL PLANS WILL INSPECT THE INSTALLATION OF THE BMP's WITHIN SEVEN DAYS AFTER INITIAL CONSTRUCTION ACTIVITY BEGINS.
- 12. THE CONTRACTOR CAN UTILIZE CLEARED TREES AS BARRIER BRUSH SEDIMENT CONTROL IN AREAS SHOWN ON PLAN WHERE INITIAL GRADING ACTIVITIES WILL NOT OCCUR.
- 13. NO BURN OR BURY PITS SHALL BE PERMITTED ON THE CONSTRUCTION SITE WITHOUT WRITTEN PERMISSION BY THE OWNER.
- 14. ADDITIONAL SILT BARRIERS MUST BE PLACED AS SHOWN ON THE PLAN AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL TAKE PLACE UNTIL SILT BARRIER INSTALLATION AND SEDIMENT PONDS ARE CONSTRUCTED AS SHOWN ON THE CLEARING PHASE EROSION CONTROL PLAN.
- 15. ALL SILT FENCES MUST MEET THE REQUIREMENTS OF KDOT'S APPROVED PRODUCT REPORT, MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE KDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 16. ALL ITEMS IN THIS SECTION OF THE SPECIFICATION SHALL MEET THE REQUIREMENTS AS SET FORTH IN THE MOST CURRENT KDOT STANDARD SPECIFICATIONS.
- LAND DISTURBANCE.

17. MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 7 DAYS OF

- 18. ALL DISTURBED AREAS LEFT MULCHED AFTER 30 DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION.
- 19. SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.

#### **EROSION CONTROL NOTES**

- 20. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A METHOD WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1-3" OF STONE, AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
- 21. CONTRACTOR SHALL INSPECT CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- 22. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE AS DIRECTED BY THE ON SITE INSPECTOR OR THE CIVIL ENGINEER.
- 23. FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE APPROVED EROSION CONTROL PLANS.
- 24. THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES.

## FINAL PHASE-EROSION CONTROL NOTES

- 1. THE FOLLOWING EROSION CONTROL MEASURES SHALL BE IMPLEMENTED DURING THE FINAL EROSION CONTROL PHASE OF CONSTRUCTION.
- 2. SEDIMENT SHALL NOT BE WASHED INTO INLETS. IT SHALL BE REMOVED FROM THE SEDIMENT TRAPS AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLETS AGAIN.
- 3. MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 7 DAYS OF LAND DISTURBANCE
- 4. ALL DISTURBED AREAS LEFT MULCHED AFTER 30 DAYS SHALL BE STABILIZED WITH TEMPORARY **GRASSING**
- 5. THE CONTRACTOR SHALL MAINTAIN ALL SEDIMENT PONDS AND EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED. SEDIMENT SHALL BE CLEANED OUT OF THE PONDS WHEN IT REACHES THE HALF WAY POINT ON THE RISER.
- 6. AFTER CURBING, GRADED AGGREGATE BASE, AND PAVEMENT HAS BEEN INSTALLED, ALL INLET SEDIMENT TRAPS ON SINGLE AND DOUBLE WING CATCH BASINS ALONG WITH ANY CURB INLETS SHALL BE REMOVED AND REPLACED WITH CURB FILTER INLET PROTECTION. SEE SEPARATE DETAIL FOR ADDITIONAL INFORMATION.
- 7. ALL ROADWAY AND PARKING SHOULDERS SHOULD BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS ACHIEVED BEHIND CURBS.
- SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
- THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1-3" OF STONE. AS CONDITIONS ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO PUBLIC ROADWAY OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- 10. THE CONTRACTOR SHALL INSPECT CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY
- 11. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE AS DIRECTED BY THE ON SITE INSPECTOR OR THE CIVIL ENGINEER.
- 12. FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE APPROVED EROSION CONTROL PLANS.
- 13. THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES INCLUDING REPLACING OR REPAIRING ANY DAMAGED DEVICES DUE TO ANY CONSTRUCTION ACTIVITY BY OTHERS.
- 14. UPON COMPLETION OF THE PROJECT AND RECEIPT OF "CERTIFICATE OF OCCUPANCY", THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND DISPOSE OF THEM UNLESS NOTED ON PLANS.

# DETAIL REFERENCES

**DETAIL NUMBER** SHEET WHERE DETAIL **APPEARS** 

DETAIL SHEET WHERE DETAIL IS NOTED

USED TO INDICATE THAT — TYP DETAIL IS TYPICAL AT MULTIPLE PLACES.

**ISSUE FOR BID** 

DATE OF ISSUE: 08/19/2025

**PROJECT** 

**MMI - ILA SHELTER** MCI1.12 LANSING, KS PARCEL ID: 052-107-25-0-00-00-175

CLIENT

811 4-H RD

LANSING, KS 66043

Middle Mile Infrastructure

**CONSULTANT** 

AECOM Technical Services, Inc. 10 Patewood Drive, Suite 500 Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com



**REGISTRATION** 

**ISSUE/REVISION** 08/19/2025 Site Plan Comments

DESCRIPTION

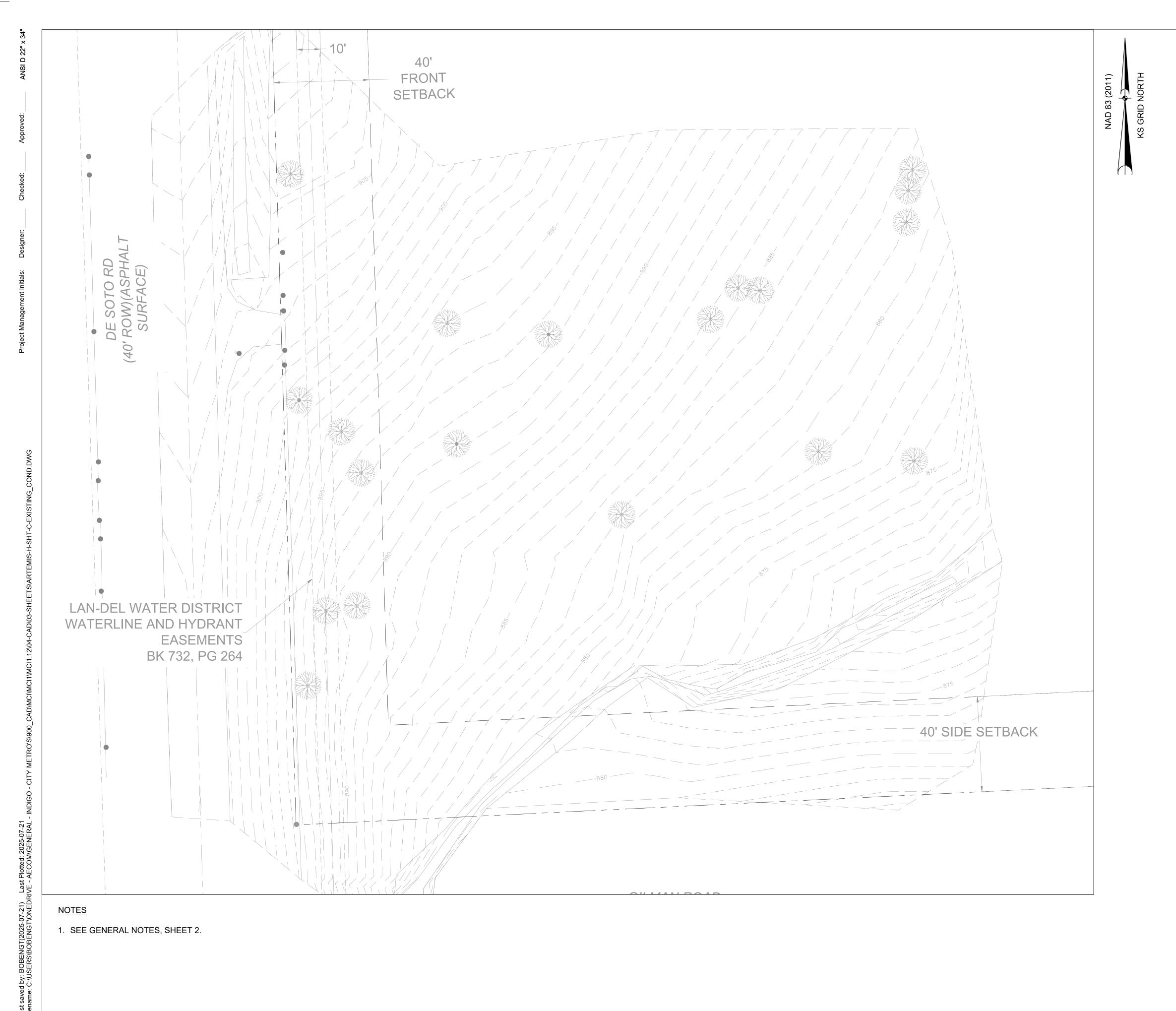
**PROJECT NUMBER** 

DATE

60645418

SHEET TITLE

**GENERAL NOTES** 



LEGEND

WORK LIMIT LINE

PROPERTY LINE

RIGHT OF WAY LINE

EXISTING MAJOR CONT

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

PROPOSED EASEMENT LINE

EXISTING WETLANDS

AECOM

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

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I/R	DATE	DESCRIPTION

PROJECT NUMBER

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SHEET TITLE

**EXISTING CONDITIONS** 

SHEET NUMBER

\_\_\_\_

GRAPHIC SCALE: 1" = 20'

**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025



3. SEE GENERAL NOTES, SHEET 2.

FOR A/E APPROVAL. CONTRACTOR MUST REPAIR ALL DAMAGES RESULTING FROM HIS

OPERATIONS TO THE SATISFACTION OF THE A/E CONSTRUCTION MANAGER.

ABOVE-GROUND INFRASTRUCTURE.

LEGEND WORK LIMIT LINE PROPERTY LINE RIGHT OF WAY LINE EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR

PROPOSED EASEMENT LINE

EXISTING WETLANDS

# **AECOM**

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

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REGISTRATION

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SHEET TITLE

DEMOLITION

SHEET NUMBER

**ISSUE FOR BID** DATE OF ISSUE: 07/21/2025

LAN-DEL WATER DISTRICT

WATERLINE AND HYDRANT

**GRADING NOTES** 

AND SPOT ELEVATIONS SHOWN USING

EXISTING UTILITY LINE(S) DURING DRIVEWAY CULVERT INSTALLATION.

2. CONTRACTOR SHALL BE AWARE OF

EASEMENTS

BK 732, PG 264

3. ALL NEW PAVEMENT/GRAVEL ABUTTING 1. CONSTRUCT SITE TO PROPOSED CONTOURS EXISTING PAVEMENTS/GRAVEL SHALL SUITABLE MATERIAL. GRADES SHOWN ARE TOP OF FINAL GRADE.

MATCH THE ELEVATION OF THE EXISTING. 4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE OF ALL FINISHED GRADE SURFACES.

40'

**FRONT** 

SETBACK

KEA KEA KEA

FFE = 898.00'

FFE = 897.75'

53 (54)

5. SEE GENERAL NOTES, SHEET 2.

LEGEND ECR - END OF CURVE RADIUS EOC - EDGE OF CONCRETE EOG - EDGE OF GRAVEL

EG - EXISTING GROUND ELEVATION (TIE TO EXISTING POINT)

GRAPHIC SCALE: 1" = 20'

**LEGEND** — — WORK LIMIT LINE PROPERTY LINE RIGHT OF WAY LINE EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED EASEMENT LINE EXISTING WETLANDS FENCE LINE GRAVEL

		Point T	able		Point Table				
Point #	Description	Elevation	Northing	Easting	Point #	Description	Elevation	Northing	Easting
1	EOG	898.71	342194.4753	2184957.0448	30	BOLLARD	897.90	342128.3104	2184962.027
2	EOG	897.97	342196.2514	2185016.3638	31	BOLLARD	898.20	342128.1308	2184956.029
3	EOG	897.41	342198.0275	2185075.6827	32	PEDESTAL	898.01	342145.0524	2184967.752
4	EOG	896.78	342132.5569	2185077.6430	33	PEDESTAL	899.14	342144.4539	2184947.764
5	EOG	895.96	342067.0862	2185079.6033	34	EOG/EOC	902.11	342145.0154	2184918.507
6	EOG	896.59	342065.3101	2185020.2843	35	EOG/EOC	901.57	342125.0244	2184919.106
7	EOG	897.31	342063.5340	2184960.9653	36	EOC	902.88	342144.7833	2184910.756
8	EOG	897.91	342126.2215	2184959.0884	37	EOC	902.28	342124.7928	2184911.37
9	EOG	898.11	342146.2125	2184958.4899	38	EOC/EG	906.03	342164.2134	2184890.165
10	EOC	898.20	342180.6400	2184996.1675	39	EOC/EG	903.81	342104.1847	2184891.979
11	EOC	897.99	342181.2086	2185015.1590	40	POND	895.00	342198.4764	2185090.676
12	EOC	897.76	342160.2180	2185015.7875	41	POND	895.00	342188.1816	2185080.979
13	EOC	897.97	342159.6494	2184996.7960	42	POND	895.00	342094.8174	2185083.77
14	EOC	897.72	342141.9907	2184997.3247	43	POND	895.00	342085.2217	2185097.42
15	EOC	897.54	342142.5593	2185016.3162	44	POND	895.00	342085.7197	2185114.06
16	EOC	897.27	342121.5687	2185016.9447	45	POND	895.00	342096.0145	2185123.75
17	EOC	897.46	342121.0001	2184997.9532	46	POND	895.00	342189.3788	2185120.96
18	EOC	897.88	342181.5079	2185025.1545	47	POND	895.00	342199.0750	2185110.66
19	EOC	897.49	342182.5853	2185061.1384	48	TOP DITCH	897.12	342057.5367	2184961.144
20	EOC	897.19	342158.9296	2185061.8469	49	TOP DITCH	896.13	342060.5353	2184961.05
21	EOC	897.62	342157.8519	2185025.8630	50	TOP DITCH	895.93	342061.1873	2185083.068
22	EOC	897.46	342142.8586	2185026.3117	51	BOTTOM DITCH	895.19	342064.1367	2185081.33
23	EOC	897.00	342143.9360	2185062.2956	52	POND	895.00	342085.6095	2185090.670
24	EOC	896.71	342120.2799	2185063.0039	53	RADIUS		342188.4809	2185090.97
25	EOC	897.15	342119.2025	2185027.0200	54	RADIUS		342189.0795	2185110.96
26	BOLLARD	897.97	342144.6017	2184971.5175	55	RADIUS		342095.7153	2185113.76
27	BOLLARD	898.06	342144.3024	2184961.5220	56	RADIUS		342095.1167	2185093.77
28	BOLLARD	898.36	342144.1228	2184955.5247	57	RADIUS		342164.7744	2184910.15
29	BOLLARD	899.35	342143.8235	2184945.5292	58	RADIUS		342104.8017	2184911.97

# ASPHALT

ISSUE/REVISION

REGISTRATION

DATE DESCRIPTION

AECOM

MMI - ILA SHELTER

PARCEL ID: 052-107-25-0-00-00-175

Middle Mile Infrastructure

**PROJECT** 

MCI1.12

LANSING, KS 66043

CONSULTANT

Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com

AECOM Technical Services, Inc. 10 Patewood Drive, Suite 500

811 4-H RD

CLIENT

LANSING, KS

#### PROJECT NUMBER

60645418

SHEET TITLE

**GRADING PLAN** 

SHEET NUMBER

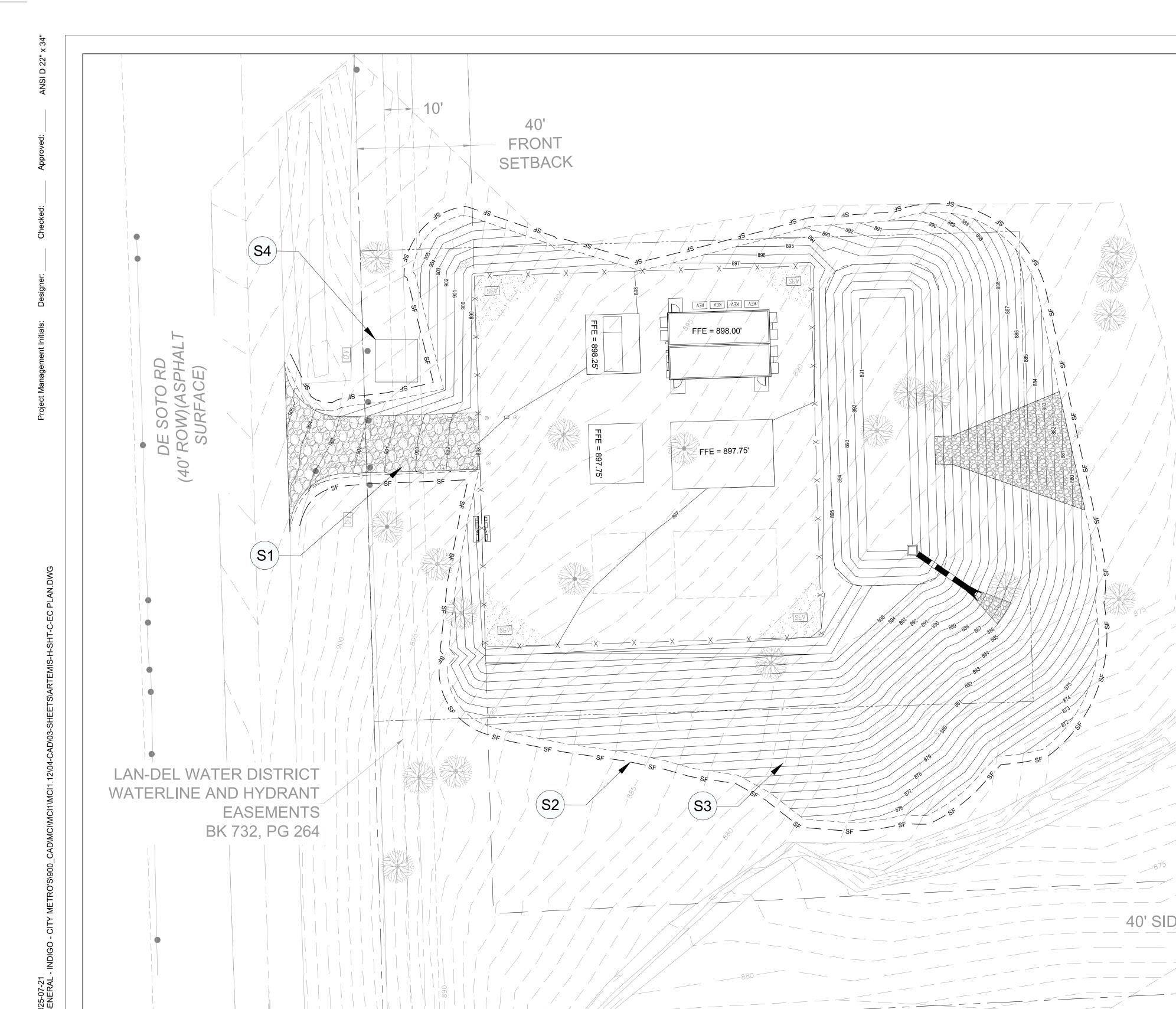
**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025

INV OUT: 891.00(A.1)

27 LF 18" SW @ 3.66% SLOPE

FES-A.1



LEGEND — WORK LIMIT LINE PROPERTY LINE **EXISTING MAJOR CONTOUR** EXISTING MINOR CONTOUR PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED SPOT ELEVATION — SF —— SILT FENCE CONSTRUCTION ENTRANCE

## **EROSION CONTROL NOTES**

1. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.

**EXISTING WETLANDS** 

- 2. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES, IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- 3. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
- 4. SEE GENERAL NOTES, SHEET 2.
- 5. SEE EROSION CONTROL DETAILS, SHEET 7.

**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025

# **AECOM**

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

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Middle Mile Infrastructure

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**EROSION CONTROL PLAN** 

SHEET NUMBER

60645418

SHEET TITLE

**CONSTRUCTION NOTES:** 

CONSTRUCT TEMPORARY (S1) CONSTRUCTION ENTRANCE,

S2 CONSTRUCT TEMPORARY SILT FENCE, SEE DETAIL

SEE SHEET 7 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.



CONSTRUCT SLOPE
STABILIZATION ON ALL SLOPES

3
7 3H:1V OR STEEPER



S4 CONSTRUCT CONCRETE WASHOUT, SEE DETAIL

NOTE: EROSION CONTROL BLANKETS AND STAKES SHALL BE NORTH AMERICAN GREEN S150 AND NORTH AMERICAN GREEN 6"-4" BIO-STAKE (OR ENGINEER APPROVED EQUIVALENTS).

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

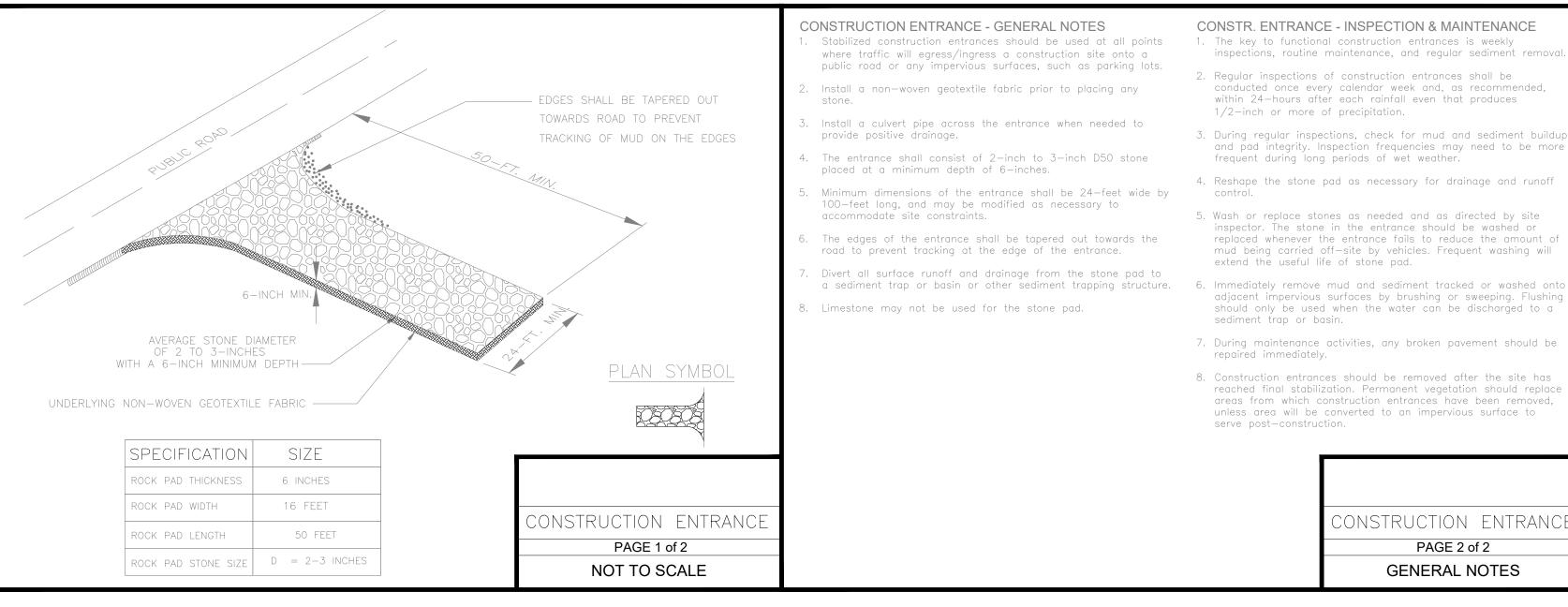
3. ROLL THE BLANKETS DOWN THE SLOPE.

4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.

5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY

6. ALL EROSION CONTROL BLANKET SHALL CONFORM TO KDOT SPECIFICATIONS FOR **EROSION CONTROL BLANKET** 

ROSION CONTROL MATTING NOT TO SCALE

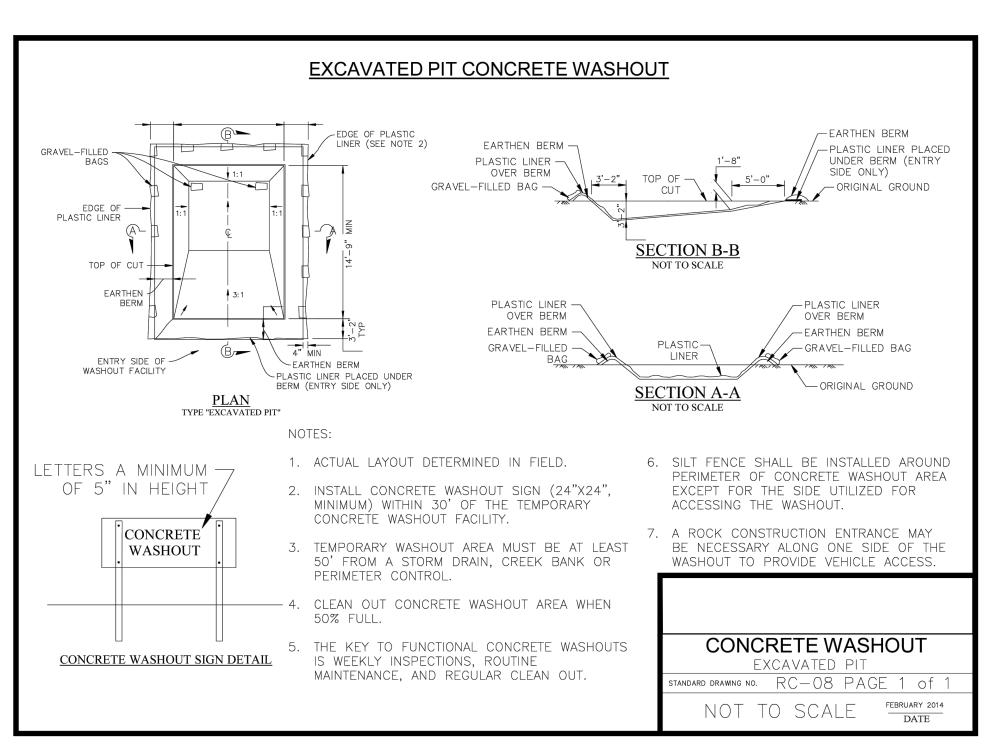


4' (max.)

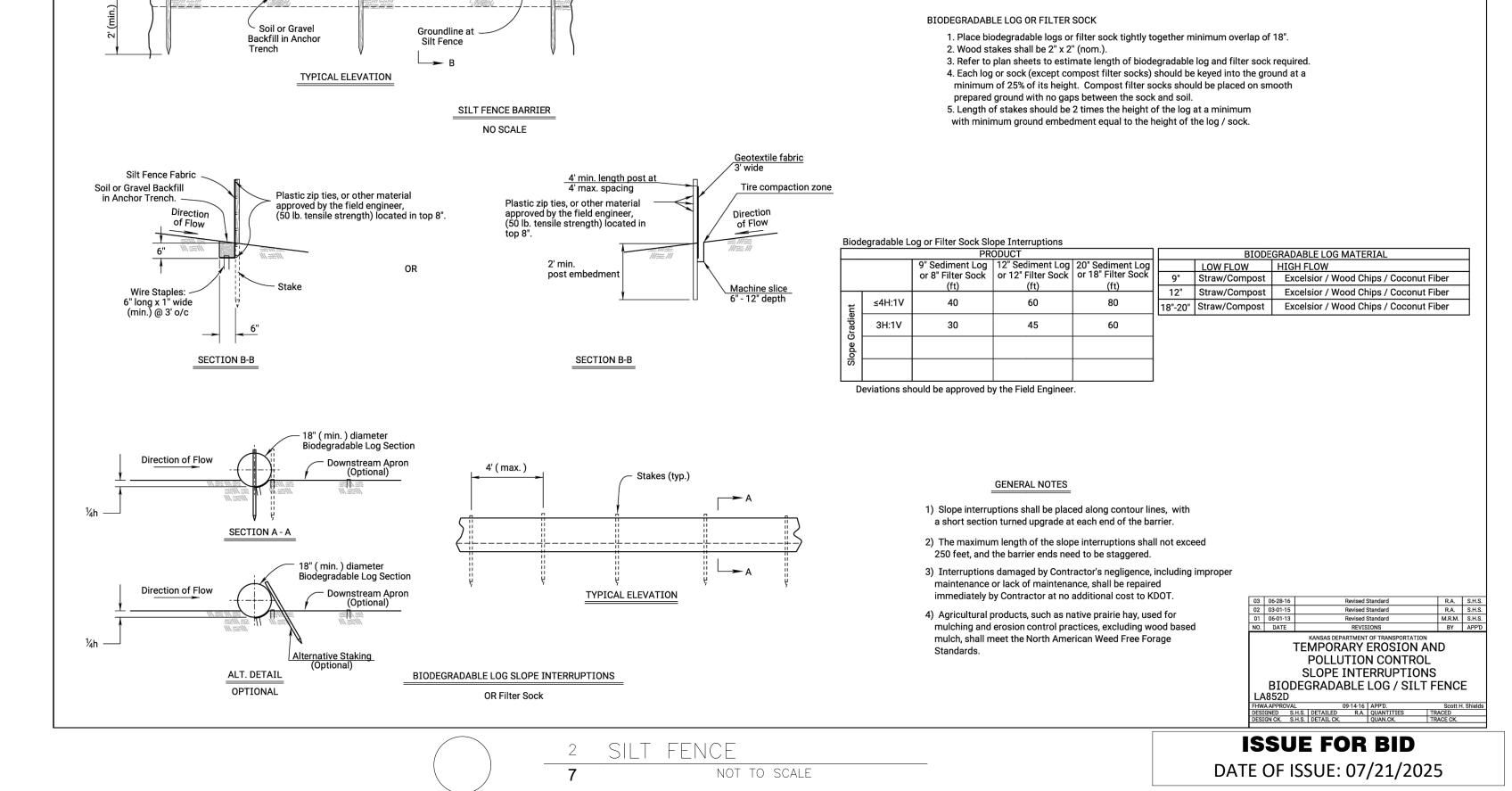
Silt Fence Fabric -

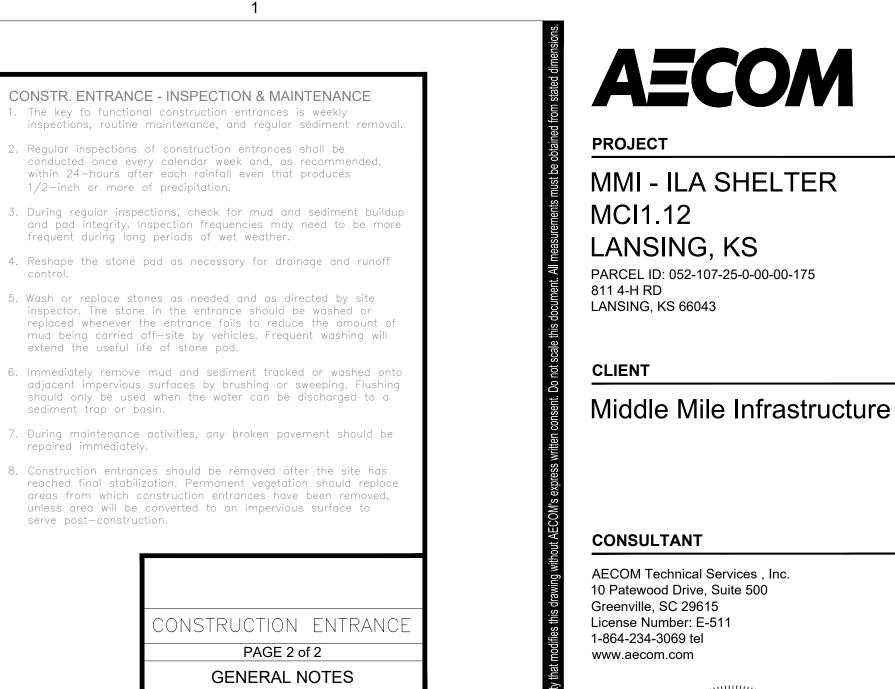
4' (max.)





NOT TO SCALE





YEAR SHEET NO. SHEE

PROJECT NO.

INSTALLATION NOTES

1. Stakes shall be 4' (min.) long and of one of the following materials:

2. Attach fence fabric with 3 zip ties within the top 8" of the fence

4. Refer to plan sheets to estimate the length of silt fence required.

Alternate attachment methods may be approved by the Engineer on aperformance basis.

c. Steel U, T, L, or C Section - .95 lbs. per 1'-0"; or d. Synthetic - same strength as wood stakes.

3. Use of high flow material is acceptable.

SILT FENCE:

a. Hardwood - 1  $\frac{3}{16}$ " x 1  $\frac{3}{16}$ "; b. Southern Pine (No. 2) - 2% x 2%;

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SHEET TITLE

**EROSION CONTROL NOTES &** DETAILS

DRY SEDIMENT BASIN - GENERAL NOTES

rills and gullies.

maintenance.

1. Sediment basins should not be placed in Waters of the State or USGS

stabilized with vegetative or synthetic matting to prevent the formation of

Install three (3) rows of porous baffles with a minimum spacing of 10

feet. Baffles should ultimately be placed to maximize the space between

each row of baffles and the basin's inlets/outlets. Only two (2) rows of

baffles are necessary for basins that are less than 50 feet in length.

4. Porous Baffles should be composed of coir—based materials or TRMs with

5. Each porous baffles shall be installed across the entire width of the basin and along the basin's side slope until the height of the baffle intersects

along bottom of the principle spillway's riser structure. (Refer to skimmer manufacturer for installation procedures and skimmer specifications.)

Skimmer should be equipped with a mechanism, such as a rope, to allow

easy access to skimmer to unclogged orifice or perform other necessary

8. Stormwater runoff entering the basin must be directed into proper BMPs to prevent erosion along side slopes and to prevent scour at the basin's

9. The forebay berm should consist of riprap, gabion, or an earthen berm with a rock filled outlet that is constructed across the bottom of the

10. An additional cleanout stake for the forebay area is recommended and

should be marked for cleanout at 50% of provided sediment storage.

11. The elevation of the emergency spillway should be at least 1 foot below the top of the embankment. The emergency spillway should not be located on fill material, when possible. Riprap and geotextile liner should be

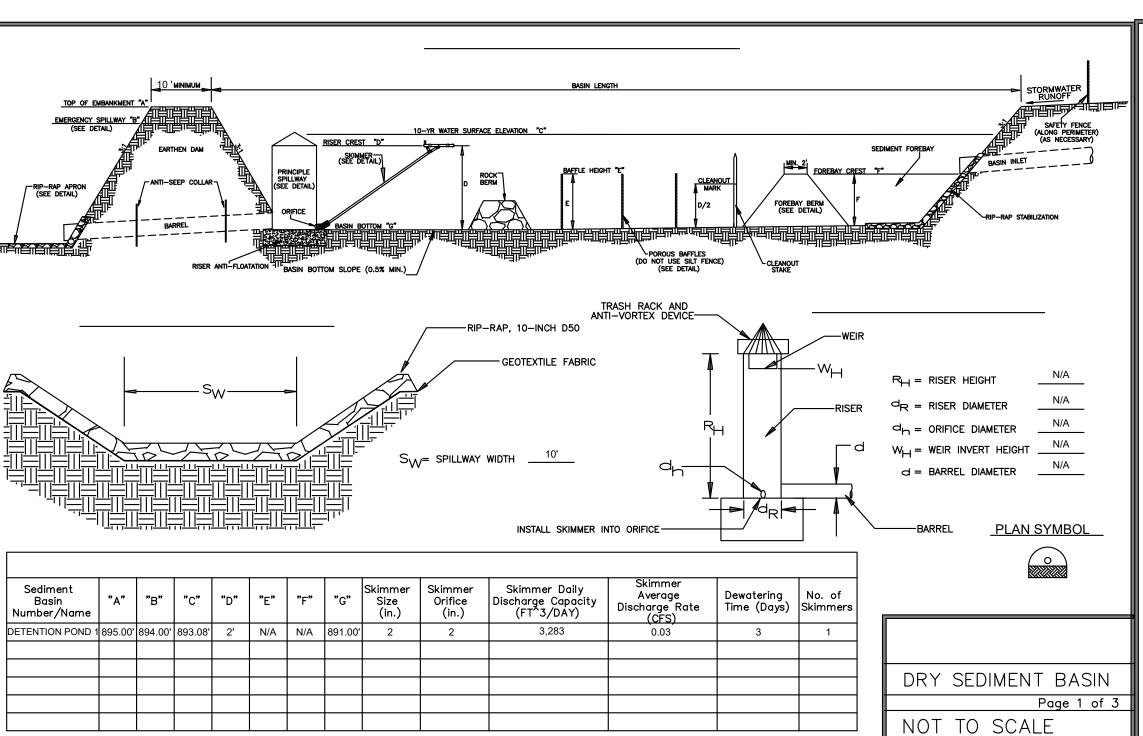
placed on all spillways that must be located on fill material.

6. Install skimmer and coupling (as necessary) to riser structure at orifice

a light penetration (open spaces) between 10-35%. These materials should not have loose straw. Silt Fence may not be used as Porous Baffles.

2. Sediment basin's side slopes shall be seeded and, when necessary,

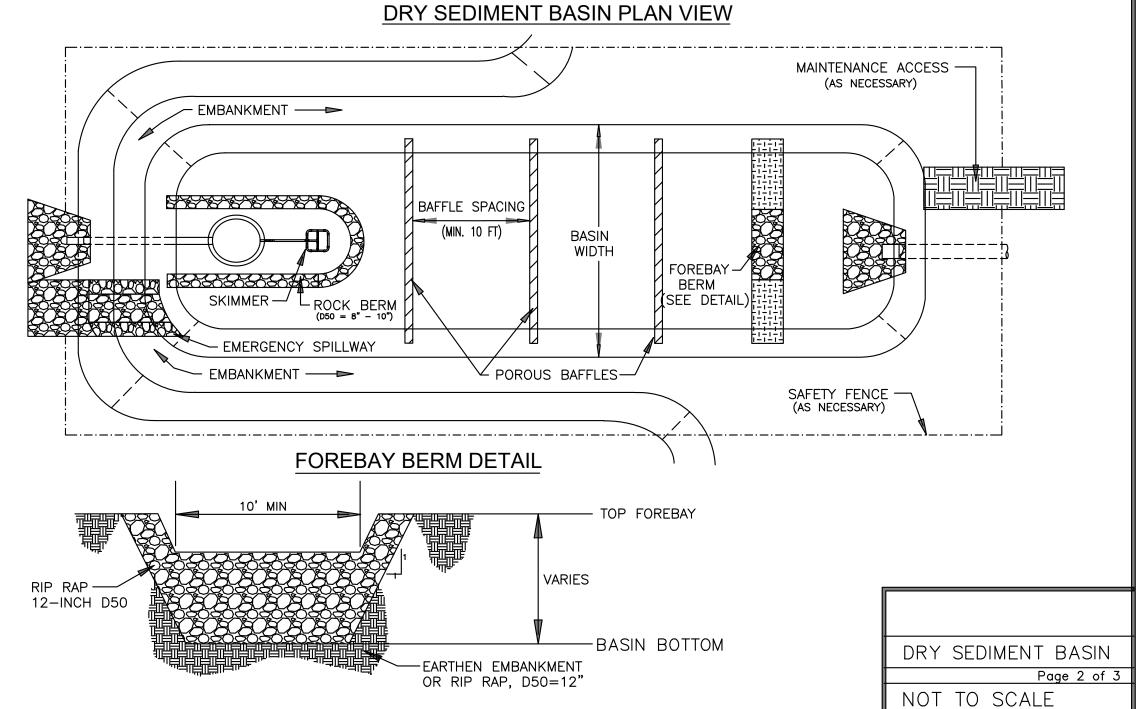
blue-line streams (unless approved by Federal Authorities).

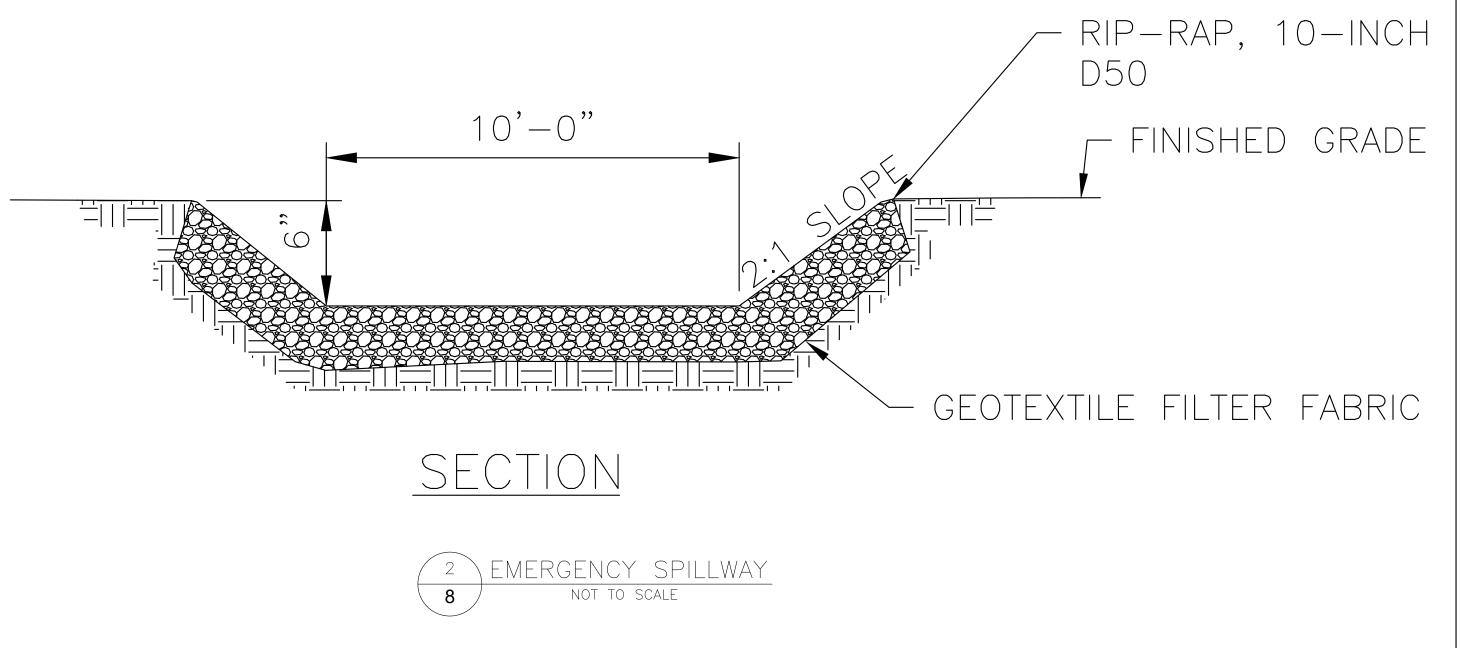


DRY SEDIMENT BASIN - INSPECTION AND MAINTENANCE

- 1. The key to a functional sediment basin is weekly inspections, routine maintenance, and regular sediment removal.
- 2. Attention to sediment accumulations within the basin is extremely important. Accumulated sediment deposition should be continually checked and removed when necessary.
- 3. Remove accumulated sediment when it reaches 50% of the design sediment storage volume or 1/2 the height of the riser structure, whichever is reached first.
- 4. Removed sediment from the basin shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed
- 5. Inspections of sediment basins should be conducted once every calendar week and, as recommended, within 24-hours of each rainfall event that produces ½—inch or more of precipitation.
- 6. All temporary sediment basins, which are not to be converted to a detention basin post-construction, should be removed within 30 days after final site stabilization is achieved.
- 7. Disturbed areas resulting from the removal of the sediment basin should be permanently stabilized and additional BMPs, such as silt fence, should be utilized to accept stormwater runoff from this disturbed area until final stabilization is reached.

DRY SEDIMENT BASIN Page 3 of 3 GENERAL NOTES







**ISSUE FOR BID** DATE OF ISSUE: 07/21/2025 **AECOM** 

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

CLIENT

Middle Mile Infrastructure

CONSULTANT

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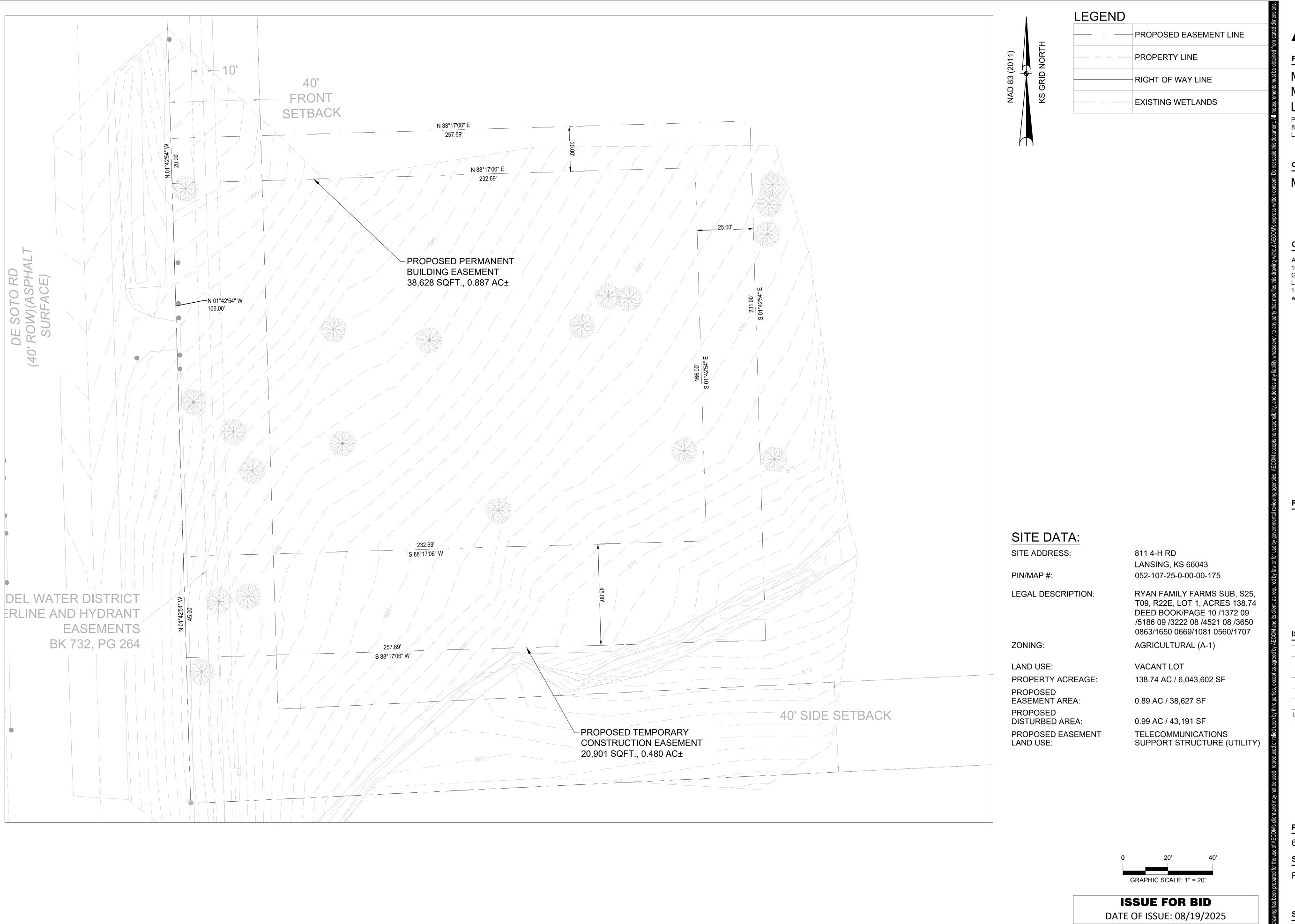
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60645418

SHEET TITLE

**EROSION CONTROL NOTES &** DETAILS



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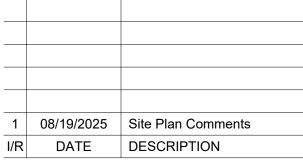
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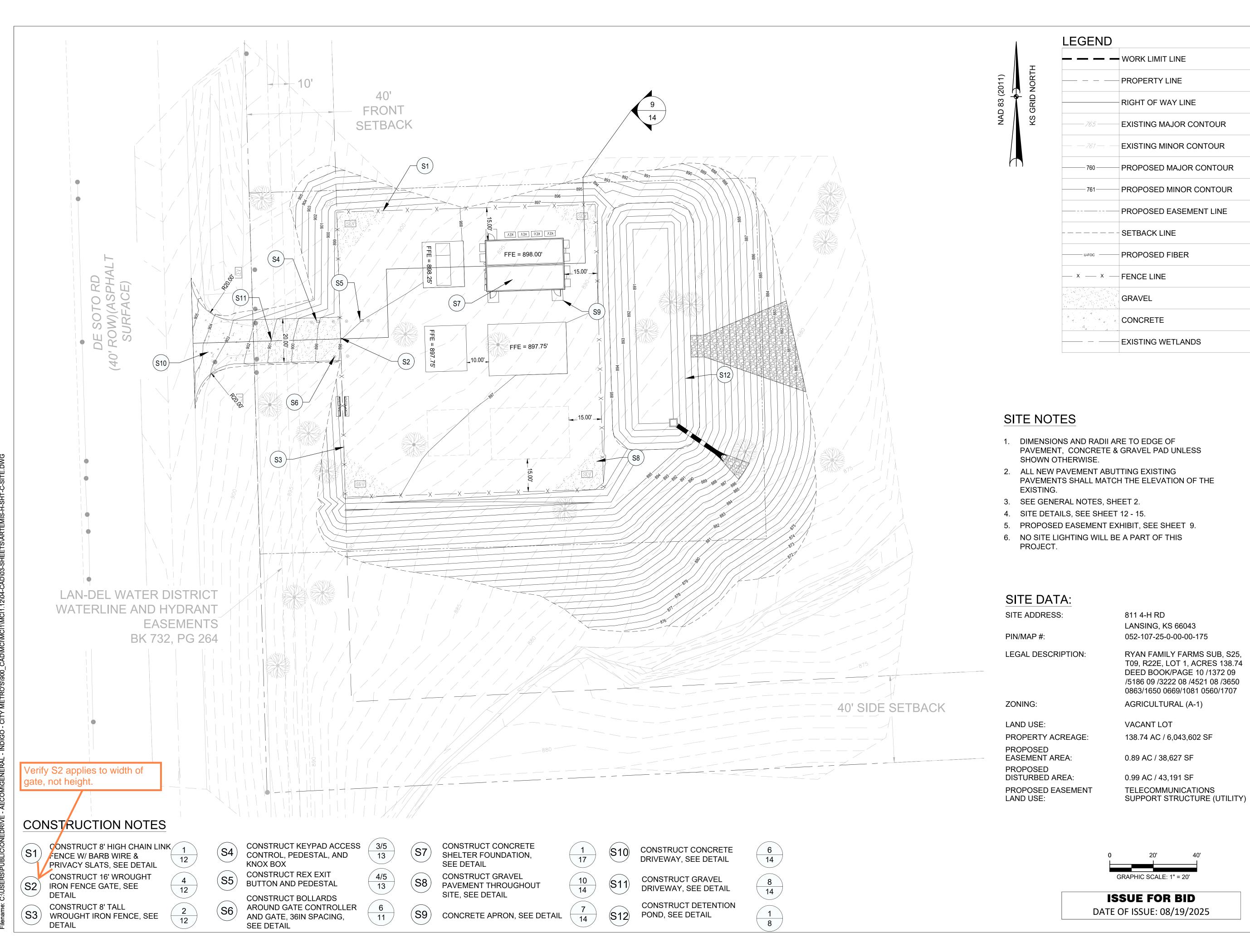
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PROPOSED EASEMENT EXHIBIT

SHEET NUMBER

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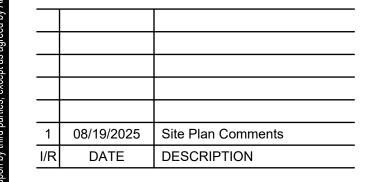
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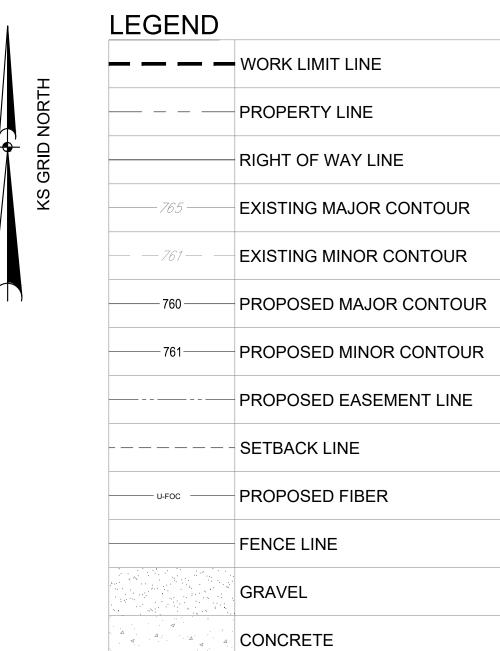
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SITE PLAN

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EXISTING WETLANDS

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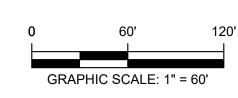
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SIGHT DISTANCE EXHIBIT

I/R DATE DESCRIPTION

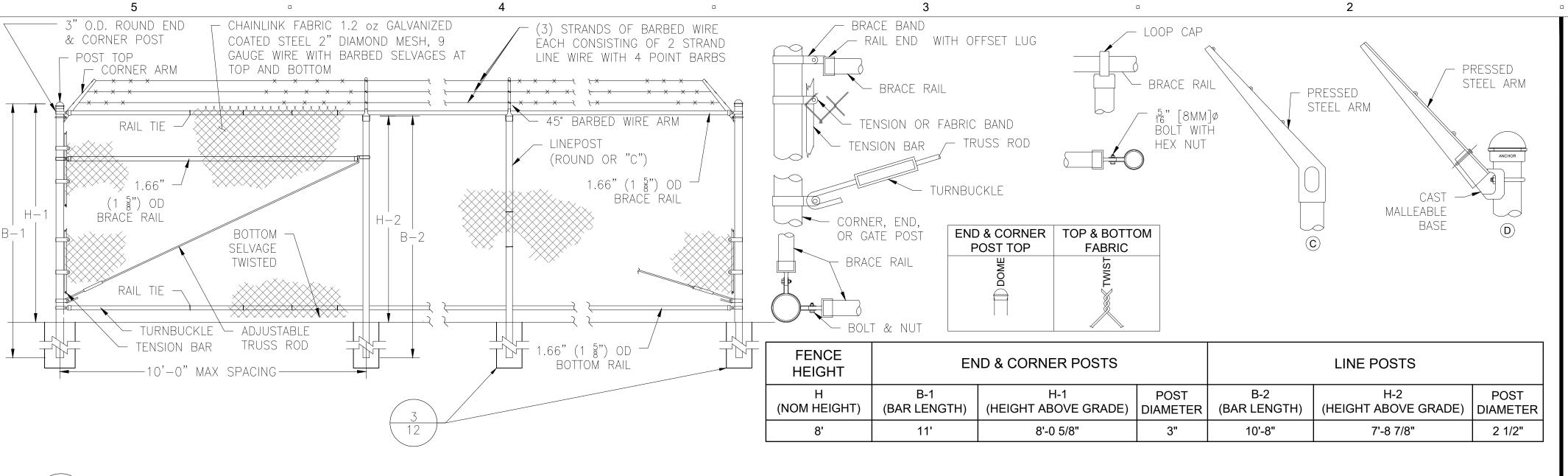
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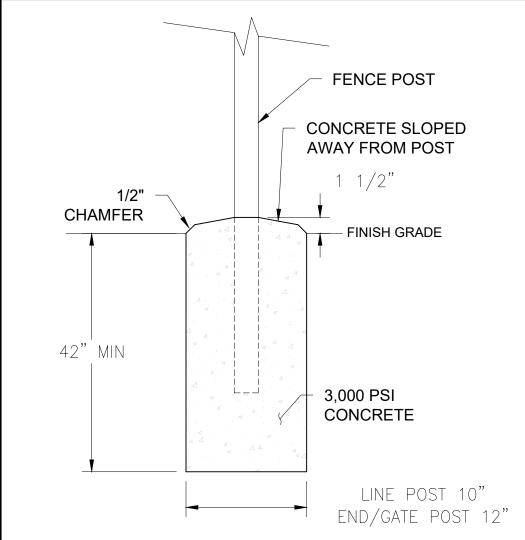
11



**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025





FENCE POST FOUNDATION DETAIL

12 NOT TO SCALE

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1	08/19/2025	Site Plan Comments
I/R	DATE	DESCRIPTION

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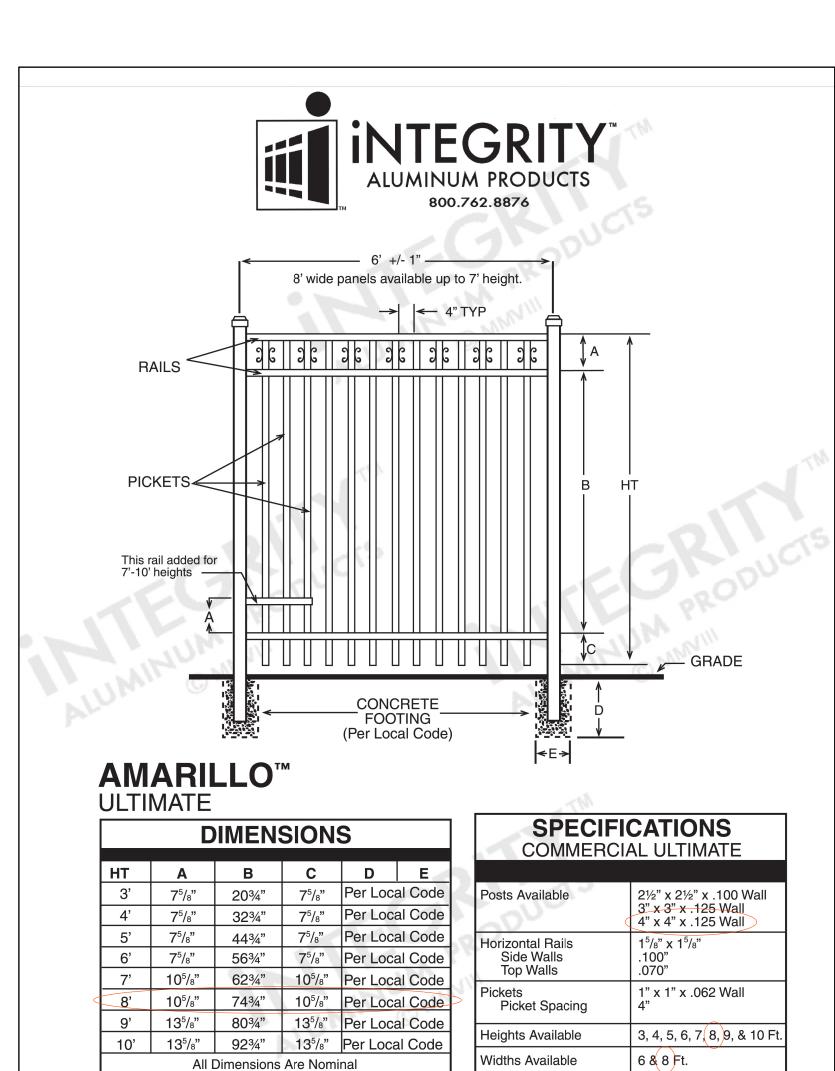
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SHEET TITLE

SITE DETAILS-1

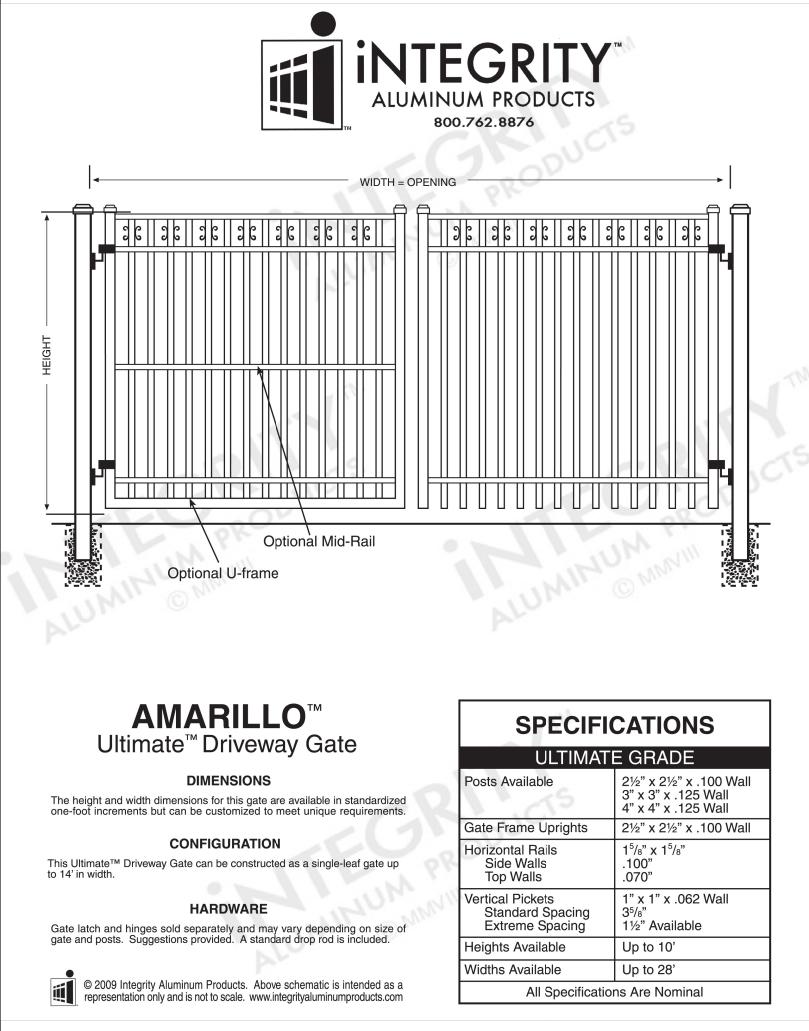
SHEET NUMBER

12



CHAIN LINK FENCE W/ BARB WIRE

/ NOT TO SCALE



WROUGHT IRON FENCE

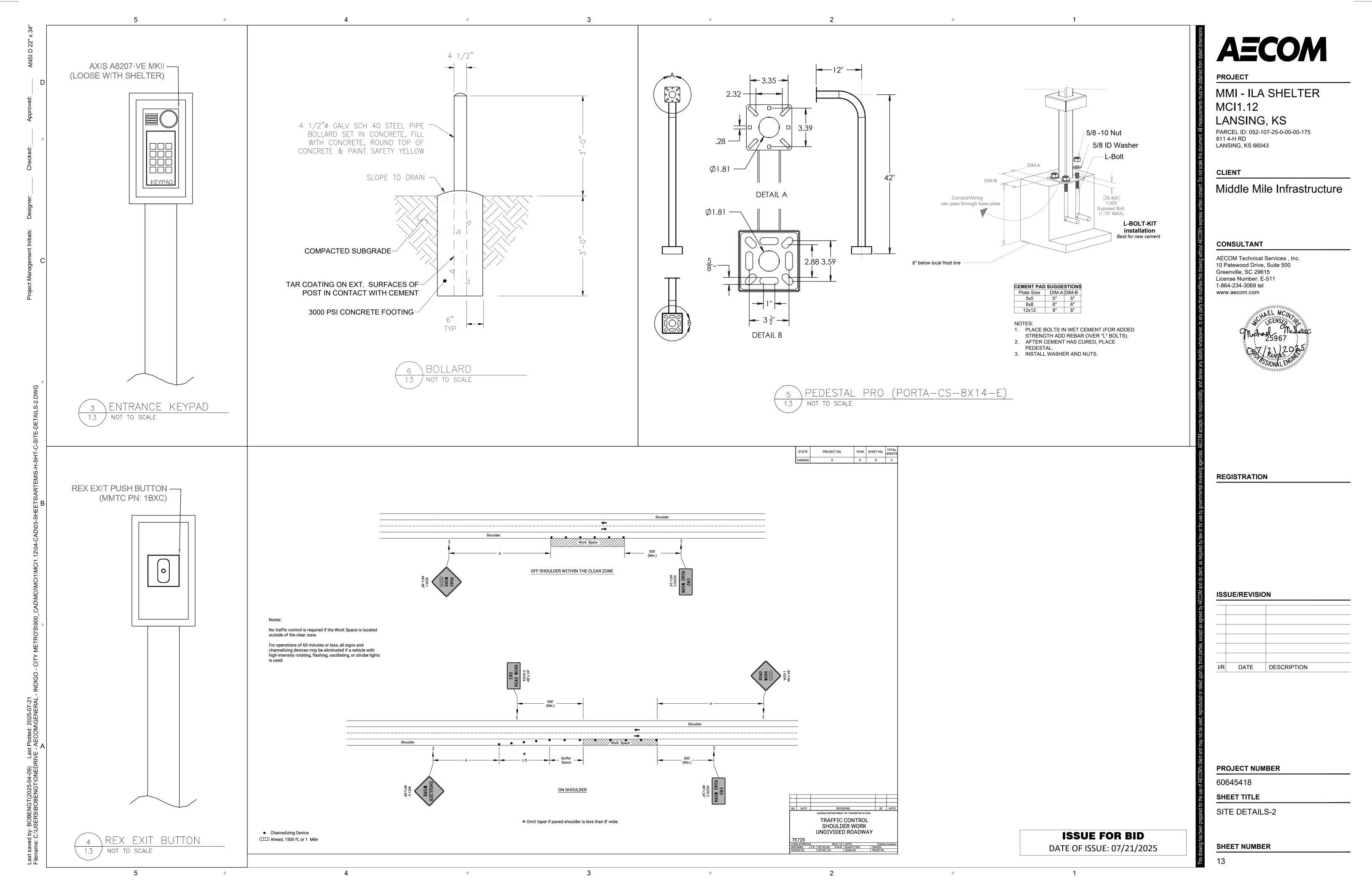
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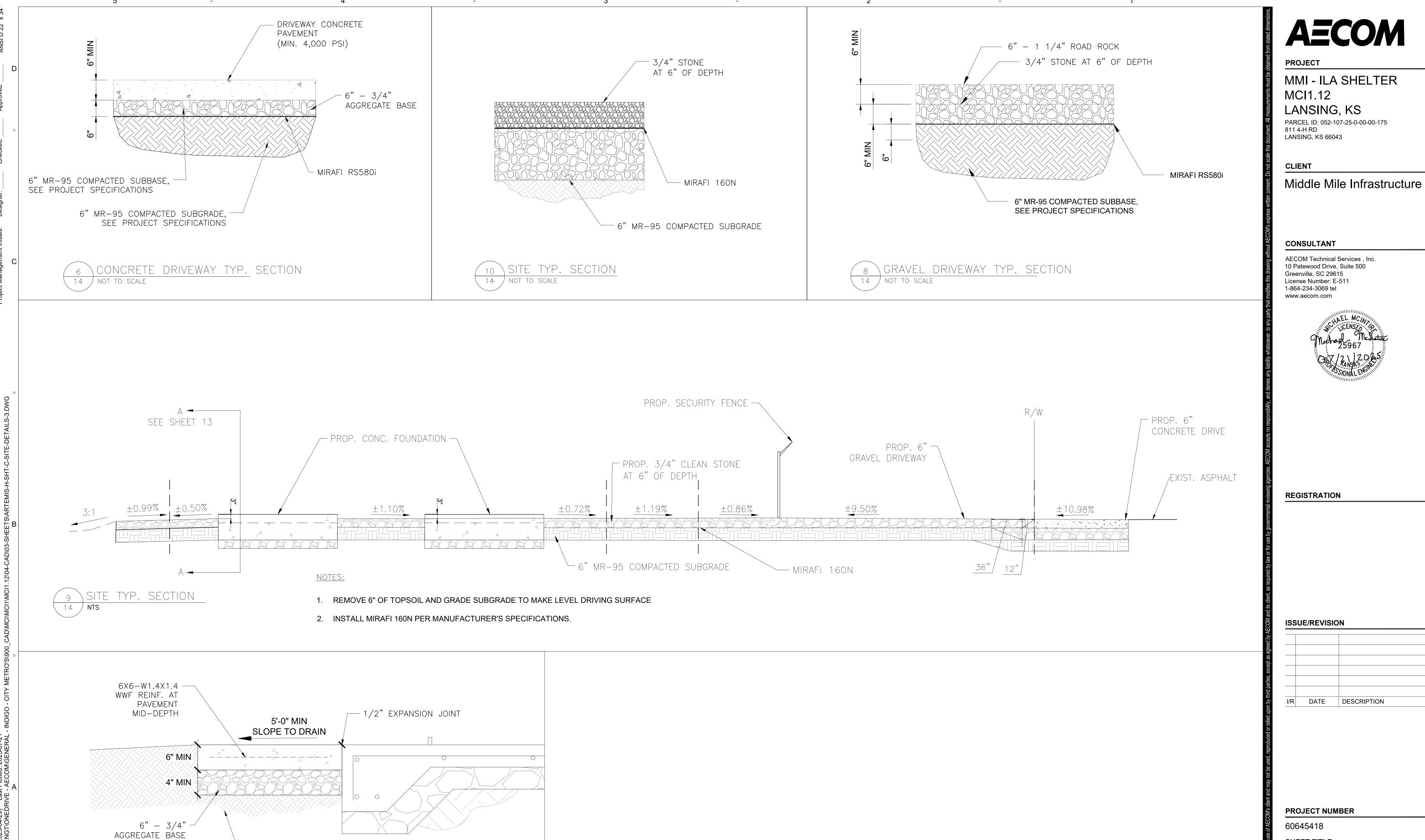
© 2009 Integrity Aluminum Products. Above schematic is intended as a representation only and is not to scale. www.integrityaluminumproducts.com



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DATE OF ISSUE: 08/19/2025





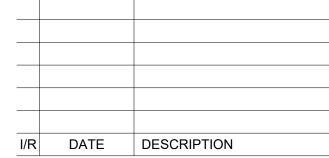
6" MR-95 COMPACTED SUBGRADE

CONCRETE APRON

AECOM

MMI - ILA SHELTER





SHEET TITLE

SITE DETAILS-3

**SHEET NUMBER** 

**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025

# PRECAST CONCRETE RISER WITH BASE DETAIL

PRECAST CONCRETE RISER WITH BASE DETAIL

ENSURE ALL RISER (MANHOLE) MATERIALS, MANUFACTURING, TESTING AND PRODUCT PERFORMANCE FOR PRECAST CONCRETE COMPONENTS AND ACCESSORIES ARE IN ACCORDANCE WITH AASHTO M199 AND SECTION 719 OF THE KDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2025 EDITION, OR LATEST REVISION.

USE PRECAST CONCRETE COMPONENTS DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

USE PRECAST CONCRETE MANHOLES WITH A HL-93 DESIGN LIVE LOADING.

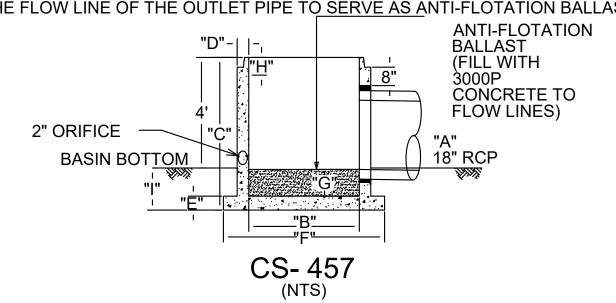
USE CLASS 4000P CONCRETE (MINIMUM) FOR ALL PRECAST CONCRETE ELEMENTS.

USE REINFORCING BARS CONFORMING TO THE REQUIREMENTS OF ASTM A706, GRADE 60.

USE WELDED WIRE FABRIC MEETING THE REQUIREMENTS OF AASHTO M55 AND AASHTO M221.

USE WATER TIGHT PIPE BARREL TO RISER CONNECTIONS.

FILL CLASS 3000P (MINIMUM) CONCRETE TO THE FLOW LINE OF THE OUTLET PIPE TO SERVE AS ANTI-FLOTATION BALLAST.



OUTLET PIPE DIAMETER (A) INCHES	RISER DIAMETER	RISER HEIGHT	WALL THICKNESS	BASE THICKNESS	BASE DIAMETER	ANTI FLOAT	TOP JOINT	RISER RECESS
	(B) FT	(C) INCHES	(D) INCHES MIN.	(E) INCHES MIN.	(F) INCHES MIN.	BALLAST (G) IN	(H) INCHES	(I) INCHES
18	2	30	5	6	70	12	4	18



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SITE DETAILS-4

SHEET NUMBER

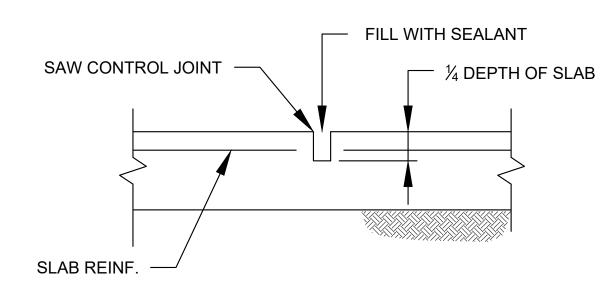
15

#### **DESIGN CRITERIA:**

- 1. LOADS USED IN THE DESIGN OF THE FOUNDATION SLAB ARE AS FOLLOWS:
- 2. UNIFORM LIVE LOADS FOR SLAB ON GRADE 150 PSF
- 3. SNOW LOAD, WIND LOADS, AND SEISMIC LOADS FOR PREFABRICATED BUILDING DESIGN SHALL BE PROVIDED BY PRE-FABRICATED BUILDING MANUFACTURER AS SITE CLASS, DESIGN CATERGORY, ETC. ARE BASED ON SPECIFIC SITE LOCATION.

#### **FOUNDATION NOTES:**

- 1. THE ENTIRE STRUCTURE SHALL BE FOUNDED ON COMPACTED STRUCTURAL FILL OR UNDISTURBED SOIL WITH A DESIGN BEARING PRESSURE OF 1.500 PSF.
- 2. PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER TO VERIFY THE DESIGN BEARING PRESSURE AND THAT SETTLEMENTS ARE WITHIN GENERALLY ACCEPTED TOLERABLE LIMITS. THE GEOTECHNICAL ENGINEER WILL PROVIDE DIRECTION FOR CORRECTIVE ACTION WHERE NEEDED.
- 3. DO NOT INSTALL FOUNDATION WORK UNTIL IT HAS BEEN COORDINATED WITH ADJACENT UNDERGROUND UTILITIES, ETC.
- 4. NO FOUNDATION CONCRETE SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL.



SLAB (ELEVATION) SAW JOINT

MAINTAIN 2" CLEARANCE

34x BI (TYP.

INTERUPTED

(½ EACH SIDE)

BETWEEN EDGE OF OPENING AND REINFORCING (TYP.)

#### **CAST-IN-PLACE CONCRETE:**

- 1. CAST-IN-PLACE CONCRETE SHALL COMPLY WITH THE AMERICAN CONCRETE INSTITUTE STANDARD (ACI 318), BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, LATEST EDITION, AND THE SPECIFICATIONS FOR STRUCTURE CONCRETE FOR BUILDINGS (ACI 301), LATEST EDITION.
- 2. ALL CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:

A) SLAB ON GRADE - 3,000 PSI B) CONCRETE OTHERWISE NOTED - 4,000 PSI C) CONCRETE EXPOSED TO WEATHER SHALL BE ENTRAINED

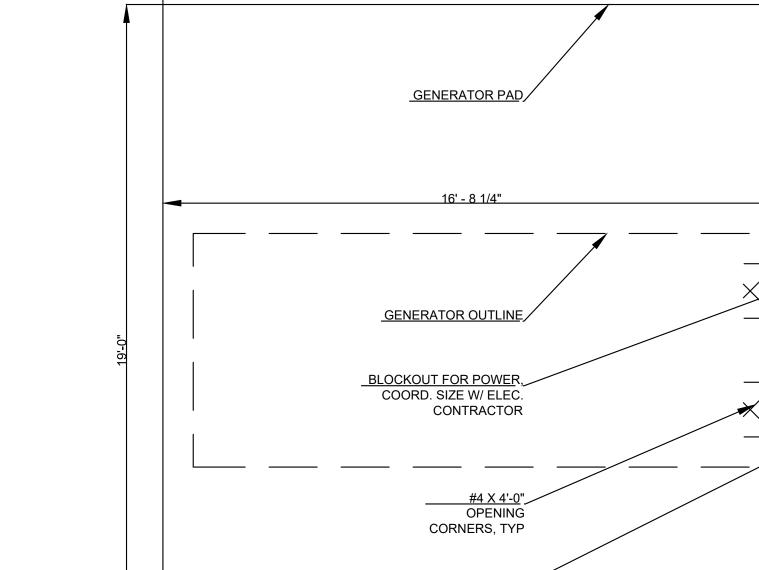
- 3. ALL REINFORCING STEEL SHALL BE AS FOLLOWS: A) REINFORCING BARS - ASTM A615, GRADE 60 B) WELDED WIRE FABRIC - SMOOTH WIRE; ASTM A185 FLAT SHEET TYPE
- 4. WELDED WIRE FABRIC SHALL BE PROPERLY SUPPORTED PRIOR TO PLACING CONCRETE. HOOKING OF FABRIC IS NOT PERMITED.
- 5. #4 BARS MARKED AS CONTINUOUS (CONT.) SHALL BE LAPPED 50 x BAR DIAMETER.
- 6. HOLD ALL REINFORCING STEEL SECURELY IN PLACE TO PREVENT DISLOCATIONS DURING THE POURING OPERATION, SUPPORT SLAB REINFORCING STEEL ON HIGH CHAIRS AND BAR SPACERS OF SUITABLE DESIGN, OR CONCRETE BLOCKS HAVING TEH SAME MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SLAB.
- 7. DETAILING OF ALL CONCRETE REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-315).
- 8. MINIMUM PROTECTION (CONCRETE COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS: A) CONCRETE SURFACES CAST AGAINST SOIL: 3" B) CONCRETE SURFACES EXPOSED TO EARTH OR WEATHER: 1 1/2"
- 9. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- 10. DIMENSIONS AND HEIGHTS OF CONCRETE SLABS TO BE COORDINATED BY CONTRACTOR AND VERIFIED WITH PRE-FABRICATED BUILDING MANUFACTURER REQUIREMENTS.

PROVIDE 2-#4 DIAGONAL AT

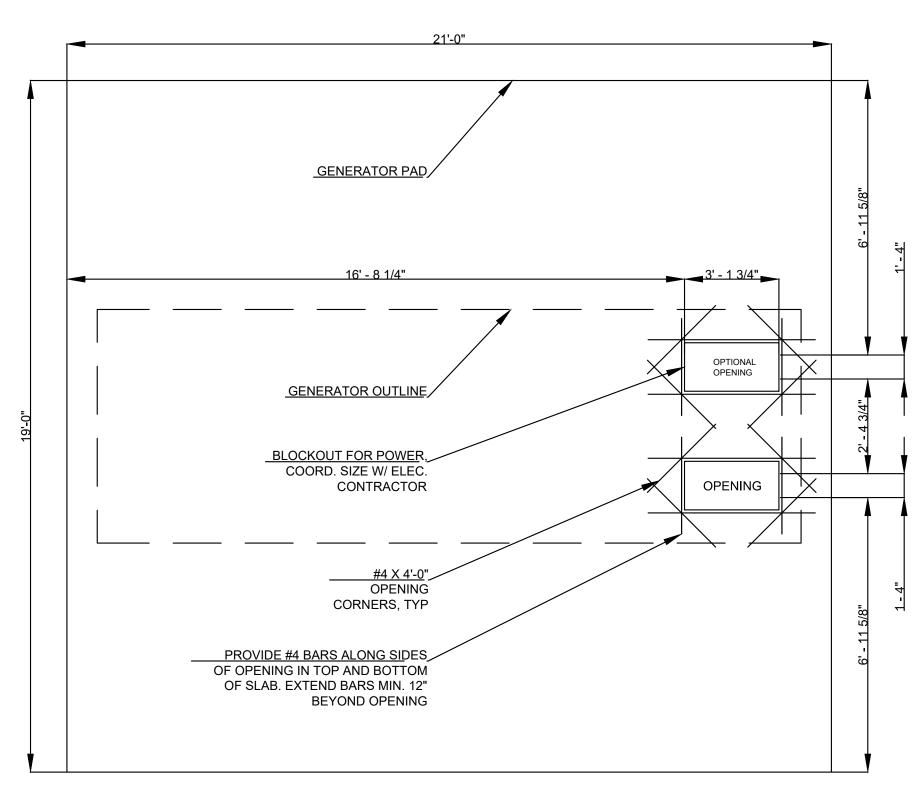
CORNERS, IN EACH STEEL

LAYER

34x BD (TYP.)



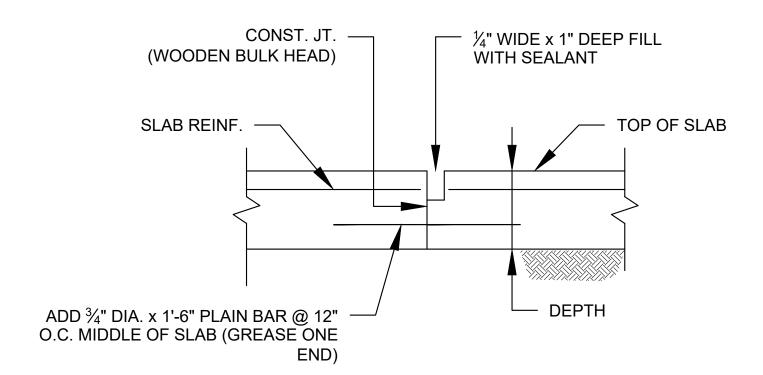
## SLAB (ELEVATION) CONSTRUCTION JOINT



**ISSUE FOR BID** DATE OF ISSUE: 07/21/2025

#### CONTROL AND CONSTRUCTION JOINTS

- 1. SAWCUT JOINTS AT CONTROL JOINTS SHALL BE MADE AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT RAVELING OUT OF THE AGGREGATE AND DAMAGE TO THE EDGES, BUT NO LATER THAN 12 HOURS AFTER THE FINISHING OF THE SLAB SURFACE HAS BEEN COMPLETED.
- 2. SAWCUT JOINTS SHALL BE MADE AT ALL CONSTRUCTION JOINTS. JOINTS MAY BE SAWCUT WHEN CONTROL JOINTS ARE SAWCUT OR AT ANY TIME PRIOR TO THE TIME THAT SEALANTS ARE TO BE INSTALLED IN THE CONSTRUCTION JOINT.
- 3. IMMEDIATELY AFTER SAWCUTTING, CLEAN THE JOINT AND SLAB SURFACE WITH A HIGH PRESSURE WATER BLASTER (1000 PSI MIN.). WATER BLASTING SHALL REMOVE ALL LAITANCE AND OTHER CONTAMINENTS FROM THE JOINT AND SLAB SURFACE.
- 4. SEALANT FOR JOINTS SHALL BE 2-PART SELF LEVELING SEMI-RIGID EPOXY TYPE. SEALANT SHALL BE LEVEL WITHIN 1/32" BELOW SURFACE. REMOVE ANY EXCESS SEALANT THAT IS ABOVE THE FINISH FLOOR SURFACE ON EITHER SIDE OF THE JOINT. MAINTAIN A UNIFORM THICKNESS THE FULL LENGTH OF ALL JOINTS.



## **REGISTRATION**

**ISSUE/REVISION** I/R DATE DESCRIPTION

#### **PROJECT NUMBER**

60645418

**PROJECT** 

MCI1.12

811 4-H RD

CLIENT

LANSING, KS 66043

**CONSULTANT** 

Greenville, SC 29615 License Number: E-511

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AECOM Technical Services . Inc.

10 Patewood Drive, Suite 500

LANSING, KS

MMI - ILA SHELTER

PARCEL ID: 052-107-25-0-00-00-175

Middle Mile Infrastructure

SHEET TITLE

STRUCTURAL DETAILS-1

SHEET NUMBER

# NOTE:

34x BD

OPĖNING

BD = BAR DIAMETER

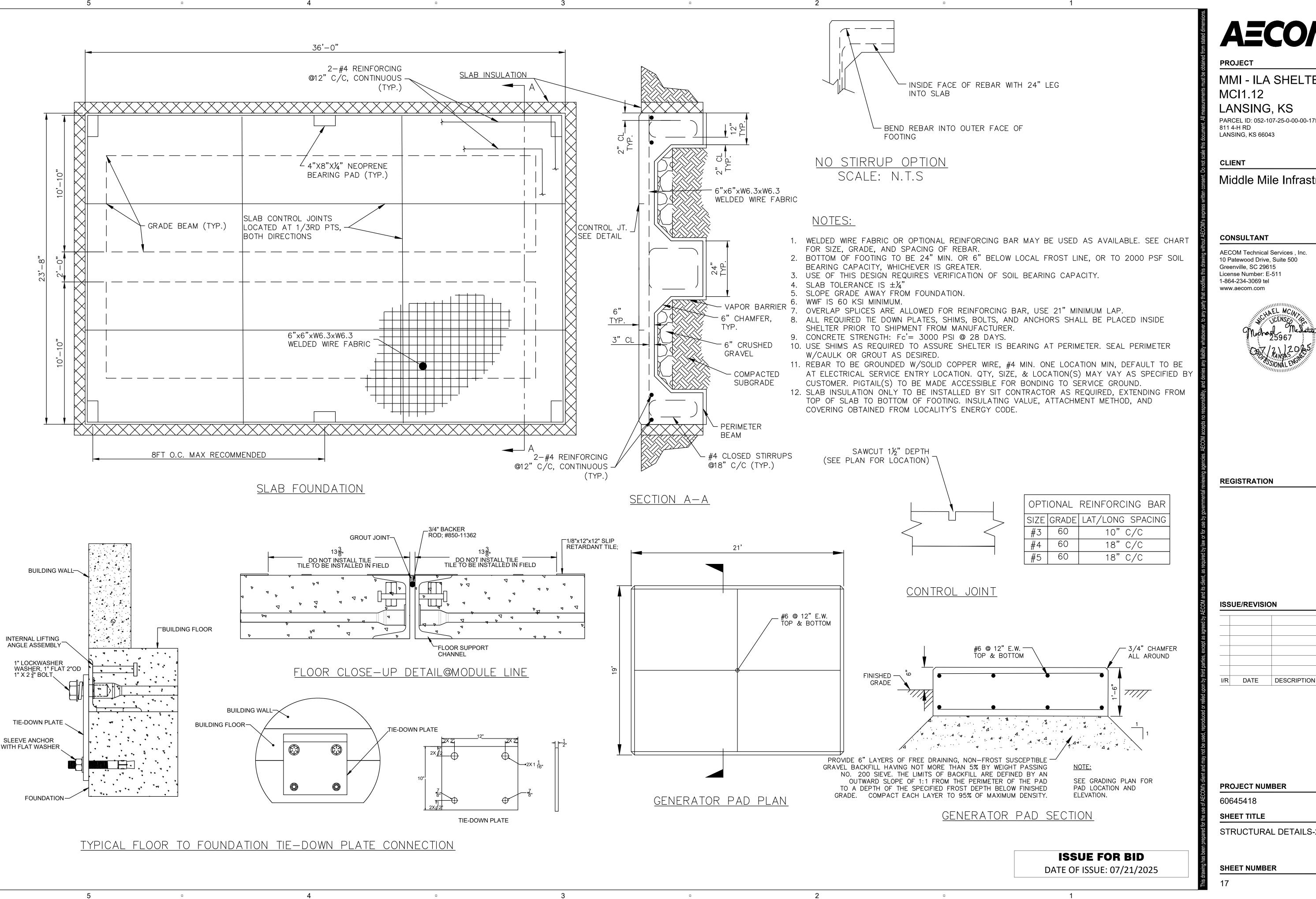
(TYP.)

ALL OPENINGS IN SLAB REQUIRE ADDITIONAL REINFORCING EXCEPT WHERE OPENING SIZE OR LOCATION IS SUCH THAT REINFORCING STEEL IS NOT INTERRUPTED. CONDUITS, SMALL PIPES AND OTHER SMALL SLEEVES THAT DO NOT REQUIRE PRECISE LCOATION SHALL BE SHIFTED SLIGHTLY TO CLEAR REINFORCING, WHERE OPENINGS ARE LARGER THAN THE SPACING BETWEEN THE BARS AND ARE SUCH THAT THE REINFORCING CANNOT BE SHIFTED TO CLEAR, THEN THIS DETAIL SHALL APPLY

**OPENING** 

TYPICAL CONCRETE SLAB OPENING DETAIL

PROVIDE REINFORCING AROUND OPENING EQUAL TO AMOUNT



**AECOM** 

MMI - ILA SHELTER

PARCEL ID: 052-107-25-0-00-00-175

Middle Mile Infrastructure

AECOM Technical Services, Inc. 10 Patewood Drive, Suite 500



STRUCTURAL DETAILS-2

#### **GENERAL NOTES**

- UNLESS OTHERWISE INDICATED, ALL MOUNTING ELEVATIONS ARE CENTERLINE ELEVATIONS.
- 2. CIRCUITING SHOWN ON THE PLANS IS BASED ON INFORMATION GIVEN TO THE ENGINEER AT TIME OF DESIGN AND A GENERAL FIELD SURVEY. CONTRACTOR SHALL FIELD VERIFY ACTUAL AVAILABLE CIRCUITS, PRIOR TO START OF CONSTRUCTION, AND ADJUST ACCORDINGLY.
- CIRCUIT IDENTIFICATION SHALL BE AS FOLLOWS: A-5 = 1-POLE BREAKERS AT CIRCUIT #5 OF PANEL "A". P-1,3 = (1) 2-POLE BREAKER AT CIRCUITS #1 & #3 OF PANEL "P".
- PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. ALL NEW CIRCUIT BREAKERS SHALL MATCH EXISTING EQUIPMENT FOR MANUFACTURER, TYPE AND A.I.C. RATING.
- 5. NO WIRING DEVICES OR OUTLET BOXES SHALL BE INSTALLED BACK-TO BACK.
- CONTRACTOR SHALL FURNISH, INSTALL, AND SIZE ALL SLEEVES, HOLES, CORES, PATCHING, SLOTS, ANCHORS, BRACKETS, SUPPORTS, JUNCTION BOXES, PULLBOXES, AND OTHER APPURTENANCES NECESSARY TO EXECUTE THE CONTRACT DOCUMENTS COMPLETE. SOME OF THESE ITEMS MAY BE SHOWN ON THE DRAWINGS FOR CLARITY OR DESIGN PREFERENCE. HOWEVER, NOT ALL OF THE ITEMS, NECESSARY FOR COMPLETE EXECUTION AND INSTALLATION, ARE SHOWN.
- 7. LABEL ALL JUNCTION BOXES WITH CIRCUIT NUMBER.
- 8. ALL EXPOSED CONDUIT SHALL BE RUN PARALLEL, OR AT RIGHT ANGLES, TO STRUCTURE.
- 9. THE CONTRACTOR SHALL VERIFY ALL EQUIPMENT BEING INSTALLED PRIOR TO INSTALLATION TO ASSURE THAT THE FEEDER, DISCONNECT, OVERCURRENT PROTECTION, ETC. MATCHES THE ACTUAL NAMEPLATE DATA AS SUPPLIED BY THE MANUFACTURER. REFER TO EQUIPMENT CUTSHEETS AND MANUFACTURER'S DATA FOR ROUGH-IN LOCATIONS OF ELECTRICAL CONNECTIONS AND INTERCONNECTIONS OF ALL EQUIPMENT AND PROVIDE/INSTALL AS REQUIRED.
- 10. WORK CALLED FOR BY THE SPECIFICATIONS OR THESE DRAWINGS IS REQUIRED THE SAME AS IF REQUIRED BY BOTH. WHERE A CONFLICT EXISTS BETWEEN THE SPECIFICATIONS AND DRAWINGS, THE MORE STRINGENT REQUIREMENTS OF THE TWO SHALL APPLY UNLESS SPECIFICALLY APPROVED IN WRITING BY THE ENGINEER.
- 11. FURNISH CABLING AND RACEWAYS FOR SYSTEM DEVICES AND INSTRUMENTATION ACCORDING TO OTHER TRADES AND VENDORS DRAWINGS AND SPECIFICATIONS.
- 12. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL DEVICE TYPES, LOCATIONS AND QUANTITIES WITH THE OWNER AND SYSTEM'S VENDOR AND PROVIDE ACCORDINGLY.
- 13. ALL WORK SHALL BE PERFORMED ON DE-ENERGIZED EQUIPMENT ANY WORK ON LIVE EQUIPMENT SHALL BE REQUESTED 72 HOURS PRIOR TO START WITH LIVE WORK PERMIT.
- 14. UPON COMPLETION OF WORK, CORRECT ALL PANELBOARD CIRCUIT DIRECTORY CARDS TO REFLECT AS-BUILT CONDITIONS. CONTRACTOR SHALL PROPERLY COVER ALL UNUSED SPACES.

#### **GENERAL WIRING NOTES**

- CIRCUIT HOMERUNS NOT OTHERWISE MARKED ON DRAWINGS SHALL BE CONSIDERED 2 #12, 1 #12G -3/4" C, MIN.
- WIRE SIZING FOR ALL BRANCH CIRCUITS SHALL BE IN ACCORDANCE WITH N.E.C. TABLE 310-15(B)(16) WITH SUITABLE TERMINAL RATINGS AS REQUIRED BY ARTICLE 110.14, AS A MINIMUM.
- WHERE CIRCUITS ARE IN EXCESS OF 50 FEET (120V), OR 150 FEET (277V); THE WIRE SIZE SHALL BE INCREASED TO ACCOMMODATE FOR VOLTAGE DROP. THE CONTRACTOR SHALL ENSURE NEW CIRCUIT WIRES ARE SIZED TO LIMIT VOLTAGE DROP TO 2% ON FEEDERS AND 3% ON BRANCH CIRCUITS.
- WHERE THE WIRE SIZE IS INCREASED DUE TO CIRCUIT LENGTH AS SHOWN ABOVE, THAT WIRE SIZE SHALL BE CARRIED THROUGHOUT THE CIRCUIT, AS A MINIMUM. GROUND WIRE SHALL BE SIZED ACCORDINGLY FOR THE NEW WIRE SIZE.
- ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL AND EQUIPMENT GROUND CONDUCTORS, AS REQUIRED, IN EACH AND EVERY CONDUIT OR RACEWAY; METALLIC OR NON-METALLIC, RIGID OR FLEXIBLE.
- EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED PER N.E.C. TABLE 250-122 OR AS SHOWN ON THE DRAWINGS WHICHEVER IS MORE STRINGENT.
- WIRE SIZING SHALL BE AS INDICATED IN NOTES ABOVE, ONE-LINE DIAGRAMS OR AS SHOWN ON THE PLAN SHEETS, WHICHEVER IS MORE STRINGENT. THAT SAME WIRE SIZE SHALL BE CARRIED THROUGHOUT THE CIRCUIT, AS A MINIMUM.

#### GENERAL EMERGENCY ACCESS BOX NOTES

- CONTRACTOR SHALL VERIFY EMERGENCY ACCESS BOX (FAB) LOCATION AND FUNCTIONS WITH FIRE MARSHAL AND LOCAL UTILITY PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY.
- CONTRACTOR SHALL COORDINATE THE EAB AS SPECIFIED IN THESE PLAN SHEETS WITH THE FIRE MARSHAL AND LOCAL UTILITY AND PROVIDE EAB AND ALL ACCESSORIES AS REQUIRED BY THE FIRE MARSHAL AND LOCAL UTILITY FOR AN APPROVED ACCESS SYSTEM.
- SUBMIT EQUIPMENT SHOP DRAWINGS TO FIRE MARSHAL. LOCAL UTILITY, AND ENGINEER FOR APPROVAL PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH THE
- FOLLOWING INFORMATION AS A MINIMUM: a. ALL SUBMITTALS SHALL INDICATE COMPLIANCE WITH LATEST
  - ADOPTED EDITIONS OF: - INTERNATIONAL FIRE CODE
  - NFPA 72
  - NFPA 13 - NFPA - 101
  - NFPA 70 (NATIONAL ELECTRICAL CODE)
  - ADA AMERICANS WITH DISABILITIES ACT
  - ALL STATE AND LOCAL CODES AND ORDINANCES.
- COORDINATE WITH SYSTEM VENDOR FOR ADDITIONAL REQUIREMENTS AND PROVIDE ALL LINE VOLTAGE NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.
- ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOXES, CONDUITS, AND CONDUCTORS AS REQUIRED FOR A COMPLETE GATE EMERGENCY ACCESS SYSTEM.

# GENERAL UTILITY CO. COORDINATION

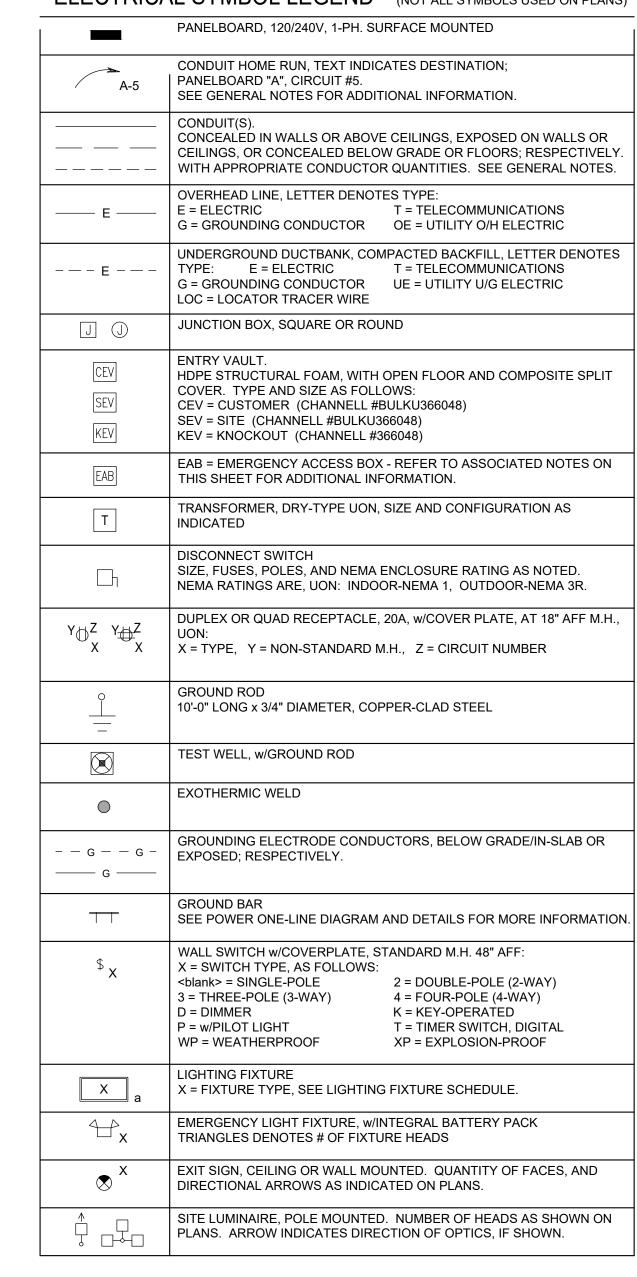
- THE CONTRACTOR SHALL MEET ON-SITE WITH THE UTILITY CO. REPRESENTATIVE TO DETERMINE THE FOLLOWING; PRIOR TO BID
- a. VERIFY PRIMARY CONDUIT WORK REQUIRED AND RESPONSIBILITY; IF ANY.
- b. VERIFY THE EXACT LOCATION OF THE GROUND OR OVERHEAD
- c. VERIFY METERING METHOD AND REQUIREMENTS, IF DIFFERENT d. VERIFY REQUIRED SERVICE CONDUITS, ROUTING, AND
- TERMINATION LOCATION. THE CONTRACTOR SHALL NOTIFY UTILITY CO. REPRESENTATIVE LISTED BELOW OF THE PRE-CONSTRUCTION MEETING SCHEDULE.

**EVERGY BOONE HESTON** 785-508-2590

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THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE COORDINATION PROCEDURES WILL CONSTITUTE ABSORBING ALL COSTS ASSOCIATED WITH REPLACING ANY AND ALL WORK ALREADY IN PLACE TO MEET THE UTILITY CO.'S RULES AND REQUIREMENTS.

## ELECTRICAL SYMBOL LEGEND (NOT ALL SYMBOLS USED ON PLANS)



VAULT BOX CONDUIT ENTR	Y DETAIL
VAULT (REFER TO ———————————————————————————————————	FINISHED GRADE OR PAVING
LINE SIDES OF EXCAVATION WITH 30 LBS. FELT PAPER ATTACHED WITH CONSTRUCTION ADHESIVE	CONDUIT(S) WITH BELL ENDS, TYP. SIZE, QUANTITY AND
SEAL CONDUIT  PENETRATION WITH  WATER TIGHT EXPANDING  FOAM SEALANT.	BELL ENDS, TYP. SIZE, QUANTITY AND WIRING AS SHOWN ON PLANS
(4) CONCRETE BRICKS 2"x8"x16"	NIN
CLEAN 3/4" CRUSHED ROCK	4

#### ELECTRICAL ABBREVIATIONS (NOT ALL ABBREVIATIONS ARE USED ON PLANS)

ELEC	CTRICAL ABBREVIATIONS (NOT ALL ABBREVIA	TIONS ARE	USED ON PLANS)
1P	SINGLE-PHASE POLE (2P,3P,4P, 1P ETC.)	kWH	KILOWATT HOUR
2/C 2W	2 CONDUCTOR (1/C, 3/C, 4/C, ETC.) 2-WIRE (3W, 4W, ETC.)	LED LF LP	LIGHT EMITTING DIODE LINEAR FEET (FOOT) LIGHT POLE
A AC	AMMETER, AMPERE ALTERNATING CURRENT, ARMORED CABLE	LRA LSIG	LOCKED ROTOR AMPS LONG, SHORT, INSTANTANEOUS, GROUND
A/C	AIR CONDITIONING UNIT	LTG	LIGHTING
ADDL ADJ	ADDITIONAL ADJACENT, ADJOINING	LTNG L/V	LIGHTNING LOW-VOLTAGE
A/E AF	ARCHITECT / ENGINEER AMPERE FRAME, AMP FUSE	MAX	MAXIMUM
AFC	AVAILABLE FAULT CURRENT	MC	METAL-CLAD
AFCI AFF	ARC FAULT CIRCUIT INTERRUPTER ABOVE FINISHED FLOOR	MCA MCB	MINIMUM CIRCUIT AMPS MAIN CIRCUIT BREAKER
AFG	ABOVE FINISHED GRADE	MCCB MDP	MOLDED CASE CIRCUIT BREAKER
AHJ AIC	AUTHORITY HAVING JURISDICTION AMPERE INTERRUPTING CAPACITY	MECH	MAIN DISTRIBUTION PANEL MECHANICAL
AL ALT	ALUMINUM ALTERNATE	MFR MH	MANUFACTURER MOUNTING HEIGHT
AMP	AMPERE, AMPACITY	MIN	MINIMUM MISCELLANEOUS
ARCH	APPROXIMATELY ARCHITECT, ARCHITECTURAL	MISC MOCP	MAXIMUM OVERCURRENT PROTECTION
AT ATS	AMPERE TRIP AUTOMATIC TRANSFER SWITCH	MLO MSB	MAIN LUGS ONLY MAIN SWITCHBOARD
AUTO AWG	AUTOMATIC AMERICAN WIRE GAUGE	MTS	MANUAL TRANSFER SWITCH
		N/A	NOT APPLICABLE
BAT BFG	BATTERY BELOW FINISHED GRADE	N.C. NEC	NORMALLY CLOSED NATIONAL ELECTRICAL CODE
BKR BLDG	BREAKER BUILDING	NEMA N, NEUT	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NEUTRAL
		NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C/B C	CIRCUIT BREAKER CONDUIT	NIC NL	NOT IN CONTRACT NIGHT LIGHT
cd CKT	CANDELA CIRCUIT	N.O. NTS	NORMALLY OPEN NOT TO SCALE
CLG	CEILING		
COAX COMM	COAXIAL CABLE COMMUNICATION	O/C O/H	ON-CENTER OVERHEAD
CONT	CONTINUE, CONTINUATION CONTRACTOR	O/L OSP	OVERLOAD OUTSIDE PLANT
CPT	CONTROL POWER TRANSFORMER	O/L	OVERLOAD
CRI CT	COLOR RENDERING INDEX CURRENT TRANSFORMER	P	POLE
CU	COPPER	PB PF	PULL BOX, PUSHBUTTON POWER FACTOR
db DC	DECIBEL DIRECT CURRENT	PH, Ø PNL	PHASE PANEL
deg C	DEGREES CELSIUS	PP	POWER POLE
deg F DEMO	DEGREES FAHRENHEIT DEMOLITION	PR PRI	PAIR PRIMARY
DIA DIAG	DIAMETER DIAGRAM	PT PVC	POTENTIAL TRANSFORMER POLYVINYL CHLORIDE (PLASTIC)
DISC	DISCONNECT DISTRIBUTION	PWR	POWER
DN	DOWN	QTY	QUANTITY
DPDT DPST	DOUBLE POLE, DOUBLE THROW DOUBLE POLE, SINGLE THROW	RCP	REFLECTED CEILING PLAN
D/S DWG	DISCONNECT SWITCH DRAWING	RCPT RMS	RECEPTACLE ROOT MEAN SQUARE
EC	ELECTRICAL CONTRACTOR	SA	SURGE ARRESTER
EG EL	EQUIPMENT GROUND ELEVATION	SCC SCHD	SHORT CIRCUIT CAPACITY SCHEDULE
ELEC	ELECTRIC, ELECTRICAL	SEC	SECONDARY
EM EMI	EMERGENCY ELECTROMAGNETIC INTERFERENCE	SF SP	SQUARE FOOT (FEET) SPARE
EMT EPO	ELECTRICAL METALLIC TUBING EMERGENCY POWER OFF	SPD SPEC	SURGE PROTECTIVE DEVICE SPECIFICATION
EX, (EX)		SPST	SINGLE POLE, SINGLE THROW
F/A	FIRE ALARM	SS SW	STAINLESS STEEL SWITCH
fc FLA	FOOTCANDLE FULL LOAD AMPS	SWBD SYM	SWITCHBOARD SYMMETRICAL
FLEX	FLEXIBLE METALLIC CONDUIT FEET OR FOOT	SYS	SYSTEM
G/GND	GROUND	T/C	TIME CLOCK
GA GC	GAUGE GENERAL CONTRACTOR	TL TR	TWIST LOCK TAMPER RESISTANT
GEN GFCI	GENERATOR, GENERAL GROUND FAULT CIRCUIT INTERRUPTER	TTB TYP	TELEPHONE TERMINAL BOARD TYPICAL
GRS	GALVANIZED RIGID STEEL		
GTB	GROUND TERMINAL BOX	U/G UL	UNDERGROUND UNDERWRITERS LABORATORY
HGT HH	HEIGHT HANDHOLE	UON UPS	UNLESS OTHERWISE NOTED UNINTERRUPTIBLE POWER SUPPLY
HOA HP	HAND-OFF-AUTOMATIC HORSEPOWER	UTIL	UTILITY
H/V	HIGH-VOLTAGE	V	VOLT, VOLTAGE
HVAC HZ	HEATING, VENTILATING & AIR CONDITIONING HERTZ	VA VAR	VOLT AMPERE VOLT AMPERE REACTIVE
ICCB	INSULATED CASE CIRCUIT BREAKER	w	WATT
IG IMC	ISOLATED GROUND INTERMEDIATE METAL CONDUIT	w/ WG	WITH WIRE GUARD
I/O	INPUT / OUTPUT	WH	WATER HEATER
ISP	INSIDE PLANT	w/o WP	WITHOUT WEATHERPROOF
J-BOX	JUNCTION BOX	XFER	TRANSFER
kV	KILOVOLT AMPERE	XFMR	TRANSFORMER
kVA kV/H	KILOVOLT AMPERE KILOVOLT AMPERE PER HOUR	XP	EXPLOSION-PROOF
kVAR	KILOVOLT AMPERE REACTIVE	1	

KILOWATT

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175

811 4-H RD LANSING, KS 66043

#### CLIENT

#### Middle Mile Infrastructure

#### CONSULTANT

AECOM Technical Services . Inc. 10 Patewood Drive, Suite 500 Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com

#### **REGISTRATION**



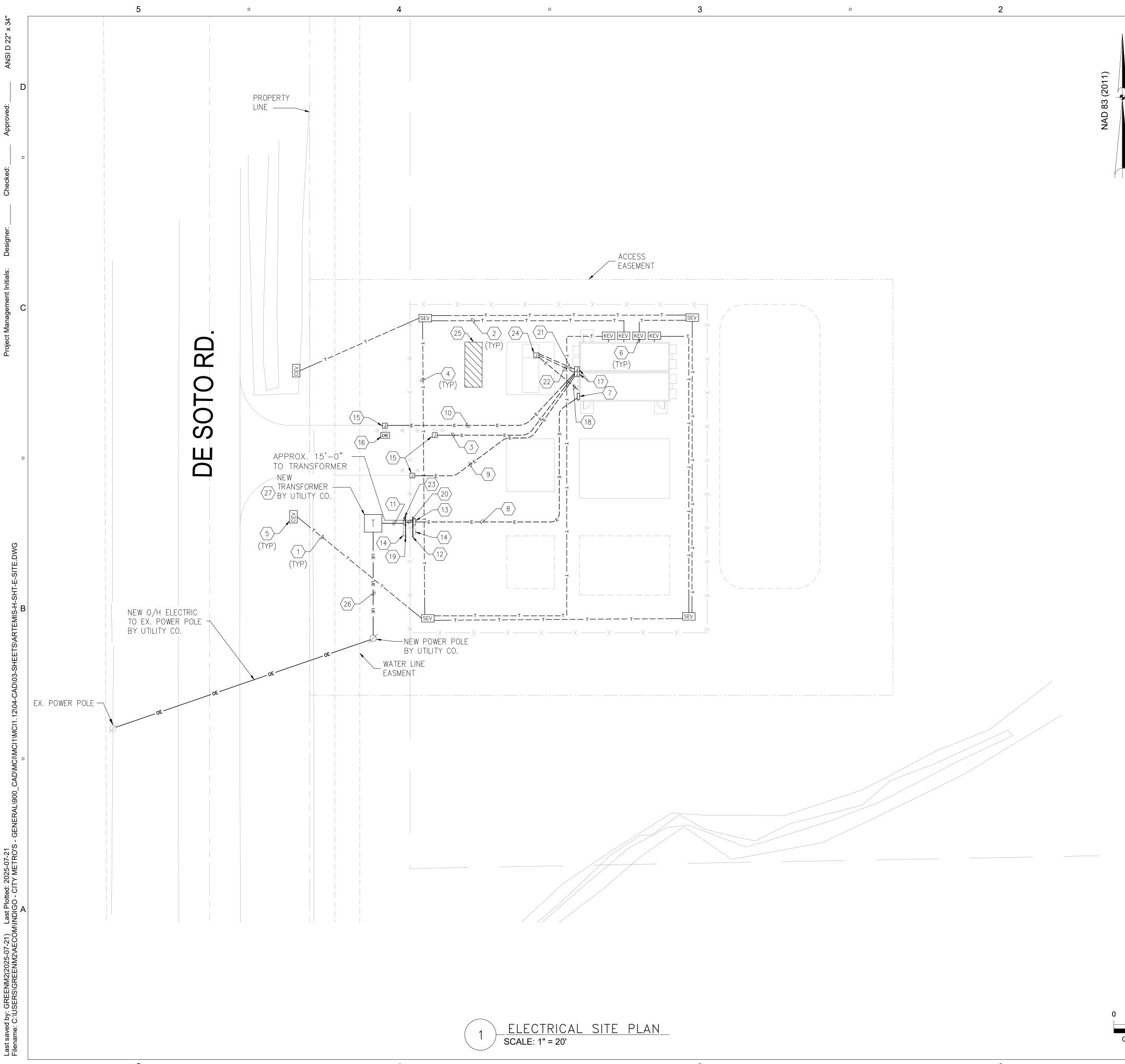
# ISSUE/REVISION DATE DESCRIPTION

#### **PROJECT NUMBER**

60645418

#### SHEET TITLE

ELECTRICAL GENERAL NOTES, SYMBOL LEGENDS, AND **ABBREVIATIONS** 



#### **GENERAL NOTES**

- A. REFER TO ELECTRICAL GENERAL NOTES, SYMBOLS LEGENDS, AND ABBREVIATIONS ON SHEET 18. B. REFER TO ELECTRICAL SPECIFICATIONS ON SHEET 22.
- C. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET 23 FOR ADDITIONAL INFORMATION.
- D. REFER TO HUT DESIGN PACKAGE FOR LOW-VOLTAGE CABLING FEEDER SCHEDULES AND ADDITIONAL
- THE GC SHALL PROVIDE ALL BACKFILL OF ELECTRICAL AND FIBER TRENCHES. ALL BACKFILL SHALL BE FREE OF PEAT, MARL, HIGHLY PLASTIC CLAY, OR OTHER UNSUITABLE MATERIALS SUCH AS TRASH, DEBRIS, BRUSH,
- ALL UNDERGROUND ELECTRICAL CONDUITS SHALL HAVE #6 SOLID, HMWPE INSULATION 0.045MIL ORANGE
- TRACER WIRE INSTALLED EXTERIOR TO THE CONDUIT. THIS TRACER WIRE IS USED FOR CONDUIT LOCATING. G. THE GC IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL SITE ENTRY VAULTS (SEV), KNOCK-OUT
- ENTRY VAULTS (KEV), AND INSTALLING ALL FIBER CONDUIT BETWEEN VAULTS. CHANNELL # BULKU366048 (SEV), CHANNELL # BULKU366048 (KEV); NO EXCEPTIONS. H. THE CUSTOMER ENTRY VAULTS (CEV), FIBER CONDUIT, AND CONNECTIONS BETWEEN AND TO THE OSP LONG
- HAUL FIBER CONDUITS SHALL BE BY OTHERS. I. ALL FIBER VAULTS SHALL BE INSTALLED FLUSH WITH FINISHED GRADE AND 6" DEPTH OF COMPACTED AGGREGATE BASE AT THE BOTTOM OF THE VAULT. REFER TO VAULT BOX CONDUIT ENTRY DETAIL ON
- SHEET 18 FOR ADDITIONAL INFORMATION. J. VAULTS LOCATED OUTSIDE THE PERIMETER FENCE SHALL HAVE PENTA-BOLTS FOR LID LOCKING OPTION,
- VAULTS WITHIN THE PERIMETER FENCE SHALL NOT REQUIRE ANY SECURITY LOCKING OPTIONS. K. ALL FIBER CONDUITS SHALL BE INSTALLED WITH 1/2" PULLWIRE AND SHALL BE CAPPED AFTER ENTERING
- L. THE GC SHALL PROVIDE A MINIMUM OF 4" DEPTH OF BEDDING SAND ABOVE AND BELOW ALL UNDERGROUND FIBER CONDUITS.

#### KEYNOTES (#)

- 1. FURNISH AND INSTALL (2) 4" SCHD 80 PVC EMPTY CONDUITS WITH PULLWIRE AT 24" BFG BETWEEN CEV AND SEV, TYPICAL. COORDINATE EXACT LOCATION OF CEV IN FIELD PRIOR TO ROUGH-IN AND INSTALLATION.
- 2. FURNISH AND INSTALL (2) 4" SCHD 80 PVC EMPTY CONDUITS WITH PULLWIRE AT 24" BFG BETWEEN SEV AND
- 3. FURNISH AND INSTALL (1) 1" SCHD 80 PVC EMPTY CONDUIT WITH PULLWIRE BETWEEN J-BOX AND GATE MAG-LOCK. THE LAST 1'-0" OF CONDUIT TO MAG-LOCK SHALL BE LFMC TYPE.
- 4. FURNISH AND INSTALL (2) 4" SCHD 80 PVC EMPTY CONDUITS WITH PULLWIRE AT 24" BFG BETWEEN SEV AND
- 5. CEV AT FIBER LONG HAUL LINES BY OTHERS, REFER TO GENERAL NOTES ON THIS SHEET.
- 6. FURNISH AND INSTALL (2) 4" SCHD 80 PVC EMPTY CONDUITS WITH PULLWIRE AT 24" BFG BETWEEN KEV AND PRE-INSTALLED OSP CONDUIT ENCLOSURE MOUNTED ON HUT SHELTER. SUPPORT VERTICAL CONDUIT RUN WITH UNISTRUT SHIPPED WITH HUT SHELTER. REFER TO HUT SHELTER DRAWINGS FOR ADDITIONAL
- 7. SERVICE RATED SAFETY DISCONNECT SWITCH, HEAVY-DUTY, 600A, 3P, 600VAC, FUSIBLE, WITH CLASS RK5 FUSES AND CLASS 'R' REJECTION CLIPS, IN NEMA 3R ENCLOSURE. REFER TO ELECTRICAL SPECIFICATIONS ON SHEET 22 FOR ADDITIONAL INFORMATION.
- 8. FURNISH AND INSTALL (2) 4" SCHD 80 PVC CONDUITS AT 36" BFG FOR ELECTRICAL SERVICE CONDUCTORS TO HUT SHELTER DISCONNECT SWITCH. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET 23 FOR
- 9. FURNISH AND INSTALL (4) 1" SCHD 80 PVC EMPTY CONDUITS WITH PULLWIRE AT 36" BFG BETWEEN SHELTER TERMINAL BLOCK TB-05 AND GATE EXIT KEYPAD. (1) CONDUIT FOR GATE KEYPAD POWER AND (3) CONDUITS FOR GATE KEYPAD LOW-VOLTAGE CONTROLS CABLING.
- 10. FURNISH AND INSTALL (1) 1" SCHD 80 PVC EMPTY CONDUIT WITH PULLWIRE AT 36" BFG BETWEEN SHELTER TERMINAL BLOCK TB-05 AND GATE ENTRY KEYPAD FOR POWER AND LOW-VOLTAGE CONTROLS CABLING.
- 11. FURNISH AND INSTALL (2) 4" SCHD 80 PVC CONDUITS WITH PULLWIRE AT 36" BFG FOR ELECTRICAL UTILITY CONDUCTORS. STUB OUT AT TRANSFORMER SECONDARY WINDOW, CAP AND MARK FOR FUTURE IDENTIFICATION. COORDINATE EXACT TERMINATION LOCATION AND REQUIREMENTS WITH UTILITY CO. CONTACT PRIOR TO ROUGH-IN AND PROVIDE ACCORDINGLY.
- 12. FURNISH AND INSTALL 3-POST ELECTRICAL H-FRAME FOR RACK-MOUNTED SERVICE DISCONNECT SWITCH. H-FRAME SHALL BE GALVANIZED STEEL POSTS WITH U-CHANNEL SUPPORTS.
- 13. 600A, 480/277V, 3PH ELECTRIC UTILITY SERVICE RATED HEAVY-DUTY FUSIBLE DISCONNECT SWITCH WITH CLASS RK5 FUSES AND CLASS 'R' REJECTION CLIPS, IN NEMA 3R ENCLOSURE. GC IS RESPONSIBLE FOR COORDINATING MOUNTING STRUCTURE REQUIREMENTS WITH THE LOCAL UTILITY AND PROVIDE
- 14. ALLOTTED SPACE FOR FUTURE ELECTRIC UTILITY SERVICE METER OR DISCONNECT SWITCH FOR FUTURE HUT SHELTER.
- 15. FURNISH AND INSTALL (2) LANDSCAPE GRADE J-BOXES, FLUSH WITH GRADE, AT GATE MAG-LOCK AND KEYPAD PEDESTALS FOR INTER-CONNECTION OF CONDUITS AND CONDUCTORS. (1) J-BOX FOR POWER. (1) J-BOX FOR LOW-VOLTAGE CONTROLS. SIZE J-BOXES AS REQUIRED.
- 16. EMERGENCY ACCESS BOX (EAB) WITH GATE CODE FOR EMERGENCY CONTROL OF ENTRY GATE BY THE FIRE DEPARTMENT. GC IS RESPONSIBLE FOR REGISTERING THE EAB, AND COORDINATING ALL REQUIREMENTS FOR EAB, WITH THE FIRE MARSHAL AND PROVIDE ACCORDINGLY. REFER TO GENERAL EMERGENCY ACCESS BOX NOTES ON SHEET 18 FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
- 17. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING LOOSE J-BOXES SHIPPED WITH HUT SHELTER FOR CONDUIT TERMINATIONS. (1) 6x6x4 J-BOX FOR POWER, AND (1) 10x10x6 J-BOX FOR LOW-VOLTAGE CONDUITS. COORDINATE EXACT MH FOR SURFACE MOUNTED J-BOXES PRIOR TO ROUGH-IN. TERMINATE GATE CONDUITS ONTO RESPECTIVE J-BOXES. CONDUITS SHALL BE INSTALLED WITH WEATHERPROOF FITTINGS. WALL PENETRATIONS SHALL BE SEALED WITH DUCT SEAL. SPRAY FOAM IS NOT PERMITTED FOR CONDUIT SEALING.
- 18. FURNISH AND INSTALL (2) 4" SCHD 80 PVC CONDUITS AT 36" BFG FOR ELECTRICAL SERVICE CONDUCTORS TO HUT SHELTER GENERATOR DOCKING STATION. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET 23 FOR
- 19. FURNISH AND INSTALL 3-POST ELECTRICAL H-FRAME FOR RACK-MOUNTED ELECTRIC UTILITY METER / CT CABINET. H-FRAME SHALL BE GALVANIZED STEEL POSTS WITH U-CHANNEL SUPPORTS.
- 20. FURNISH AND INSTALL (1) 1" SCHD 80 PVC EMPTY CONDUIT WITH PULLWIRE AT 36" BFG BETWEEN UTILITY METER / CT CABINET AND SERVICE DISCONNECT. COORDINATE WITH UTILITY CO. FOR TERMINATIONS.
- 21. FURNISH AND INSTALL (1) 1" SCHD 80 PVC CONDUITS AT 36" BFG FOR GENERATOR AUX LOAD CONDUCTORS TO HUT SHELTER 120V PANELBOARD. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET 23 FOR
- 22. FURNISH AND INSTALL (6) 1" SCHD 80 PVC CONDUITS AT 36" BFG FOR ELECTRICAL CONDUCTORS FROM HUT SHELTER TERMINAL BLOCK TB-05.
- 23. 600A, 480/277V, 3PH ELECTRIC UTILITY METER / CT CABINET. PROVIDE METER ENCLOSURE / CT CABINET AND MOUNTING STRUCTURE REQUIREMENTS IN ACCORDANCE WITH UTILITY CO. REQUIREMENTS. ELECTRIC METER AND CTs FURNISHED BY UTILITY CO. AND INSTALLED BY CONTRACTOR.
- 24. GENERATOR POWER / LOW-VOLTAGE J-BOX. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF GENERATOR AND TERMINATION OF ALL POWER AND CONTROL CONDUITS AND CONDUCTORS.
- 25. ALLOTTED SPACE FOR FUTURE TRAILER MOUNTED PORTABLE GENERATOR.
- 26. FURNISH AND INSTALL (1) 4" SCHD 80 PVC CONDUIT AT 36" BELOW GRADE FOR UTILITY SERVICE CONDUCTORS. CONTRACTOR SHALL COORDINATE ROUTING WITH UTILITY CO. AND ALL EXISTING UNDERGROUND UTILITIES.
- 27. PAD-MOUNTED TRANSFORMER WILL BE INSTALLED BY UTILITY CO. COORDINATE FINAL PLACEMENT OF TRANSFORMER IN FIELD WITH UTILITY CO. CONTRACTOR SHALL PROVIDE CONCRETE PAD PER UTILITY CO. REQUIREMENTS.

GRAPHIC SCALE: 1" = 20'

DATE OF ISSUE: 07/21/2025

**ISSUE FOR BID** 

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

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**REGISTRATION** 



**ISSUE/REVISION** 

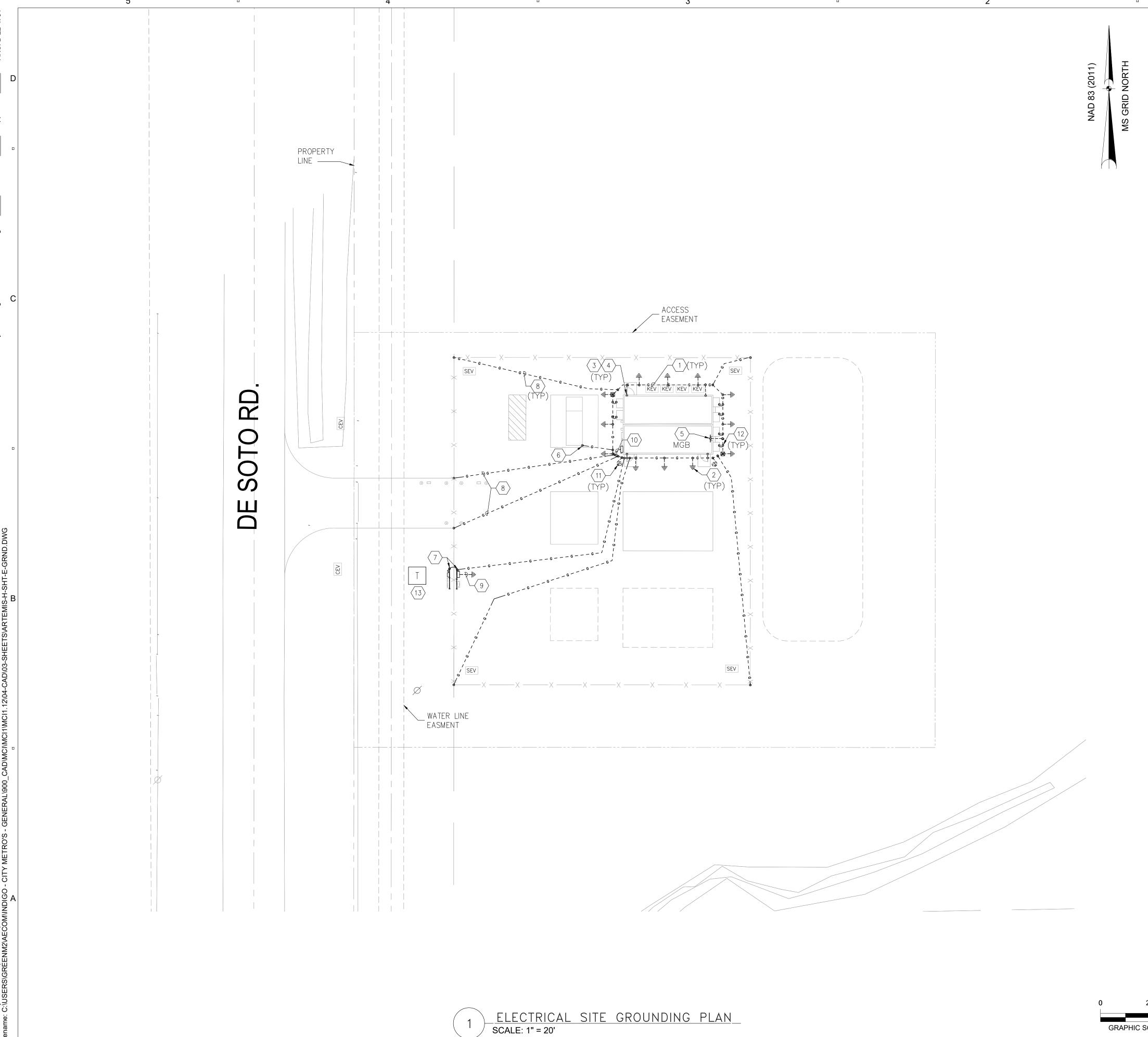
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	I/R	DATE	DESCRIPTION
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**PROJECT NUMBER** 

60645418

SHEET TITLE

**ELECTRICAL SITE PLAN** 



GENERAL NOTES

- A. REFER TO ELECTRICAL GENERAL NOTES, SYMBOLS LEGENDS, AND ABBREVIATIONS ON SHEET 18.B. REFER TO ELECTRICAL SPECIFICATIONS ON SHEET 22.
- C. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET 23 FOR ADDITIONAL INFORMATION.
- D. REFER TO HUT DESIGN PACKAGE FOR ADDITIONAL GROUNDING DETAILS.
- E. THE GC SHALL PROVIDE ALL BACKFILL OF ELECTRICAL AND FIBER TRENCHES. ALL BACKFILL SHALL BE FREE OF PEAT, MARL, HIGHLY PLASTIC CLAY, OR OTHER UNSUITABLE MATERIALS SUCH AS TRASH, DEBRIS, BRUSH,
- F. ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL LISTED AND LABELED.
- G. THE GC IS RESPONSIBLE FOR INSTALLING ALL SITE GROUNDING AS SHOWN, UON.
- H. THE GC SHALL INSTALL ALL GROUNDING CONDUCTORS AT A MINIMUM OF 36" DEPTH BFG.
- METAL SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL, PER NEC 250-12. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE
- J. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY IRREVERSIBLE MEANS (EXOTHERMIC WELDED) CONNECTIONS, UON.
- K. ALL EXTERIOR GROUNDING CONNECTIONS SHALL HAVE CORROSION INHIBITING COMPOUND APPLIED AFTER CONNECTIONS ARE MADE, SANCHEM INC. "NO-OX-ID" OR OWNER PRE-APPROVED INDUSTRY STANDARD
- L. ALL GROUND RING "C" TAP AND "H" TAP CONNECTIONS SHALL HAVE TAP COVERS INSTALLED.

KEYNOTES (#)

- 1. #1/0 STRANDED TINNED COPPER GROUND RING OR BONDING CONDUCTOR.
- 2. COPPER GROUND ROD, 10'-0" L x 3/4" DIA., SPACED 10'-0" MIN. ALONG HUT SHELTER GROUND RING.
- 3. FOUNDATION REBAR TO BE GROUNDED WITH SOLID COPPER WIRE, #4 MIN. ONE LOCATION MIN.
- 4. THE HUT SHELTER HAS FOUR (4) EXTERIOR STAINLESS STEEL GROUND PADS THAT MUST BE USED FOR GROUNDING THE HUT SHELTER, USING TWO-HOLE LUG CONNECTORS.
- BOND THE HUT SHELTER'S INTERIOR MASTER GROUND BAR (MGB) TO THE HUT SHELTER GROUND RING.
   FIELD VERIFY EXACT MGB LOCATION PRIOR TO ROUGH-IN AND CONNECTIONS. REFER TO HUT SHELTER DESIGN PACKAGE FOR ADDITIONAL DETAIL.
- 6. BOND THE GENERATOR TO THE HUT SHELTER GROUND RING.
- 7. BOND THE UTILITY AND METERING EQUIPMENT H-FRAMES TO THE HUT SHELTER GROUND RING.
- 8. BOND ALL CORNER FENCE POSTS AND GATE ENTRANCE POSTS TO THE HUT SHELTER GROUND RING.
- ELECTRICAL SERVICE GROUNDING ELECTRODE CONDUCTOR. REFER TO ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
- HUT BUILDING GROUNDING ELECTRODE CONDUCTOR. REFER TO ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
- 11. FUTURE HUT SHELTER GROUND RING BONDING CONDUCTOR. LEAVE 50'-0" SLACK BONDING CONDUCTOR COILED AND BURIED 36" BFG FOR FUTURE BONDING CONNECTIONS. MARK FOR FUTURE IDENTIFICATION BY OTHERS.
- 12. BOND ALL HVAC UNITS AND VANDAL CAGES TO HUT SHELTER GROUND RING.
- 13. PROVIDE TRANSFORMER GROUNDING IN ACCORDANCE WITH UTILITY CO. REQUIREMENTS. COORDINATE WITH UTILITY FOR DELINEATION OF RESPONSIBILITIES.

AECOM

PROJECT

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

CLIENT

Middle Mile Infrastructure

CONSULTANT

AECOM Technical Services, Inc. 10 Patewood Drive, Suite 500 Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com

REGISTRATION



ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60645418

SHEET TITLE

ELECTRICAL SITE GROUNDING PLAN

SHEET NUMBER

20

0 20' 40'

GRAPHIC SCALE: 1" = 20'

DATE OF ISSUE: 07/21/2025

**ISSUE FOR BID** 

PROPERTY \_ ACCESS EASEMENT | SEV | LOC ----- LOC ----- LOC ----- LOC ----- LOC ----- | LOC ----- | SEV | | \_toc\_\_\_\_\_ KEV KEV KEV KEV L RD EASMENT ELECTRICAL SITE CONDUIT TRACING PLAN SCALE: 1" = 20'

**GENERAL NOTES** 

- A. REFER TO ELECTRICAL GENERAL NOTES, SYMBOLS LEGENDS, AND ABBREVIATIONS ON SHEET 18.
- B. REFER TO ELECTRICAL SPECIFICATIONS ON SHEET 22.
- C. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET 23 FOR ADDITIONAL INFORMATION.
- D. THE GC SHALL PROVIDE ALL BACKFILL OF ELECTRICAL AND FIBER TRENCHES. ALL BACKFILL SHALL BE FREE OF PEAT, MARL, HIGHLY PLASTIC CLAY, OR OTHER UNSUITABLE MATERIALS SUCH AS TRASH, DEBRIS, BRUSH, OR ICE
- E. ALL GROUND RODS SHALL BE COPPER-CLAD, 3/4" DIA. x 10'-0" L.
- F. ALL GROUND RODS SHALL BE DRIVEN UNTIL THE TOP OF THE ROD IS AT A DEPTH OF 4'-0" BFG.
- G. TRACER WIRE SHALL BE #6 AWG, SOLID COPPER, 0.045MIL HMWPE ORANGE INSULATION, BURIED AT 18" BFG.
- H. MARKER POLES, WITH ORANGE FIBER OPTIC CABLE WARNING DOME, AND BAND MARKINGS AS REQUIRED FOR ROUTE MARKER (GENERAL), INTERMEDIATE SLACK VAULT (ISV), INTERCONNECT ENTRY VAULT (IEV), OR NETWORK SPLICE VAULT (NSV) WITH LOCATE TEST STATION MARKER POLE. POLES ARE 72" LONG, AND BURIED TO 24" BFG.
- PROVIDE MARKER POLES WITH BLACK BAND MARKINGS AS FOLLOWS; GENERAL NO BANDS, ISV 1 BAND, IEV - 2 BANDS, NSV - 3 BANDS. ADDITIONAL MARKER POLE IDENTIFICATION MARKINGS SHALL BE COORDINATED WITH MMI MIDWEST LLC DOC# LL.A.DR.C01.20200825.

KEYNOTES (#)

- TRACER WIRE, REFER TO GENERAL NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.
- 2. GROUND ROD, REFER TO GENERAL NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.
- 3. FIBER OPTIC MARKER POLE FOR TRACER CABLE. REFER TO GENERAL NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.
- 4. FIBER OPTIC MARKER POLE WITH LOCATE TEST POINT STATION. REFER TO GENERAL NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.

AECOM

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175 811 4-H RD LANSING, KS 66043

CLIENT

Middle Mile Infrastructure

CONSULTANT

AECOM Technical Services, Inc. 10 Patewood Drive, Suite 500 Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com

REGISTRATION



ISSUE/REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60645418

SHEET TITLE

ELECTRICAL SITE CONDUIT TRACING PLAN

SHEET NUMBER

21

0 20' 40'

GRAPHIC SCALE: 1" = 20'

DATE OF ISSUE: 07/21/2025

**ISSUE FOR BID** 

#### DIVISION 26 - ELECTRICAL

#### SECTION 260499 - BASIC ELECTRICAL REQUIREMENTS

#### GENERAL

1.1. THE FOLLOWING ARE MINIMUM REQUIREMENTS, AS THEY APPLY TO THIS PROJECT, AND SHALL GOVERN, EXCEPT THAT BUILDING LAWS AND/OR DRAWINGS SHALL GOVERN WHEN THEIR REQUIREMENTS ARE IN EXCESS THEREOF.

#### 2. DRAWINGS AND SPECIFICATIONS

- 2.1. THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND EQUIPMENT DRAWINGS AND SPECIFICATIONS ARE HEREBY INCORPORATED INTO AND BECOME A PART OF THIS DIVISION. THIS CONTRACTOR SHALL EXAMINE ALL SUCH DRAWINGS AND SPECIFICATIONS AND BECOME THOROUGHLY FAMILIAR WITH PROVISIONS CONTAINED HEREIN AND THE SUBMISSION OF HIS BID SHALL BE CONSTRUED AS INDICATING SUCH KNOWLEDGE.
- 2.2. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT AND PIPING. DIMENSIONS GIVEN ON THE PLANS SHALL BE VERIFIED IN THE FIELD. DRAWINGS MAY NOT BE SCALED TO OBTAIN EXACT DIMENSIONS.
- 2.3. THE EXACT LOCATIONS OF APPARATUS, FIXTURES, EQUIPMENT AND CONDUITS SHALL BE ASCERTAINED FROM THE OWNER'S REPRESENTATIVE IN THE FIELD, AND THE WORK SHALL BE LAID OUT ACCORDINGLY SHOULD THE CONTRACTOR FAIL TO ASCERTAIN SUCH LOCATIONS, THE WORK SHALL BE CHANGED AT HIS OWN EXPENSE WHEN SO ORDERED BY THE OWNER. THE OWNER RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF CONDUIT AND EQUIPMENT UP TO THE TIME OF INSTALLATION, WITHOUT
- 2.4. THE ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND SUPPLIED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. LABOR AND/OR MATERIALS NEITHER SHOWN NOR SPECIFIED, BUT NECESSARY FOR THE COMPLETION AND PROPER FUNCTIONING OF THE SYSTEM, SHALL BE PROVIDED BY THIS CONTRACTOR.
- 2.5. THE WORK REQUIRED UNDER THESE SPECIFICATIONS INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO PROVIDE LIGHTING AND POWER SYSTEMS, SERVICE ENTRANCES, MOTOR CONTROLS AND CONNECTIONS, BRANCH CIRCUITING, FEEDERS, PANELS, FIXTURES, WIRING DEVICES, AND OTHER ITEMS SHOWN ON THE PLANS OR SPECIFIED.
- 2.6. WHEN THE SPECIFICATION OF AN ITEM IS NOT IDENTIFIED WITH A PARTICULAR AREA, THE ITEM SHALL PERTAIN TO ALL AREAS.
- 2.7. THIS CONTRACTOR SHALL FURNISH SUCH LABOR AND MATERIALS AS HEREINAFTER SPECIFIED AND AS REQUIRED TO COMPLETE ALL ELECTRICAL CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT AND OWNER'S EQUIPMENT AS SHOWN AND/OR

#### 3. EXAMINATION OF SITE

3.1. BIDDER IS TO VISIT THE SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND SATISFY HIMSELF AS TO THE NATURE AND SCOPE OF WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT OF MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.

#### 4. DEFINITIONS

- "INSTALL" SHALL MEAN TO PLACE, FIX IN POSITION, SECURE, ANCHOR, WIRE, ETC., INCLUDING NECESSARY APPURTENANCES AND LABOR SO THAT EQUIPMENT OR INSTALLATION WILL FUNCTION AS SPECIFIED AND
- 4.2. "FURNISH" SHALL MEAN TO PURCHASE AND SUPPLY EQUIPMENT OR COMPONENTS.
- 4.3. "PROVIDE" SHALL MEAN TO "FURNISH AND INSTALL".
- 4.4. "OR APPROVED EQUAL" SHALL MEAN EQUAL IN TYPE, DESIGN, QUALITY, STYLE, COLOR, ETC., AS DETERMINED BY THE ENGINEER/ARCHITECT.

#### 5. INTERFERENCES

5.1. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO REPORT ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF ANY OTHER CONTRACTOR TO THE OWNER OR ARCHITECT AS SOON AS THEY ARE DISCOVERED. THE OWNER OR ARCHITECT WILL DETERMINE WHICH EQUIPMENT SHALL BE RELOCATED REGARDLESS OF WHICH WAS FIRST INSTALLED, AND HIS DECISION SHALL BE FINAL.

- 6.1. ALL WORK SHALL BE INSTALLED IN A PRACTICAL AND WORKMANLIKE MANNER BY COMPETENT WORKMEN, SKILLED IN THEIR BRANCH OF THE TRADE
- 6.2. UNLESS OTHERWISE SPECIFIED OR INDICATED ON THE DRAWINGS, ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS.
- 6.3. ALL MATERIAL AND EQUIPMENT SHALL MEET OR EXCEED STANDARDS SPECIFIED BY U.L., NEMA, ANSI AND IEEE WHEREVER SUCH STANDARDS HAVE BEEN ESTABLISHED.
- 6.4. FROM TIME-TO-TIME DURING THE OPERATION AND AT THE COMPLETION THEREOF, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK AND HE SHALL LEAVE THE AREA OF THE OPERATION BROOM CLEAN.
- 6.5. ALL ELECTRICAL EQUIPMENT AND MATERIAL SHALL BEAR THE UNDERWRITER'S LABORATORIES (U.L.) LABEL

#### 7. SUPPORTS

7.1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ANGLE IRON, CHANNEL IRON, RODS, SUPPORTS OR HANGERS REQUIRED TO INSTALL OR MOUNT PANELBOARDS, SWITCHBOARDS, OR ANY ELECTRICAL EQUIPMENT CALLED FOR ON THE PLANS, IN THESE SPECIFICATIONS, OR AS NECESSARY TO MOUNT ANY PIECE OF ELECTRICAL EQUIPMENT, MATERIAL, OR DEVICE. CONDUIT, FIXTURES, OR ANY ELECTRICAL DEVICES SHALL NOT BE SUPPORTED FROM STEEL DECK, BRIDGING, CEILING, OR CEILING SUPPORT WIRES.

#### 8. TEMPORARY CONSTRUCTION POWER AND LIGHTING

8.1. SUFFICIENT TEMPORARY POWER, DURING CONSTRUCTION, FOR HEATING, LIGHTING, APPLIANCES, OR MOTORIZED PORTABLE EQUIPMENT SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

#### 9. CODES, LAWS, PERMITS AND INSPECTIONS

- 9.1. INSTALL ALL WORK IN FULL ACCORDANCE WITH CODES, RULES AND REGULATIONS OF MUNICIPAL, CITY, COUNTY, STATE AND PUBLIC UTILITY, AND ALL OTHER AUTHORITIES HAVING JURISDICTION OVER THE PREMISES. THIS SHALL INCLUDE ALL REQUIREMENTS OF THE CITY BUILDING CODE, REGULATIONS OF THE STATE DEPARTMENT OF INDUSTRIAL RELATIONS, OSHA, ADA (AMERICANS WITH DISABILITIES ACT), AND THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, AS INTERPRETED BY THE LOCAL INSPECTION DIVISION. ALL THESE CODES, RULES, AND REGULATIONS ARE HEREBY INCORPORATED INTO THIS
- 9.2. COMPLY WITH SPECIFICATION REQUIREMENTS WHICH ARE IN EXCESS OF CODE REQUIREMENTS AND NOT IN CONFLICT WITH SAME.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND CERTIFICATES OF INSPECTION INCIDENTAL TO THE WORK, REQUIRED BY FOREGOING AUTHORITIES. ALL SUCH CERTIFICATES SHALL BE DELIVERED TO THE OWNER IN DUPLICATE, BEFORE FINAL PAYMENT ON CONTRACT WILL BE ALLOWED. THE CONTRACTOR SHALL PAY ALL FEES, CHARGES AND OTHER EXPENSES IN CONNECTION THEREWITH.

#### 10. FIELD CHANGES (AS-BUILT DRAWINGS)

10.1. KEEP ONE (1) SET OF WORKING DRAWINGS AND SHOP DRAWINGS AT THE JOB SITE FOR SOLE PURPOSE OF RECORDING ALL CHANGES MADE DURING CONSTRUCTION. AFTER COMPLETION OF THE WORK AND BEFORE REQUESTING FINAL PAYMENT, THE ABOVE MENTIONED DRAWINGS SHALL BE DELIVERED TO THE

#### 11. LABELING AND NAMEPLATES

- 11.1. PERMANENTLY LABEL ALL PANELBOARDS AND SAFETY SWITCHES INDICATING EQUIPMENT OR PANELS AND AREAS WHICH THEY SERVE
- 11.2. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL IDENTIFICATION FOR PULL OR JUNCTION BOXES FURNISHED BY HIM.
- 11.3. IDENTIFY AS TO USE ON FACE OF EQUIPMENT BY MEANS OF LAMINATED BLACK AND WHITE PHENOLIC LABEL WITH 3/8" LETTERS ENGRAVED THROUGH BLACK TO WHITE.

11.4.A. NAMEPLATES: ENGRAVED THREE-LAYER LAMINATED PLASTIC, WHITE LETTERS ON BLACK BACKGROUND.

#### 11.5. INSTALLATION

- 11.5.A. DEGREASE AND CLEAN SURFACES TO RECEIVE NAMEPLATES AND TAPE LABELS.
- 11.5.B. INSTALL NAMEPLATES AND TAPE LABELS PARALLEL TO EQUIPMENT LINES.
- 11.5.C. SECURE NAMEPLATES TO EQUIPMENT FRONTS USING SCREWS, RIVETS OR ADHESIVE. SECURE NAMEPLATES TO INSIDE FACE OF RECESSED PANELBOARD DOORS IN FINISHED LOCATIONS.
- 11.5.D. MARK EVERY JUNCTION OR PULL BOX COVER PLATES WITH THE CIRCUIT NUMBER(S) OF ALL WIRES CONTAINED THEREIN.

#### 11.6. WIRE INSTALLATION

GROUND

- 11.6.A. PROVIDE WIRE MARKERS ON EACH CONDUCTOR AT TERMINAL STRIPS AND AT FINAL LINE AND LOAD CONNECTIONS. IDENTIFY WITH BRANCH CIRCUIT OR FEEDER NUMBER OF POWER AND LIGHTING CIRCUITS, AND WITH CONTROL WIRE NUMBER AS INDICATED ON EQUIPMENT MANUFACTURER'S SHOP DRAWINGS FOR CONTROL WIRING OR AS DRAWINGS INDICATE.
- 11.6.B. ALL WIRES SHALL BE COLOR CODED. COLOR CODE BRANCH CIRCUIT WIRING AS FOLLOWS: THREE-PHASE SYSTEM120/208V

PHASE	Α	BLACK
PHASE	В	RED
PHASE	С	BLUE
NEUTRA	L	WHITE
GROUND		GREEN

THREE-PHASE SYSTEM277/480V PHASE A PHASE E ORANGE PHASE C YELLOW NFUTRAL GRAY

SWITCHED WIRES: OTHER THAN COLORS LISTED ABOVE TRAVELERS BETWEEN 3-WAY SWITCHES: PURPLE INSULATED GROUND: GREEN WITH YELLOW STRIPES

GREEN

#### 12. WARRANTY

12.1. IN ADDITION TO WARRANTIES OF EQUIPMENT BY MANUFACTURER OF SAME, THIS CONTRACTOR SHALL ALSO WARRANTY EQUIPMENT PROVIDED BY HIM AND SHALL BE HELD FOR A PERIOD OF ONE (1) YEAR TO MAKE GOOD ANY DEFECTS IN MATERIAL AND WORKMANSHIP OCCURRING DURING THIS PERIOD, AT HIS SOLE EXPENSE. THIS ONE (1) YEAR PERIOD SHALL START FROM THE DATE OF FINAL ACCEPTANCE BY

#### 13. SCOPE OF WORK

OWNER

- 13.1. FURNISH ALL LABOR AND MATERIAL NECESSARY TO COMPLETE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS, SPECIFIED HEREIN OR REQUIRED TO COMPLETE THE CONSTRUCTION OF THE BUILDING AS
- 13.2. THE LISTING HEREIN OF ARTICLE OR MATERIAL, OPERATION OR METHOD, REQUIRED TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR (UNLESS NOTED TO BE SUPPLIED BY OTHERS) SHALL BE OF QUALITY OR SUBJECT TO QUALIFICATIONS AS NOTED. EACH OPERATION SHALL BE PERFORMED ACCORDING TO STANDARD PRACTICE, MANUFACTURER'S INSTRUCTIONS, AND CONDITIONS STATED, PROVIDING, THEREFORE, ALL NECESSARY LABOR, EQUIPMENT AND INCIDENTALS.
- 13.3. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE HIS WORK TO CONFORM TO THE PROGRESS OF THE OTHER TRADES AND CONTRACTORS EMPLOYED ON THIS PROJECT.
- 13.4. THE ELECTRICAL WORK SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:
- 13.4.A. UTILITY COORDINATION.
- 13.4.B. ELECTRICAL SITE WORK.
- 13.4.C. UNDERGROUND ELECTRICAL INFRASTRUCTURE AND ROUTING.
- 13.4.D. COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
- 13.4.E. TEMPORARY ELECTRIC SERVICE AS REQUIRED FOR CONSTRUCTION.
- 13.4.F. TESTING OF ALL ELECTRICAL EQUIPMENT.

#### 14. MANDATORY SHOP DRAWINGS

- 14.1. SUBMIT A MINIMUM OF FIVE (5) COPIES OF ALL REQUIRED ELECTRICAL SHOP DRAWINGS.
- 14.2. SHOP DRAWINGS SHALL BE SUBMITTED FOR:
- 14.2.A. DISCONNECT SWITCHES
- 14.2.B. ALL WIRING DEVICES
- 14.2.C. GROUNDING EQUIPMENT

#### END OF SECTION - 260499

#### SECTION 260500 - BASIC MATERIALS AND METHODS

- 1.1. ALL WIRE SHALL BE RUN IN ACCORDANCE WITH THE APPLICABLE CODES IN CORROSION RESISTANT, RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.
- 1.1.A. CONDUIT BELOW SLAB OR EXPOSED TO WEATHER SHALL BE RIGID, THREADED, GALVANIZED, HEAVY
- CARLON PVC OR APPROVED EQUAL, TYPE 80 HEAVY WALL CONDUIT WITH GROUND WIRE SHALL BE USED UNDERGROUND. PVC, TYPE 80 MAY BE USED BELOW FLOOR SLAB OR PAVEMENT IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC SCHEDULE 80 CONDUIT SHALL NOT BE RUN IN OR ABOVE FIRST FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID. THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.
- CONDUCTOR SHALL BE COPPER, AND SIZED PER THE NEC OR AS SHOWN ON DRAWING, WHICHEVER 1.2. CONDUIT AND EMT SHALL BE DELIVERED TO THE BUILDING IN 10-FOOT LENGTHS AND EACH LENGTH

1.1.C. A GROUND CONDUCTOR SHALL BE SUPPLIED IN ALL CONDUITS AND RACEWAYS. THE GROUND

- SHALL HAVE THE U.L. LABEL. 1.3. EMT CONNECTORS AND COUPLERS SHALL BE RAIN TIGHT TYPE MADE OF DIE CAST AS MANUFACTURED BY THOMAS & BETTS, STEEL CITY, OR APPLETON. BENDS AND OFFSETS SHALL BE MADE WITH A HICKEY OR POWER BENDER WITHOUT KINKING OR DESTROYING THE SMOOTH BORE OF THE CONDUIT. PARALLELED CONDUITS SHALL RUN STRAIGHT AND TRUE WITH OFFSETS UNIFORM AND SYMMETRICAL. CONDUIT TERMINALS AT BOXES AND CABINETS SHALL BE RIGIDLY SECURED WITH LOCKNUTS AND BUSHINGS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND LOCAL ELECTRICAL CODE. INSULATED BUSHINGS SHALL BE USED ON ALL CONDUIT 1-1/4" TRADE SIZE AND LARGER.
- 1.4. CONDUIT SHALL BE SECURELY FASTENED IN PLACE AT NO MORE THAN 8-FOOT CENTERS, AND HANGERS,

- SUPPORTS OR FASTENINGS SHALL BE PROVIDED AT EACH CONDULET, ELBOW AND AT THE END OF EACH STRAIGHT RUN, TERMINATING AT A BOX OR CABINET. CONDUIT SHALL NOT BE SUSPENDED FROM THE CEILING OR CEILING SUSPENSION WIRES.
- 1.5. HORIZONTAL AND VERTICAL CONDUIT RUNS SHALL BE SUPPORTED BY ONE-HOLE MALLEABLE STRAPS OR OTHER APPROVED METAL DEVICE WITH SUITABLE BOLTS. EXPANSION SHIELD OR BEAM CLAMP FOR MOUNTING TO BUILDING STRUCTURE OR SPECIAL BRACKETS. CONDUIT SHALL BE SUPPORTED FROM STRUCTURAL STEEL OR JOIST AND INDEPENDENT OF OTHER PIPING. DO NOT SUPPORT CONDUIT FROM METAL ROOF DECK OR ANY OTHER SUPPORT DEVICE OF ANOTHER TRADE.
- 1.6. ARMORED CABLE (BX) OR NONMETALLIC SHEATHED CABLE (ROMEX) SHALL NOT BE USED.
- 1.7. NO ALUMINUM CONDUIT SHALL BE USED.
- 1.8. ONLY SHORT RUNS OF FLEXIBLE METAL CONDUIT NOT OVER 6' IN LENGTH AND HAVING A GROUND CONDUCTOR, SHALL BE USED FOR TERMINAL CONNECTIONS TO MOTORS AND ALSO FOR ELECTRICAL EQUIPMENT WHERE IT IS NOT PRACTICAL TO MAKE FINAL CONNECTION WITH RIGID CONDUIT. FLEXIBLE CONDUIT EXPOSED TO WEATHER SHALL BE SEALTITE.
- 1.9. EXPOSED CONDUIT AND CONDUIT IN CEILING SPACE SHALL BE RUN PARALLEL TO THE BUILDING
- 1.10. CONDUIT SYSTEM SHALL CONFORM TO ALL THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC/NFPA-70) AND LOCAL CODES.

#### CONDUCTORS

- 2.1. SIZES OF CONDUCTORS FOR FEEDERS ARE GIVEN ON THE DRAWINGS AND NO WIRE SMALLER THAN #12 GAUGE SHALL BE USED FOR BRANCH LIGHTING OR POWER CIRCUITS. ALL WIRING SHALL HAVE THE U.L. LABEL AND BE OF 98% CONDUCTIVITY COPPER. <u>COPPER-CLAD ALUMINUM</u>, <u>ALUMINUM WIRE OR ALUMINUM</u> CABLE IS NOT ACCEPTABLE.
- 2.1.A. THE GAUGE OF ALL WIRE SHALL BE IN ACCORDANCE WITH AWG STANDARD.
- 2.2. ALL WIRE AND CABLE FOR SMALL POWER CIRCUITS SHALL HAVE "NEC" TYPE "THHN/THWN" 600-VOLT
- 2.3. WIRE AND CABLE ABOVE #8 GAUGE SHALL BE STRANDED TYPE "THWN" OR "XHHW" INSULATED FOR

- GROUNDING 3.1. THIS CONTRACTOR SHALL PROVIDE, INSTALL AND CONNECT A COMPLETE SYSTEM OF GROUNDING FOR ALL EQUIPMENT AND STRUCTURES. A GOOD MECHANICAL AND ELECTRICAL CONNECTION SHALL BE MADE WITH APPROVED GROUNDING CONNECTORS.
- 3.2. ELECTRICAL SYSTEM AND EQUIPMENT GROUNDS SHALL COMPLY WITH THE NEC AS WELL AS ALL LOCAL
- AND STATE CODES AND REGULATIONS. 3.3. PANELS, CONDUIT SYSTEMS, MOTOR FRAMES, LIGHTING FIXTURES AND OTHER EQUIPMENT THAT ARE PART OF THIS INSTALLATION SHALL BE SECURELY GROUNDED BOTH MECHANICALLY AND ELECTRICALLY IN
- ACCORDANCE WITH ALL CODES. 3.4. SYSTEM GROUND SHALL NOT EXCEED A MAXIMUM OF TEN (10) OHMS RESISTANCE. VERIFY EXISTING GROUNDING SYSTEM AND ADD ADDITIONAL GROUNDING AS REQUIRED TO MEET THE ABOVE SPECIFIED
- 3.5. A GROUND CONDUCTOR SHALL BE SUPPLIED IN ALL CONDUIT. IT SHALL BE INSULATED, STRANDED,

#### 4. BRANCH CIRCUIT WIRING

- 4.1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND CONNECT A COMPLETE SYSTEM OF PANELS, CONDUITS, WIRE FITTINGS, BOXES, SUPPORTS AND ALL OTHER MISCELLANEOUS MATERIALS REQUIRED FOR EQUIPMENT AS INDICATED ON THE PLANS AND READY FOR OPERATION BY THE OWNER.
- 4.2. ALL CIRCUITS SHALL BE COLOR CODED.

ANNEALED COPPER CONDUCTOR

#### END OF SECTION - 260500

#### SECTION 262000 - ELECTRICAL SERVICE AND DISTRIBUTION

#### 1. SECONDARY SERVICE

- 1.1. ELECTRICAL SERVICE SHALL BE SECONDARY, AS SHOWN ON PLANS WITH GROUNDED NEUTRAL AND SECONDARY METERING. PROVIDE ALL NECESSARY EQUIPMENT AND MATERIAL AND INSTALL THE SERVICE, METERING AND DISTRIBUTION EQUIPMENT ACCORDINGLY.
- 1.2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO SECURE COMPLETE DETAILS FOR THE CONNECTION TO THE EXISTING PRIMARY TRANSFORMER
- 1.3. ELECTRICAL CONTRACTOR SHALL PROVIDE SECONDARY SERVICE CABLES AND CONDUITS FROM THE TRANSFORMER TO MAIN SERVICE AS INDICATED ON DRAWINGS.
- 1.4. SITE ELECTRICAL SHALL BE COORDINATED WITH LOCAL POWER COMPANY BY ELECTRICAL CONTRACTOR.
- 1.5. PROVIDE COORDINATION, VIA THE GENERAL CONTRACTOR, OF THE SITE ELECTRICAL CONTRACTOR FOR THE FINAL LOCATIONS, PENETRATIONS, AND SERVICE TIE-INS ASSOCIATED WITH SECONDARY POWER SERVICE ENTRANCE CONDUITS.

#### 2. SAFETY SWITCHES

#### 2.1. GENERAL

2.1.A. SWITCH SHALL BE HEAVY DUTY TYPE WITH VISIBLE, QUICK MAKE, QUICK BREAK BLADES. SWITCHES SHALL BE U.L. LISTED AND CONFORM TO NEMA STANDARDS.

#### 2.2. ENCLOSURES

- 2.2.A. STEEL ENCLOSURES WITH OPERATING HANDLE AT SIDE. NEMA 1 FOR GENERAL INDOOR USE, NEMA 3R FOR GENERAL OUTDOOR USE AND NEMA 4 (STAINLESS STEEL) WHERE INDICATED ON THE DRAWINGS. MANUFACTURER'S STANDARD ENAMEL FINISH.
- 2.2.B. THE ENCLOSURE SHALL BE INTERLOCKED WITH THE SWITCH HANDLE SUCH THAT THE ENCLOSURE DOOR CANNOT BE OPENED WITH SWITCH IN THE "ON" POSITION. SWITCH HANDLE SHALL BE CAPABLE OF BEING PADLOCKED IN THE "OFF" POSITION.

#### 2.3. RATINGS

- 2.3.A. SAFETY SWITCHES SHALL BE RATED FOR THE CONTINUOUS CURRENT AND VOLTAGE INDICATED ON THE DRAWINGS. WHERE USED IN CONJUNCTION WITH MOTOR CIRCUITS, UNITS SHALL BE HORSEPOWER RATED FOR THE SIZE MOTOR INDICATED.
- 2.3.B. SWITCHES USED AS SERVICE ENTRANCE EQUIPMENT SHALL BE U.L. LISTED FOR USE AS SERVICE EQUIPMENT

#### 2.4. POLES

2.4.A. SAFETY SWITCHES SHALL HAVE THE NUMBER OF POLES INDICATED ON THE DRAWINGS, BUT NOT FEWER THAN ONE (1) POLE FOR EACH UNGROUNDED CONDUCTOR TO BE OPENED.

#### 2.5. FUSES

- 2.5.A. WHERE INDICATED, SAFETY SWITCHES SHALL BE FUSED IN EACH UNGROUNDED LEG IN ACCORDANCE WITH THE REQUIREMENTS OF THE SECTION ENTITLED "FUSES".
- 2.6. SWITCH SHALL BE SQUARE-D # H366NR (NO EXCEPTIONS).

3.1. THIS CONTRACTOR SHALL REPLACE ALL FUSES BLOWN DURING CONSTRUCTION AND TESTING AND SHALL PROVIDE A COMPLETE SET OF FUSES IN ALL FUSE HOLDERS, SWITCHES, PANELS AND ALL OTHER DEVICES

#### 3.2. FUSES SHALL BE AS INDICATED ON PLANS.

- 3.2.A. PROVIDE LABEL IN EACH SWITCH INDICATING FUSE TYPE, AMPERE RATING AND INTERRUPTING RATING.
- 3.2.B. REPLACE ALL BLOWN FUSES UP TO FINAL ACCEPTANCE OF JOB.
- 3.2.C. PROVIDE AND PLACE IN A WALL MOUNTED METAL CABINET IN ELECTRICAL ROOM A SPARE SET OF THREE (3) FUSES FOR EACH SIZE AND TYPE FUSE USED IN SWITCHBOARD IN ELECTRICAL ROOM. THE CABINET SHALL BE SIMILAR TO BUSSMAN SPARE FUSE CABINET #SFC, WITH DOOR, LOCKING HANDLE, INTERNAL SHELF AND FUSE STOCK LIST.
- 3.3. FUSES SHALL BE MERSEN # TRS600R (NO EXCEPTIONS).

#### END OF SECTION - 262000

#### **PROJECT**

**MMI - ILA SHELTER** MCI1.12 LANSING, KS

PARCEL ID: 052-107-25-0-00-00-175

#### 811 4-H RD LANSING, KS 66043

#### CLIENT

#### Middle Mile Infrastructure

#### CONSULTANT

AECOM Technical Services, Inc. 10 Patewood Drive. Suite 500 Greenville, SC 29615 License Number: E-511 1-864-234-3069 tel www.aecom.com

#### **REGISTRATION**



#### ISSUE/REVISION

I/R	DATE	DESCRIPTION

# **PROJECT NUMBER**

60645418

#### SHEET TITLE

**ELECTRICAL SPECIFICATIONS** 

## SHEET NUMBER

ISSUE FOR BID

DATE OF ISSUE: 07/21/2025

TO UTILITY UTILITY TRANSFORMER 480/277V, 3PH, 4W SECONDARY 2 SETS OF 4-350KCMIL & 1#1/0 GND GEN. 500KW **FUTURE** 600 AMP SERVICE PORTABLE DISCONNECT GENSET 1#2/0 GND (H-FRAME MTD) 2 SETS OF 2 SETS OF -- FUTURE CAMLOCK 4- 350KCMIL 4- 350KCMIL CONNECTORS & 1#1GND & 1#1GND ------**EQUIPMENT** MOUNTED ON **HUT SHELTER EXTERIOR** 1#1 GND TVSS TVSS 100A 100A DISCONNECT TYPE 2 DISCONNECT TYPE 2 600 AMP DISCONNECT FUSIBLE \_\_\_\_\_\_\_\_\_\_\_\_ **EQUIPMENT** LOCATED IN HUT SHELTER 600A ATS 40A, 3P (6 CKTS) HVAC #1 BATT-01 3-6T 850Ah TVSS 125A, 3P HVAC #2 TYPE 1 / 2 BATT-02 (4 CKTS) 3-6T (2) DC PLANTS 850Ah COMMON BUS BATT-03 3-6T 850Ah 600A MAIN PANEL HVAC #4 BATT-04 277/480V, 3PH, 4W 3-6T 850Ah 30KVA HVAC #5 TRANSFORMER 3-6T 480-208Y/120V HVAC #6 3-6T 225A SUB PANEL 120/208Y, 3PH, 4W 4#6AWG & 1#10 GND GEN AUX.

ELECTRICAL ONE-LINE DIAGRAM

LOADS

**ISSUE FOR BID** 

DATE OF ISSUE: 07/21/2025

#### **GENERAL NOTES**

- A. REFER TO ELECTRICAL GENERAL NOTES, SYMBOLS LEGENDS, AND ABBREVIATIONS ON SHEET 18.
- B. REFER TO ELECTRICAL SITE PLAN ON SHEET 19 FOR EQUIPMENT LAYOUT AND CONDUIT SIZES.
- C. REFER TO ELECTRICAL SPECIFICATIONS ON SHEET 22.
- D. BLACK (DARK) LINES INDICATE CONTRACTOR PROVIDED EQUIPMENT.
- E. LIGHT (HALFTONE) LINES INDICATE OWNER FURNISHED EQUIPMENT.
- F. ELEMENTS WITHIN THE DASHED OUTLINE SHOULD BE PROVIDED WITH THE HUT SHELTER SHIPMENT AND ARE SHOWN FOR REFERENCE ONLY. THESE ELEMENTS ARE INSTALLED INSIDE OR ON THE HUT SHELTER; SHOWN WITHIN THE DASHED OUTLINE FOR GROUPING CLARITY PURPOSES ONLY. REFER TO THE META - VEGA DRAWING PACKAGE FOR CONDUIT SIZES, CONDUCTOR SIZES, PANEL SCHEDULES AND ADDITIONAL
- G. THE HUT SHELTER ELECTRICAL SYSTEM IS RATED AT 65,000 A.I.C. IF HIGHER RATINGS ARE REQUIRED IT IS THE RESPONSIBILITY OF THE SITE CONTRACTOR TO MEET SUCH REQUIREMENTS.
- H. CONTRACTOR SHALL PROVIDE ARC FLASH STUDY AND POST INCIDENT ENERGY ON ALL EQUIPMENT REQUIRED
- I. ALL LUGS THAT HOLD MORE THAN ONE WIRE SHALL BE LISTED FOR MULTI-BARRELL CONNECTIONS.
- J. ALL CONDUCTORS SHALL BE COPPER.
- K. THE GENERATOR SYSTEMS SHOWN ARE FOR REFERENCE ONLY. REFER TO THE META VEGA DRAWING PACKAGE FOR GENERATOR ADDITIONAL INFORMATION AND REQUIREMENTS.

#### KEYNOTES (#)

- 1. CONTRACTOR SHALL COORDINATE WITH THE UTILITY CO. FOR TRANSFORMER CONNECTION AND METER / CT CABINET REQUIREMENTS AND DELINEATION OF WORK. REFER TO GENERAL UTILITY CO. COORDINATION NOTES ON SHEET 18 AND ELECTRIC UTILITY METER NOTE ON SHEET 19 FOR ADDITIONAL REQUIREMENTS AND
- 2. LABEL SERVICE ENTRANCE DISCONNECT WITH RED TAG.
- 3. NEUTRAL-TO-GROUND BOND SHALL ONLY BE MADE IN THE H-FRAME SERVICE DISCONNECT.
- 4. SERVICE RATED DISCONNECT SWITCH SHIPPED INSTALLED ON HUT SHELTER SHALL NOT BE USED FOR UTILITY SERVICE CONNECTION. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT NO NEUTRAL-TO-GROUND BOND IS TERMINATED IN THE DISCONNECT.
- 5. NEUTRAL-TO-GROUND BOND SHALL NOT BE MADE AT THE GENERATOR MAIN CIRCUIT BREAKER DISCONNECTING MEANS.

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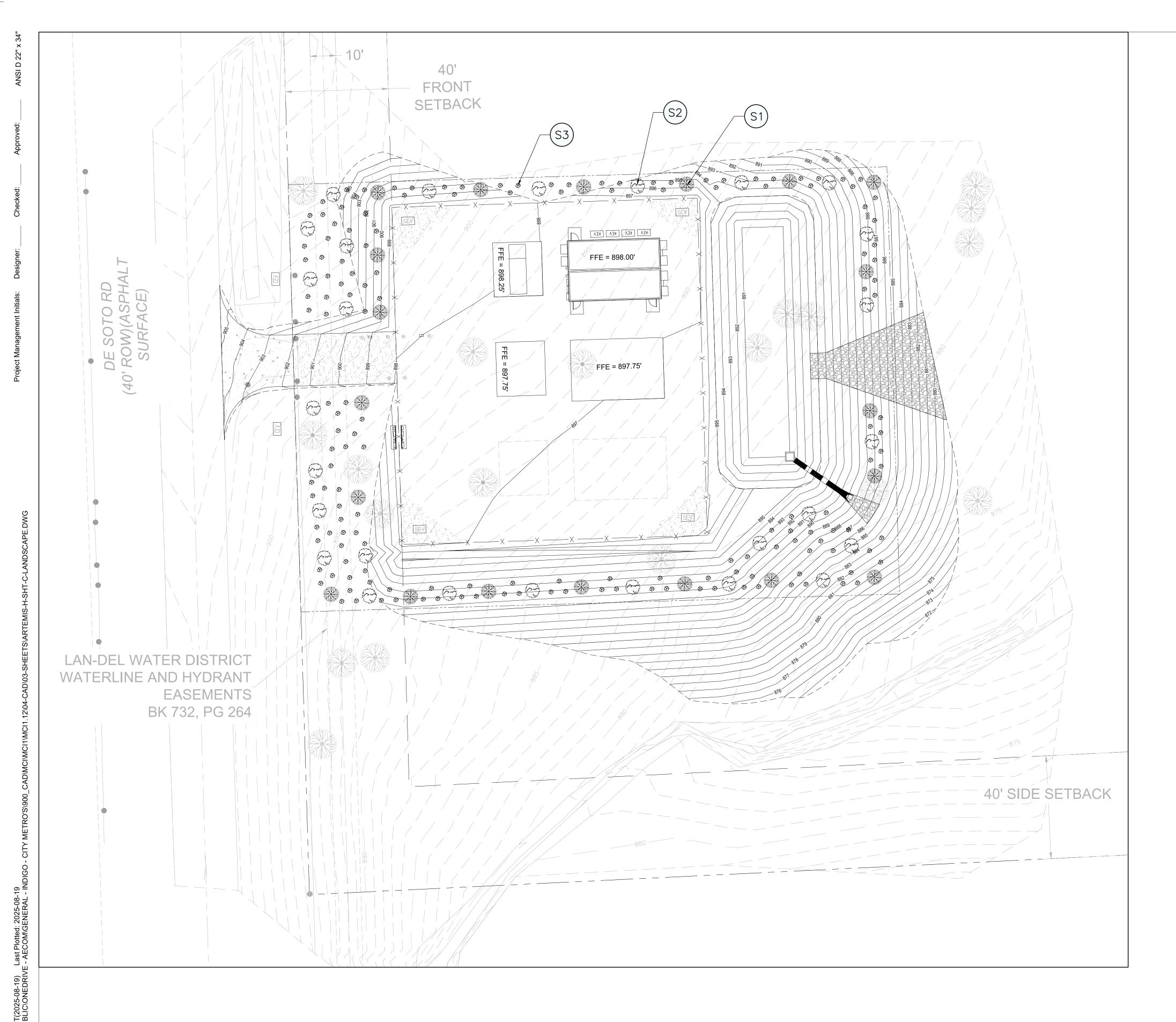
3			
2	I/R	DATE	DESCRIPTION

#### **PROJECT NUMBER**

60645418

SHEET TITLE

ELECTRICAL ONE-LINE DIAGRAM





LEGEND	
	WORK LIMIT LINE
	PROPERTY LINE
	RIGHT OF WAY LINE
	PROPOSED EASEMENT LINE
	LANDSCAPE BUFFER
	EDGE OF GRAVEL
	SETBACK LINE
x x	FENCE LINE
	GRAVEL
4 4 4	CONCRETE

#### LANDSCAPE NOTES

- SITE UTILIZES 'APPROVED PLANT LIST FOR CITY OF LANSING TREE BOARD UPDATED 2023.
- LANDSCAPING MAINTENANCE WILL BE PROVIDED QUARTERLY AND AS NEEDED TO MAINTAIN SURVIVABILITY AND AESTHETIC VALUE.
- 3. MAINTENANCE OF REQUIRED LANDSCAPED AREAS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ALL SUCH AREAS SHALL BE PROPERLY MAINTAINED SO AS TO ASSURE THEIR SURVIVAL AND AESTHETIC VALUE AND SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM OR A READILY AVAILABLE WATER SUPPLY. FAILURE TO MONITOR SUCH AREAS IS A VIOLATION OF THIS ORDINANCE AND MAY BE REMEDIED IN THE MANNER PRESCRIBED FOR OTHER VIOLATIONS.
- 4. NO SIGNIFICANT TREES WILL BE REMOVED AS PART OF THIS PROJECT

### PLANT SPECIFICATIONS

LARGE TREE TYPE 1: SWAMP WHITE OAK
SCIENTIFIC NAME: QUERCUS BICOLOR

MIN MATURE HEIGHT: 50'-60'
MIN CALIPER: 2"
QUANTITY: 20
SPACING: 40' COC

EVERGREEN TREE TYPE 1: LIMBER PINE
SCIENTIFIC NAME: PINUS FLEXILIS
MIN MATURE HEIGHT: 30'-40'
MIN PLANTING HEIGHT: 5'
QUANTITY: 27

SPACING:

SHRUB TYPE 1: REDTWIG DOGWOOD
SCIENTIFIC NAME: CORNUS SERICEA
MIN MATURE HEIGHT: 6'-12'
MIN PLANTING HEIGHT: 18"

30' COC

QUANTITY: 159
SPACING: 5' COC



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1	08/19/2025	Site Plan Comments	
I/R	DATE	DESCRIPTION	

PROJECT NUMBER

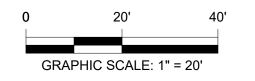
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SHEET TITLE

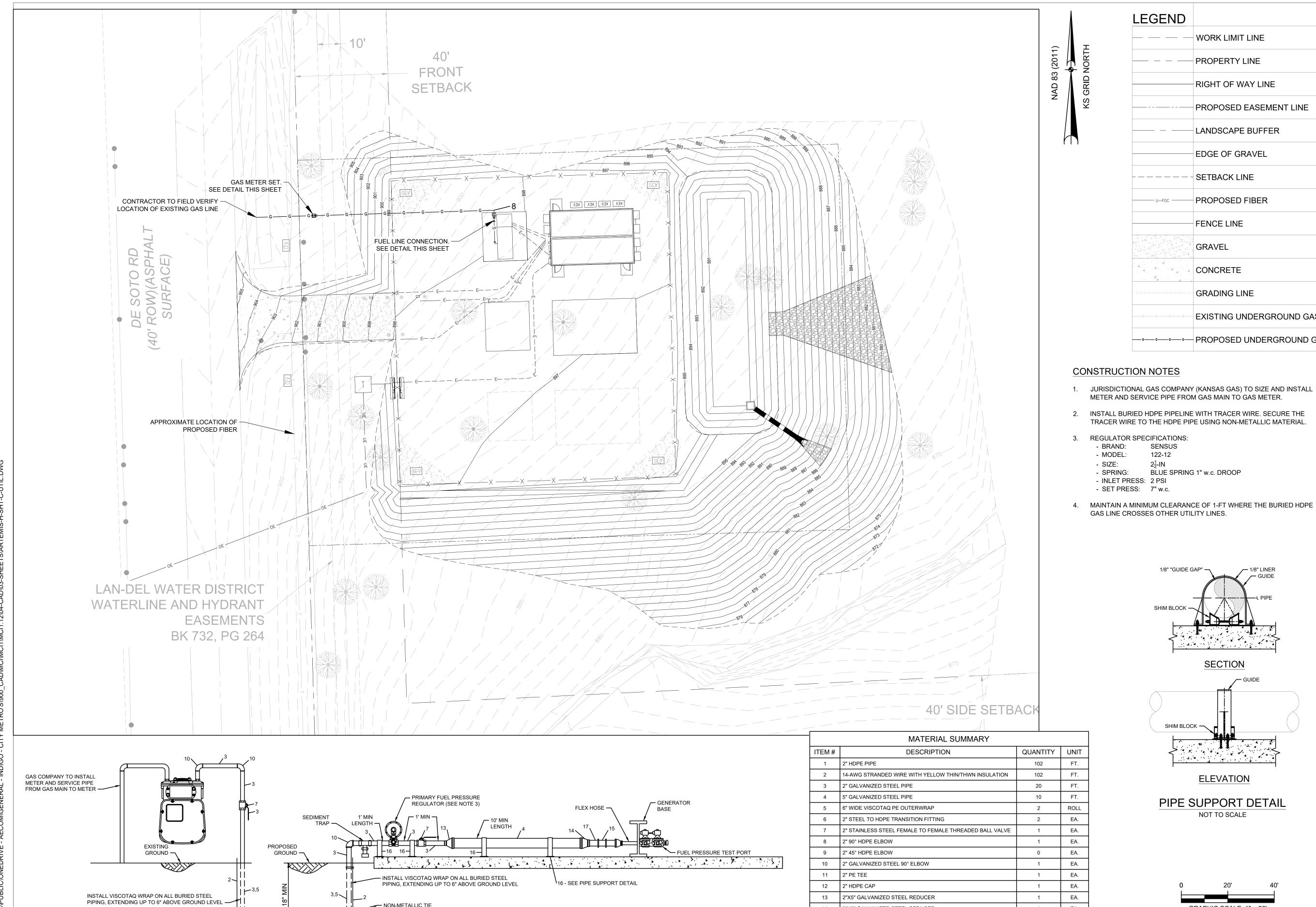
LANDSCAPE PLAN

SHEET NUMBER

24



**ISSUE FOR BID**DATE OF ISSUE: 08/19/2025



GAS CONNECTION DETAIL

NOT TO SCALE

GAS METER DETAIL

LEGEND WORK LIMIT LINE PROPERTY LINE

RIGHT OF WAY LINE

LANDSCAPE BUFFER

EDGE OF GRAVEL

PROPOSED FIBER

FENCE LINE

GRAVEL

CONCRETE

**GRADING LINE** 

—·—·—· PROPOSED UNDERGROUND GAS

EXISTING UNDERGROUND GAS

---- SETBACK LINE

PROPOSED EASEMENT LINE

**PROJECT** 

MMI - ILA SHELTER MCI1.12 LANSING, KS

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REGISTRATION

**ISSUE/REVISION** 

08/19/2025 | Site Plan Comments DATE DESCRIPTION

**PROJECT NUMBER** 

60645418

SHEET TITLE

UNDERGROUND UTILITY PLAN

SHEET NUMBER

METER AND SERVICE PIPE FROM GAS MAIN TO GAS METER.

2. INSTALL BURIED HDPE PIPELINE WITH TRACER WIRE. SECURE THE TRACER WIRE TO THE HDPE PIPE USING NON-METALLIC MATERIAL.

REGULATOR SPECIFICATIONS: - BRAND: SENSUS - MODEL: 122-12

- SIZE: - SPRING: BLUE SPRING 1" w.c. DROOP

- INLET PRESS: 2 PSI - SET PRESS: 7" w.c.

EA.

EA.

EA.

FT.

EA

14 3"X5" GALVANIZED STEEL REDUCER 15 3" GALVANIZED STEEL 90° ELBOW

3" GALVANIZED STEEL PIPE

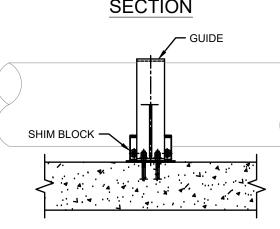
19 SENSUS  $2\frac{1}{2}$ " MODEL 122-12 REGULATOR

18 2" SEDIMENT TRAP

16 EZ LINE GSB-01A WITH 1/8" GUIDE GAP PIPE SUPPORT ASSEMBLY

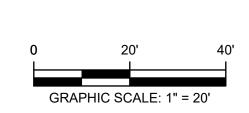
4. MAINTAIN A MINIMUM CLEARANCE OF 1-FT WHERE THE BURIED HDPE GAS LINE CROSSES OTHER UTILITY LINES.

> 1/8" "GUIDE GAP" — SHIM BLOCK -



**ELEVATION** 

PIPE SUPPORT DETAIL NOT TO SCALE



**ISSUE FOR BID** DATE OF ISSUE: 08/19/2025