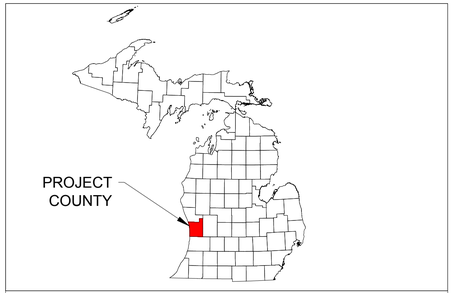
KCE MI 4, LLC

30% CIVIL DESIGN PLANS FOR:

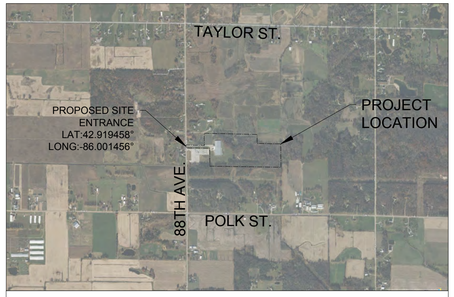
KCE MI 4

LOCATED IN

BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN



VICINITY MAP
OTTAWA COUNTY, MI
(NOT TO SCALE)



LOCATION MAP
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

MAP REFERENCE:
MICROSOFT BING

SCALE 1"=2000'
0 2000 4000 6000

DRAWING LIST		
DWG No.	TITLE	REV.
01	COVER SHEET	A
02 - 03	NOTES SHEETS	A
04	OVERALL EXISTING CONDITIONS PLAN	A
05 - 06	EXISTING CONDITIONS PLANS	A
07	OVERALL PROPOSED SITE PLAN	A
08 - 09	PROPOSED SITE PLANS	A
10	CONSTRUCTION DETAILS	A
11	PROPOSED LANDSCAPE PLAN	A
12A - 12B	LANDSCAPE PLAN DETAILS	A
13	PROPOSED LIGHTING PLAN	A
14	OVERALL GRADING AND DRAINAGE PLAN	A
15-16	PROPOSED GRADING AND DRAINAGE PLANS	A
17-18	STORMWATER MANAGEMENT DETAILS	A
19	OVERALL EROSION AND SEDIMENT CONTROL PLAN	A
20-21	EROSION AND SEDIMENT CONTROL PLANS	A
22-25	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	A

PROPERTY LOCATION:

KCE MI 4
ADDRESS:
8284 88TH AVENUE
ZEELAND, MI 49464
COORDINATES: 42.919458°, -86.001456°
PARCEL ID: 70-13-08-300-022

PROJECT OWNER:

KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210

CONTACT: BRIAN MADIGAN
EMAIL: BRIAN.MADIGAN@KEYCAPTUREENERGY.COM
PHONE: 518-903-4187

PLAN PREPARED BY:

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
222 SOUTH 9TH STREET, SUITE 2900
MINNEAPOLIS, MN 55402

CONTACT: WAYNE SICORA, PE
EMAIL: WAYNE.SICORA@ERM.COM
PHONE: 612-597-4574

MISS DIG 811 (MICHIGAN ONE-CALL SYSTEM)

THE EXISTENCE OF AND LOCATION OF ALL UTILITIES AS SHOWN ARE APPROXIMATE AND ARE BASED ON INFORMATION PROVIDED IN THE ALTA SURVEY. DIG NOTIFICATION IS REQUIRED BEFORE EXCAVATION.

CALL 811 BEFORE YOU DIG!

THE MISS DIG SYSTEM MUST BE CONTACTED AT 800-482-7171, 811, OR ONLINE AT MISSDIG811.ORG AT LEAST 72 HOURS BUT NO MORE THAN 14 CALENDAR DAYS IN ADVANCE OF CONSTRUCTION.

Know what's below. Call before you dig.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

COVER SHEET

DISCIPLINE NO. C-01

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
N.T.S	LF	0780143	01
DATE DRAWN	DRAWN BY		
08/05/2025	LF		

Environmental Resources Management, Inc.

SURVEY NOTES:

1. EXISTING TOPOGRAPHY SHOWN WAS OBTAINED FROM A TOPOGRAPHIC SURVEY PREPARED BY GARCIA SURVEYORS, INC. LAST REVISED DECEMBER 22, 2022. HORIZONTAL DATUM SHOWN IS IN MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83). VERTICAL DATUM SHOWN IS IN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

2. EASEMENT LINES SHOWN ON THIS PLAN OBTAINED FROM BOUNDARY SURVEY PREPARED BY GARCIA SURVEYORS, INC. LAST REVISED DECEMBER 22, 2022.

3. UTILITY LINES OBTAINED FROM ALTA/NSPS LAND TITLE SURVEY PREPARED BY GARCIA SURVEYORS, INC. LAST REVISED DECEMBER 22, 2022. CONTRACTOR TO VERIFY ACCURACY OF UTILITY LOCATIONS IN WORKING AREAS PRIOR TO CONSTRUCTION.

GENERAL NOTES:

1. THE SUBJECT PROPERTY DOES NOT CONTAIN ANY ACTIVE OIL AND GAS WELLS BASED ON REVIEW OF AVAILABLE DATA.

2. ALL PUBLIC IMPROVEMENTS MUST BE INSTALLED IN ACCORDANCE WITH BLENDON TOWNSHIP AND OTTAWA COUNTY STANDARDS.

3. THE OWNER/DEVELOPER IS REQUIRED TO PRESERVE ALL TREES EXCEPT THOSE WHICH MUST BE REMOVED IN ORDER TO HAVE A SUITABLE LOCATION FOR A DRIVEWAY OR OTHER IMPROVEMENTS, INCLUDING BATTERY ENERGY STORAGE CONSTRUCTION, ROAD, OR STREET IMPROVEMENTS.

4. LEGAL DESCRIPTION: PART OF THE SOUTHWEST 1/4 OF SECTION 8, TOWN 6 NORTH, RANGE 14 WEST, BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 8; THENCE SOUTH 02 DEGREES 16 MINUTES 05 SECONDS EAST 745.19 FEET ALONG THE WEST LINE OF THE SOUTHWEST 1/4 OF SAID SECTION TO THE POINT OF BEGINNING; THENCE NORTH 89 DEGREES 32 MINUTES 00 SECONDS EAST 512.39 FEET PARALLEL WITH THE SOUTH LINE OF THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION ; THENCE NORTH 02 DEGREES 16 MINUTES 05 SECONDS WEST 339.28 FEET; THENCE SOUTH 89 DEGREES 59 MINUTES 15 SECONDS EAST 1480.85 FEET; THENCE SOUTH 01 DEGREES 46 MINUTES 04 SECONDS EAST 250.00 FEET ALONG THE WEST LINE OF THE EAST 660 FEET OF THE SOUTHWEST 1/4 OF SAID SECTION; THENCE NORTH 89 DEGREES 44 MINUTES 37 SECONDS EAST 660.23 FEET ALONG THE SOUTH LINE OF THE NORTH 660 FEET OF THE SOUTHWEST 1/4 OF SAID SECTION; THENCE SOUTH 01 DEGREES 46 MINUTES 04 SECONDS EAST 653.18 FEET ALONG THE EAST LINE OF THE SOUTHWEST 1/4 OF SAID SECTION; THENCE SOUTH 89 DEGREES 32 MINUTES 00 SECONDS WEST 1983.81 FEET ALONG THE SOUTH LINE OF THE NORTH 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION; THENCE NORTH 02 DEGREES 08 MINUTES 38 SECONDS WEST 500.21 FEET ALONG THE EAST LINE OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION; THENCE SOUTH 89 DEGREES 32 MINUTES 00 SECONDS WEST662.38 FEET ALONG THE NORTH LINE OF THE SOUTH 500 FEET OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION; THENCE NORTH 02 DEGREES 16 MINUTES 05 SECONDS WEST 78.04 FEET ALONG THE WEST LINE OF THE SOUTHWEST 1/4 OF SAID SECTION TO THE POINT OF BEGINNING. SUBJECT TO AND TOGETHER WITH AN EASEMENT FOR INGRESS, EGRESS AND UTILITIES BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 8, TOWN 6 NORTH, RANGE 14 WEST, BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT THE WEST 1/4 CORNER OF SAID SECTION 8; THENCE SOUTH 02 DEGREES 16 MINUTES 05 SECONDS EAST 363.66 FEET TO THE POINT OF BEGINNING OF THIS EASEMENT; THENCE NORTH 89 DEGREES 44 MINUTES 37 SECONDS EAST 715.94 FEET; THENCE SOUTH 00 DEGREES 15 MINUTES 23 SECONDS EAST 66.00 FEET; THENCE SOUTH 89 DEGREES 44 MINUTES 37 SECONDS WEST 714.62 FEET; THENCE NORTH 02 DEGREES 16 MINUTES 05 SECONDS WEST 66.04 FEET ALONG THE WEST LINE OF THE SOUTHWEST 1/4 OF SAID SECTION TO THE POINT OF BEGINNING.

5. THE PROJECT WOULD BE LOCATED ON THE EASTERN PORTION OF A 40-ACRE PARCEL ON THE EAST SIDE OF 88TH AVENUE ABOUT 1,500 FEET NORTH OF POLK STREET. THE PROJECT WILL CONNECT TO THE VAN BUREN SUBSTATION, OWNED AND OPERATED BY MICHIGAN ELECTRIC TRANSMISSION COMPANY, LOCATED APPROXIMATELY 1,000 FEET WEST OF THE PROJECT SITE. THE PROJECT FOOTPRINT WILL BE LIMITED TO 16.5-ACRE PORTION OF THE APPROXIMATELY 40-ACRE PRIVATE PARCEL LEASED BY KCE MI 4, LLC (KCE) WITH AN OFF-SITE CONNECTION TO EXISTING ELECTRIC INFRASTRUCTURE. THE PROJECT IS A 100 MW / 400 MWH BATTERY ENERGY STORAGE SYSTEM. DEVELOPMENT OF THE PROJECT WILL INVOLVE INSTALLATION AND OPERATION OF BATTERY MODULES HOUSED IN CONTAINERS, A SMALL, DEDICATED PROJECT SUBSTATION, AND ASSOCIATED SUPPORT INFRASTRUCTURE (E.G., ACCESS ROADS, INVERTERS, ETC.).

6. THE PROJECT PARCEL AND SURROUNDING PARCELS ARE IN THE AG AGRICULTURAL PRESERVATION DISTRICT.

7. ALL REQUIRED PERMITS SHALL BE IN PLACE PRIOR TO ANY LAND DISTURBANCE.

8. ALL CONSTRUCTION MUST OCCUR IN ACCORDANCE WITH BLENDON TOWNSHIP ZONING ORDINANCE AND ALL SPECIFICATIONS LISTED IN SECTION 13.05.35 AMENDED 2025, OR MOST RECENT VERSION.

CONSTRUCTION NOTES:

1. AT ALL TIMES, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING MEANS & METHODS OF CONSTRUCTION SAFETY OF PERSONS & PROPERTY. THE ENGINEER'S PRESENCE OR REVIEW OF WORK AT THE JOB SITE IS FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT ONLY & IS NOT EVER TO BE CONSTRUED AS A REVIEW OF MEANS & METHODS OF CONSTRUCTION & SAFETY METHODS.

2. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR MUST PROVIDE A SKETCH OF THE CONDITION WITH THEIR PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. THIS SKETCH MUST BE SUBMITTED TO & APPROVAL MUST BE GRANTED BY THE ENGINEER AND CONSTRUCTION SUPERINTENDENT PRIOR TO PERFORMING THE WORK.

3. THE CIVIL PLANS HAVE BEEN PREPARED BASED ON AVAILABLE KNOWLEDGE OF EXISTING CONDITIONS. IF DURING DEMOLITION, EXCAVATION, OR CONSTRUCTION, ACTUAL CONDITIONS ARE DISCOVERED TO DIFFER FROM THOSE INDICATED ON THE DOCUMENTS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

4. CONTRACTOR SHALL REPAIR OR REPLACE, IN-KIND, ANY DAMAGE TO OFF-SITE ITEMS THAT OCCURS AS A RESULT OF HIS WORK.

5. ALL SIGNS, PAVEMENT MARKINGS (EXCLUDING PARKING SPACE MARKINGS), & OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MICHIGAN DOT STANDARDS UNLESS OTHERWISE NOTED.

6. CONTRACTOR SHALL SAW-CUT TO PROVIDE SMOOTH TRANSITIONS AT TIE-INS TO EXISTING EDGES OF PAVEMENT.

7. CONTRACTOR SHALL TAKE NECESSARY MEASURES TO SEPARATE WORK AREAS FROM PEDESTRIAN TRAFFIC & TO ENSURE SAFE PEDESTRIAN PASSAGE AT ALL TIMES.

8. CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS, AND ALL OTHER PUBLIC RIGHT OF WAYS IN A CLEAN, SAFE, AND USEABLE CONDITION. SPILLS OF SOIL, ROCK, OR OTHER CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PUBLIC PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT.

9. CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY UPON DISCOVERY OF ANY GROUNDWATER, SUBSURFACE SEEPAGE, OR SPRINGS THROUGHOUT CONSTRUCTION.

10. THE CONTRACTOR'S CONSTRUCTION ACTIVITIES SHALL BE PERFORMED BY METHODS THAT WILL PREVENT ENTRANCE OR ACCIDENTAL SPILLAGE OF SOLID MATTER, CONTAMINANTS, DEBRIS, AND OTHER OBJECTIONABLE POLLUTANTS AND WASTES INTO STREAMS, FLOWING OR DRY WATERCOURSES, WETLANDS, LAKES, AND UNDERGROUND WATER SOURCES.

11. THE SITE MUST COMPLY WITH NFPA 855: "STANDARD FOR THE INSTALLATION OF STATIONARY ENERGY STORAGE SYSTEMS" IN EFFECT ON THE DATE THE SITE PLAN APPLICATION IS SUBMITTED, OR ANY APPLICABLE SUCCESSOR STANDARD, AND SHALL COMPLY WITH THE MOST RECENT FIRE CODE ADOPTED BY BLENDON TOWNSHIP.

GRADING NOTES:

1. THESE PLANS ARE INTENDED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS). THE CONTRACTOR IS RESPONSIBLE TO MEET ALL ADA AND UFAS REQUIREMENTS AS STATED IN THE ADA AND ABA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES PUBLISHED IN THE FEDERAL REGISTER SEPTEMBER 15, 2010 OR AS LAST REVISED.

2. SOIL COMPACTION: CONTRACTOR TO COMPACT SOIL MATERIALS UNDER ACCESS ROADS, UNDER CONCRETE PADS, IN LAWN AREAS, AND IN UNPAVED AREAS IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY.

3. CONTRACTOR TO GRADE AREAS ADJACENT TO FACILITIES SO THAT WATER DRAINS AWAY FROM STRUCTURES AND NO PONDING OCCURS.

4. SHORING, BRACING, AND PROTECTION OF EXISTING AND ADJACENT STRUCTURES DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO PROTECT AND MAINTAIN THE INTEGRITY OF ADJACENT STRUCTURES, BUILDINGS, AND STREETS.

5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION.

6. CUTS AND FILLS SHALL NOT ENDANGER ADJOINING PROPERTIES. CUTS AND FILLS SHALL NOT ENCROACH UPON NATURAL WATER SOURCES (INCLUDING WETLANDS) OR CONSTRUCTED CHANNELS IN A MANNER THAT ADVERSELY AFFECTS ADJOINING PROPERTY OWNERS.

DRAINAGE NOTES:

1. LENGTHS OF PROPOSED STORM SEWER PIPES ARE TAKEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

2. WORK POINTS FOR STRUCTURES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

3. SLOPES, DISTANCES, AND INVERT ELEVATIONS ARE GIVEN TO INTERSECTION OF FLOW LINES.

GEOTECHNICAL NOTES:

1. ALL FILLS SHALL BE COMPACTED TO PROVIDE STABILITY OF FILL MATERIAL AND TO PREVENT UNDESIRABLE SETTLEMENT OR SLIPPAGE. FILLS SHALL BE COMPACTED USING MODERN METHODS AND EQUIPMENT. FILLS SHALL BE CONSTRUCTED UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER WHO SHALL CERTIFY, IN WRITING TO AUTHORITIES HAVING JURISDICTION (AHJ), AS TO THE ADEQUACY OF COMPACTION AND SHALL SUBMIT RESULTS OF THE COMPACTION TESTS TO THE ENGINEER AND, IF REQUIRED, TO THE AHJ.

2. ANY PYRITIC MATERIALS ENCOUNTERED IN UTILITY CONSTRUCTION SHALL BE ADDRESSED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATION SUBJECT TO APPROVAL BY THE COUNTY ENGINEER WITH RESPECT TO STORMWATER CONSTRUCTION.

3. FOLLOW GUIDANCE AND RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL INVESTIGATION, BRING TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION IF CONFLICT OCCURS BETWEEN CONSTRUCTION DOCUMENTS.

4. THE GEOTECHNICAL REPORT WAS PREPARED BY TERRACON AND DATED JUNE 17, 2024.

UTILITY NOTES:

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY.

2. SIZE, LOCATION, AND ELEVATIONS OF EXISTING STRUCTURES AND UTILITIES SHOWN ON THE PLANS ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY THE SIZE AND/OR LOCATION OF ALL EXISTING STRUCTURES AND UTILITIES.

3. CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OR FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING, OR CONNECTING TO SAID FACILITIES. CONTRACTOR SHALL RAISE OR LOWER TOPS OF EXISTING MANHOLES AS REQUIRED TO MATCH FINISHED GRADES.

4. TEST PITS SHALL BE DUG AT EXISTING AND PROPOSED UTILITY CROSSINGS AND CONNECTIONS TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF THE EXISTING UTILITIES.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, BEDDING, BACKFILL, AND PAVEMENT RESTORATION (AS REQUIRED).

UTILITY CONNECTION NOTES:

1. ELECTRIC
   - CONTRACTOR SHALL CONTACT THE POWER COMPANY A MINIMUM OF SIX (6) WEEKS PRIOR TO CONSTRUCTION TO NOTIFY THEM OF THE SCHEDULE.
   - TRANSMISSION LINE DESIGN SHALL COMPLY WITH THE UTILITY'S STANDARDS AND SPECIFICATIONS AND THE NATIONAL ELECTRICAL SAFETY CODE STANDARD (NESC) (MOST CURRENT EDITION).
   - CONTRACTOR TO FURNISH AND INSTALL ALL TRENCHING, CONDUIT, AND PULL ROPE.
   - OVERHEAD LINES TO BE COMPLIANT WITH 138 KV POLE STANDARD FOR OVERHEAD TRANSMISSION LINES. ELECTRICAL ENGINEER TO PROVIDE DETAILED ELECTRICAL DESIGN OF OVERHEAD LINES AT A LATER DATE AND TO COORDINATE WITH CONTRACTOR AND POWER COMPANY.
   - FOR OVERHEAD TRANSMISSION LINE WORK CONTRACTOR SHALL USE MATTING AS NECESSARY IN THE PERFORMANCE OF THIS WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS BACK TO THEIR ORIGINAL CONDITION.

COMMERCIAL BUILDING CODE REQUIREMENTS:

ALL STRUCTURES AND PROPOSED IMPROVEMENTS MUST COMPLY WITH OTTAWA COUNTY AND THE STATE OF MICHIGAN BUILDING, ELECTRIAL, MECHANICAL, AND PLUMBING CODES.

FOR EACH RESPECTIVE REQUIREMENT LISTED ABOVE, REFER TO:
- BUILDING: COMMERCIAL/2015 MICHIGAN BUILDING CODE (EFFECTIVE APRIL 20, 2017) OR MOST RECENT VERSION.
- ELECTRICAL: COMMERCIAL/ 2017 MICHIGAN ELECTRICAL CODE (2017 NEC WITH STATE PART 8) (EFFECTIVE JANUARY 4, 2019), OR MOST RECENT VERSION.
- MECHANICAL: COMMERCIAL/ 2015 MICHIGAN MECHANICAL CODE (EFFECTIVE APRIL 20, 2017), OR MOST RECENT VERSION.
- PLUMBING: COMMERCIAL/ 2018 MICHIGAN PLUMBING CODE (EFFECTIVE SEPTEMBER 15, 2021), OR MOST RECENT VERSION.

MATERIAL SPECIFICATIONS:

FOR ALL MATERIAL SPECIFICATIONS REFER TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION OR MOST RECENT VERSION.

1. SECTION 403: DRAINAGE STRUCTURES

   - DESCRIPTION: THIS WORK CONSISTS OF ADJUSTING, CONSTRUCTING, OR TEMPORARILY LOWERING DRAINAGE STRUCTURES AND CLEANING EXISTING DRAINAGE STRUCTURES AND LEADS AS DIRECTED BY THE ENGINEER.
   - DRAINAGE STRUCTURES INCLUDE MANHOLES, CATCH BASINS, LEACHING BASINS, INLETS, DROP INLETS, AND CONCRETE FOOTING OR PRECAST SUMP USED FOR ACCESS TO NEW OR EXISTING SEWERS WITH A DIAMETER NO GREATER THAN 48 INCHES.
   - MANHOLE BASE: TYPE 1 OR TYPE 2, AND MANHOLE RISER ARE USED FOR ACCESS TO NEW OR EXISTING SEWERS WITH A DIAMETER OF AT LEAST 48 INCHES. MANHOLE BASE TYPE 1 MAY BE SUBSTITUTED FOR PRECAST MANHOLE TEES. PRECAST MANHOLE TEE AND MANHOLE RISER ARE USED FOR ACCESS TO NEW SEWERS WITH DIAMETERS OF AT LEAST 42 INCHES.
   - MATERIALS: PROVIDE MATERIALS IN ACCORDANCE WITH THE FOLLOWING SECTIONS:
     -GRANULAR MATERIAL CLASS II, III - SECTION 902
     -STEEL REINFORCEMENT - SECTION 905
     -MISCELLANEOUS METAL PRODUCTS - SECTION 908
     -CASTINGS - SECTION 908
     -CULVERT, SEWER PIPE, AND BOX SECTIONS - SECTION 909
     -GEOSYNTHETICS - SECTION 910
     -MASONRY UNITS - SECTION 913
     -CONCRETE, GRADE 3000 - SECTION 1004
     -MORTAR TYPE R-2 - SECTION 1005.
   - CONSTRUCTION: SEE SECTION 403.3 FOR SPECIFICATIONS.

MISS DIG 811 (MICHIGAN ONE-CALL SYSTEM)

THE EXISTENCE OF AND LOCATION OF ALL UTILITIES AS SHOWN ARE APPROXIMATE AND ARE BASED ON INFORMATION PROVIDED IN THE ALTA SURVEY. DIG NOTIFICATION IS REQUIRED BEFORE EXCAVATION.

CALL 811 BEFORE YOU DIG!

THE MISS DIG SYSTEM MUST BE CONTACTED AT 800-482-7171, 811, OR ONLINE AT MISSDIG811.ORG AT LEAST 72 HOURS BUT NO MORE THAN 14 CALENDAR DAYS IN ADVANCE OF CONSTRUCTION.

Know what's below. Call before you dig.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

NOTES SHEET

DISCIPLINE NO. C-02

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
N.T.S	LF	0780143	02
DATE DRAWN 08/05/2025	DRAWN BY LF		

Environmental Resources Management, Inc.

MATERIAL SPECIFICATIONS CONTINUED:

2. SECTION 301: SUBBASE

DESCRIPTION: THIS WORK CONSISTS OF CONSTRUCTING A GRANULAR SUBBASE ON A SURFACE APPROVED BY THE ENGINEER.

MATERIALS: PROVIDE MATERIAL, GRANULAR MATERIAL CLASS II, IN ACCORDANCE WITH SECTION 902.

CONSTRUCTION:

- SPREAD THE SUBBASE MATERIAL EVENLY AND COMPACT TO AT LEAST 95% OF THE MAXIMUM UNIT WEIGHT, AT A LESS-THAN-OPTIMUM MOISTURE CONTENT, FOR ITS ENTIRE THICKNESS. PLACE THE SUBBASE IN LAYERS NO GREATER THAN 18 INCHES. WHERE THE REQUIRED DEPTH IS MORE THAN 18 INCHES, PLACE THE MATERIAL IN LAYERS OF EQUAL THICKNESS. CONSTRUCT THE SUBBASE TO PLAN GRADE WITHIN A TOLERANCE OF PLUS 1 INCH.
- DO NOT PLACE SUBBASE ON FROZEN, SOFT, UNSTABLE, OR RUTTED SUBGRADE. IF SUBBASE MATERIAL BECOMES MIXED WITH SUBGRADE MATERIAL, REMOVE, DISPOSE OF, AND REPLACE THE SUBBASE MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

3. SECTION 302: AGGREGATE BASE COURSE

DESCRIPTION: THIS WORK CONSISTS OF CONSTRUCTING AN AGGREGATE BASE COURSE ON A SURFACE APPROVED BY THE ENGINEER.

MATERIALS: PROVIDE MATERIALS, DENSE-GRADED AGGREGATE 21AA, 21A, 22A, IN ACCORDANCE WITH SECTION 902.

CONSTRUCTION:
PLACING AND COMPACTING

- COMPACT THE AGGREGATE LAYERS TO A UNIFORM THICKNESS, NO LESS THAN 3 INCHES AND NO GREATER THAN 8 INCHES. IF PLACING AGGREGATE BASE IN A LAYER LESS THAN 3 INCHES, BLEND THE NEW AGGREGATE BASE MATERIAL WITH THE LAYER BELOW TO ENSURE A TOTAL OF 6 INCHES. BLENDING MUST BE PERFORMED TO ENSURE THAT THE NEW AGGREGATE BASE MATERIAL IS UNIFORMLY MIXED WITH THE LAYER BELOW.
- COMPACT EACH LAYER OF AGGREGATE BASE TO AT LEAST 98% OF THE MAXIMUM UNIT WEIGHT AT A MOISTURE CONTENT NO GREATER THAN OPTIMUM FOR AGGREGATE BASE UNDER HOT MIX ASPHALT (HMA) PAVEMENT. COMPACT EACH LAYER OF AGGREGATE BASE TO AT LEAST 95% OF THE MAXIMUM UNIT WEIGHT AT A MOISTURE CONTENT NO GREATER THAN OPTIMUM FOR AGGREGATE BASE UNDER CONCRETE PAVEMENT. WITHIN THE LIMITS OF BRIDGE APPROACHES, FROM THE ABUTMENT WALL TO THE TYPICAL ROADWAY CROSS SECTION, COMPACT EACH LAYER OF THE AGGREGATE BASE TO AT LEAST 98% OF THE MAXIMUM UNIT WEIGHT. SHAPE THE FINISHED SURFACE AND THE LAYER THICKNESS TO WITHIN ±½ INCH OF THE CROWN AND GRADE SHOWN ON THE PLANS.
- REMOVE, DISPOSE OF, AND REPLACE AGGREGATE BASE MATERIAL THAT MIXES WITH SUBBASE OR SUBGRADE MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

SEE SECTION 302.03 FOR CONSTRUCTION SPECIFICATIONS ON CONDITIONING AGGREGATE BASE, MAINTENANCE DURING CONSTRUCTION, AND SURPLUS EXISTING AGGREGATE BASE MATERIAL.

4. SECTION 306: AGGREGATE SURFACE COURSE AND MAINTENANCE GRAVEL

DESCRIPTION: THIS WORK CONSISTS OF CONSTRUCTING AGGREGATE SURFACE COURSE ON A PREPARED SUBGRADE OR EXISTING AGGREGATE SURFACE.

MATERIALS: PROVIDE MATERIALS, DENSE-GRADED AGGREGATE 21A, 21AA, 22A, 23A, 23AA, IN SECTION 902.

CONSTRUCTION: PREPARATION OF BASE - WHEN REQUIRED, BLADE, OR SCARIFY AND BLADE, EXISTING AGGREGATE SURFACES TO REMOVE IRREGULARITIES IN THE GRADE.

PLACING AND COMPACTING

- PROVIDE A TICKET WITH EACH LOAD STATING THE REQUIRED INFORMATION IN SECTION 306.03.B.
- PROVIDE A UNIFORM AGGREGATE MIXTURE, COMPACTED IN PLACE TO A UNIFORM DENSITY FULL DEPTH. PROVIDE A COMPLETE SURFACE COURSE TO THE LINE, GRADE, OR CROSS SECTION AS SHOWN ON THE PLANS.
- PLACE MAINTENANCE GRAVEL AT DRIVEWAY AND INTERSECTION LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER TO PROVIDE A FLUSH TRANSITION TO DRIVEWAYS, INTERSECTING CROSS STREETS, AND ADJACENT SURFACES WHERE MAINTAINING TRAFFIC. GRADE MAINTENANCE GRAVEL TO PROVIDE POSITIVE DRAINAGE. MATCH THE EXISTING WIDTHS OF THE DRIVEWAYS AND INTERSECTIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- WHEN CONSTRUCTION OPERATIONS PROGRESS TO A POINT THAT MAINTENANCE GRAVEL IS NO LONGER NEEDED, AS DETERMINED BY THE ENGINEER, REMOVE THE MAINTENANCE GRAVEL ON THE SAME DAY AS PAVING OF THE REMOVAL AREA. REMOVE AND DISPOSE OF MAINTENANCE GRAVEL IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY LEAVE MAINTENANCE GRAVEL IN PLACE AS PART OF THE WORK.
- DO NOT PLACE AGGREGATE ON UNSTABLE SURFACES, AS DETERMINED BY THE ENGINEER. MAINTAIN THE AGGREGATE IN A SMOOTH AND STABLE CONDITION UNTIL REMOVED, SURFACED, OR PROJECT COMPLETION.
- COMPACT THE AGGREGATE LAYERS TO A UNIFORM THICKNESS NO GREATER THAN 8 INCHES. IF PLACING HMA SURFACE OVER THE AGGREGATE SURFACE COURSE, COMPACT EACH AGGREGATE LAYER TO AT LEAST 98% OF THE MAXIMUM UNIT WEIGHT AT A MOISTURE CONTENT NO GREATER THAN OPTIMUM. FOR OTHER AGGREGATE SURFACE COURSE APPLICATIONS, COMPACT EACH LAYER OF AGGREGATE TO AT LEAST 95% OF THE MAXIMUM UNIT WEIGHT AT A MOISTURE CONTENT NO GREATER THAN OPTIMUM.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

- GRADE THE FINISHED SURFACE AND LAYERS TO WITHIN ±½ INCH OF THE CROWN AND GRADE SHOWN ON THE PLANS.
- IF PLACING AGGREGATE BASE IN A LAYER NO GREATER THAN 3 INCHES, COMPACT USING PNEUMATIC-TIRED ROLLERS OR VIBRATORY COMPACTORS TO AT LEAST 95% OF THE MAXIMUM UNIT WEIGHT AT A MOISTURE CONTENT NO GREATER THAN OPTIMUM.

USE OF ADDITIVES - THE CONTRACTOR MAY USE ADDITIVES TO FACILITATE COMPACTION AND FOR DUST CONTROL.

5. SECTION 308: GEOSYNTHETICS FOR BASE

- DESCRIPTION: THIS WORK CONSISTS OF PROVIDING AND INSTALLING GEOSYNTHETIC PRODUCTS ON A SURFACE APPROVED BY THE ENGINEER.
- MATERIALS: PROVIDE MATERIALS, GEOTEXTILE SEPARATOR, STABILIZATION GEOTEXTILE, ROAD GRADE BIAXIAL GEOGRID, IN ACCORDANCE WITH SECTION 910.
- CONSTRUCTION:

GEOTEXTILE PLACEMENT - PLACE OR INSTALL GEOTEXTILE SEPARATOR OR STABILIZATION GEOTEXTILE PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES AND THIS SUBSECTION. DO NOT OPERATE EQUIPMENT THAT IS REQUIRED TO PLACE BACKFILL DIRECTLY ON GEOTEXTILE PRODUCTS. ELIMINATE WRINKLES OR WAVES THAT DEVELOP DURING PLACEMENT. PLACE THE PRODUCTS IN DIRECT CONTACT WITH THE SOIL BELOW BEFORE PLACING BACKFILL ON THE GEOTEXTILE PRODUCTS. DO NOT EXPOSE GEOTEXTILE TO ULTRAVIOLET DEGRADATION FOR MORE THAN 7 DAYS. SHINGLE-LAP LONGITUDINAL AND TRANSVERSE JOINTS AT LEAST 2 FEET OR SEAM THE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ENSURE THAT FIELD OR FACTORY SEAMS MEET THE MINIMUM GRAB TENSILE STRENGTH FOR THE PRODUCT APPLICATION. DO NOT USE NYLON THREAD FOR GEOTEXTILE SEAMING. PLACE SEAMS FACING UPWARD FOR INSPECTION PURPOSES. REPAIR TEARS OR DAMAGE TO THE GEOTEXTILE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

GEOGRID PLACEMENT - ALL AREAS IMMEDIATELY BENEATH THE INSTALLATION AREA FOR THE GEOGRID MUST BE PROPERLY PREPARED AS SHOWN ON THE PLANS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER. PLACE OR INSTALL THE GEOGRID IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES AND THIS SUBSECTION. TO PREVENT UNDUE EXPOSURE OR DAMAGE TO THE GEOGRID, PLACE ONLY THE AMOUNT OF GEOGRID REQUIRED FOR IMMEDIATELY PENDING WORK. DO NOT EXPOSE GEOGRID TO ULTRAVIOLET DEGRADATION FOR MORE THAN 7 DAYS. THE GEOGRID MUST BE UNROLLED PARALLEL TO THE CENTERLINE OF THE ROADWAY. PLACE THE GEOGRID TAUT PRIOR TO PLACEMENT OF SUBSEQUENT AGGREGATE LAYER.
ANCHOR THE GEOGRID IN POSITION AFTER PLACEMENT UNTIL PLACEMENT OF THE SUBSEQUENT AGGREGATE LAYER. OVERLAP ADJACENT ROLLS OF GEOGRID 2 FEET MINIMUM. WHENEVER POSSIBLE, THE PLACEMENT OF THE SUBSEQUENT AGGREGATE LAYER MUST PROCEED FROM THE CENTERLINE OF THE GEOGRID PLACED OUT TO ASSIST IN TENSIONING THE GEOGRID. PLACE AT LEAST 6 INCHES OF THE SUBSEQUENT AGGREGATE LAYER OVER THE GEOGRID BEFORE ALLOWING CONSTRUCTION VEHICLES ON THE GEOGRID.

AGGREGATE OR GRANULAR MATERIAL PLACEMENT - SPREAD AND SHAPE THE SUBSEQUENT LAYER OF AGGREGATE OR GRANULAR MATERIAL AFTER PLACING GEOSYNTHETIC TO CREATE A STABLE WORK PLATFORM BEFORE COMPACTION. PLACE ADDITIONAL AGGREGATE OR GRANULAR MATERIAL, AS REQUIRED BY APPLICABLE SECTIONS, AND COMPACT. FILL RUTS WITH ADDITIONAL AGGREGATE OR GRANULAR MATERIAL AND COMPACT BEFORE PLACING EACH SUBSEQUENT LAYER.

6. SECTION 401: PIPE CULVERTS

DESCRIPTION: THIS WORK CONSISTS OF CONSTRUCTING PIPE CULVERTS OF THE SIZE AND CLASS REQUIRED, INCLUDING EXCAVATION, BEDDING, AND BACKFILL.

MATERIALS: PROVIDE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
-GRANULAR MATERIAL, CLASS II, III, IIIA - SECTION 902
-AGGREGATE, 6A, 17A, 34R, 46G - SECTION 902
-ASPHALTIC MATERIALS - SECTION 904
-CULVERT PIPE - SECTION 909
-SEALERS FOR CULVERT JOINTS - SECTION 909
-STEEL PIPE (FOR JACKING IN PLACE) - SECTION 909
-DRAINAGE MARKER POST - SECTION 909
-GEOSYNTHETIC - SECTION 910
-CULVERT, DOWNSPOUTS - SECTION 909
-CONCRETE, GRADE 3500 - SECTION 1004
-MORTAR, TYPE R 2 - SECTION 1005

SELECT PIPE SECTIONS AND JOINT ASSEMBLIES FOR USE IN CULVERTS FROM THE QUALIFIED PRODUCTS LIST. PROVIDE GROUT FOR JACKED-IN-PLACE STEEL PIPE THAT CONSISTS OF A MIXTURE OF PORTLAND CEMENT AND NO GREATER THAN 50% SAND BY VOLUME.

PIPE CULVERTS - PIPE CULVERTS ARE DIVIDED INTO SIX CLASSES, AS SPECIFIED IN TABLE 401-1. PROVIDE THE TYPE OF CULVERT MATERIAL INDICATED ON THE PLANS IF SHOWN. IF THE CONTRACT SPECIFIES ONLY THE SIZE AND CLASS OF THE CULVERT, SELECT AND PROVIDE AN ALTERNATIVE CULVERT PIPE ALLOWED IN TABLE 401-1.A HIGHER STRENGTH OR GREATER THICKNESS OF CULVERT MAY BE SUBSTITUTED FOR THE MINIMUM STRENGTH OR MINIMUM THICKNESS REQUIRED.

CONSTRUCTION: REFER TO SECTION 401.03 FOR CONSTRUCTION SPECIFICATIONS INCLUDING EXCAVATION AND CULVERT BEDDING, REPAIR OF DAMAGED COATED SURFACES, LAYING AND JOINING PIPE, BACKFILLING, HEADWALLS AND END SECTIONS, DRAINAGE MARKER POSTS, DISPOSAL OF SURPLUS MATERIAL, CLEANOUT, VIDEO INSPECTION, AND DEWATERING AND MAINTAINING STREAM FLOW DURING CONSTRUCTION.

7. SECTION 902: AGGREGATES

GENERAL REQUIREMENTS:

- THE DEPARTMENT MAY RE-INSPECT AND RETEST AGGREGATES REGARDLESS OF INSPECTION AT THE PRODUCING PLANT. PROVIDE SAFE ACCESS TO THE MATERIAL FOR SAMPLING FROM HAUL UNITS OR STOCKPILES.
- DO NOT USE SPENT METAL CASTING FOUNDRY SAND UNLESS THE CONTRACT EXPRESSLY ALLOWS FOR ITS USE.
- DO NOT CONTAMINATE AGGREGATE DURING LOADING OR MEASUREMENT.

TESTING: REFER TO SECTION 902.02 FOR SPECIFICATIONS.

DENSE-GRADED AGGREGATES FOR BASE COURSE, SURFACE COURSE, SHOULDERS, APPROACHES, AND PATCHING:

- WHEN NECESSARY, COMBINE FINE AGGREGATE WITH NATURAL AGGREGATE, IRON BLAST-FURNACE SLAG, REVERBERATORY FURNACE SLAG, OR CRUSHED CONCRETE TO PRODUCE MICHIGAN CLASS 21AA, 21A, 22A, 23A, AND 23AA DENSE-GRADED AGGREGATES IN ACCORDANCE WITH TABLE 902-1, TABLE 902-2, AND THIS SUBSECTION.
- THE USE OF CRUSHED CONCRETE IS PROHIBITED ON THE PROJECT WITHIN 100 FEET OF ANY WATER COURSE (STREAM, RIVER, COUNTY DRAIN, ETC.) AND LAKE REGARDLESS OF THE APPLICATION OR LOCATION OF THE WATER COURSE OR LAKE RELATIVE TO THE PROJECT LIMITS.
- DENSE-GRADED AGGREGATE PRODUCED BY CRUSHING PORTLAND CEMENT CONCRETE MUST NOT CONTAIN MORE THAN 5.0% BUILDING RUBBLE OR HMA BY PARTICLE COUNT. THE DEPARTMENT DEFINES BUILDING RUBBLE AS BUILDING BRICK, WOOD, PLASTER, OR OTHER MATERIAL. PIECES OF STEEL REINFORCEMENT CAPABLE OF PASSING THROUGH THE MAXIMUM GRADING SIEVE SIZE WITHOUT AID ARE ALLOWED.
- DO NOT USE CLASS 21AA, 21A, OR 22A DENSE-GRADED AGGREGATE PRODUCED BY CRUSHING PORTLAND CEMENT CONCRETE TO CONSTRUCT AN AGGREGATE BASE OR AN AGGREGATE SEPARATION LAYER WHEN THE DENSE-GRADED LAYER DRAINS INTO AN UNDERDRAIN UNLESS AT LEAST ONE OF THE FOLLOWING CONDITIONS APPLY:
- A VERTICAL LAYER OF AT LEAST 12 INCHES OF GRANULAR CLASS I, II, IIA, OR IIAA
- EXISTS BETWEEN THE DENSE-GRADED AGGREGATE LAYER AND AN UNDERDRAIN; OR
- A GEOTEXTILE LINER OR BLOCKING MEMBRANE THAT WILL BE A BARRIER TO LEACHATE IS PLACED BETWEEN THE CRUSHED CONCRETE AND THE UNDERDRAIN. PRODUCE CLASS 23A DENSE-GRADED AGGREGATE FROM STEEL FURNACE SLAG FOR USE ONLY AS AN UNBOUND AGGREGATE SURFACE COURSE OR AN UNBOUND AGGREGATE SHOULDER.

8. SECTION 916.01: STONE USED FOR EROSION AND SEDIMENT CONTROL

PROVIDE COBBLESTONE, COARSE AGGREGATE 3×1, AND RIPRAP FOR EROSION AND SEDIMENTATION CONTROL ON SLOPES, IN DITCHES, AND TO CONSTRUCT EROSION CONTROL DEVICES, INCLUDING CHECK DAMS. FURNISH NATURAL STONE THAT IS SOUND, NON-STRATIFIED, DURABLE ROCK. UNLESS OTHERWISE SPECIFIED AND NOT PROHIBITED BY PERMIT, THE CONTRACTOR MAY USE SOUND PIECES OF BROKEN CONCRETE FREE OF PROTRUDING REINFORCEMENT. DO NOT USE CRUSHED HMA PAVEMENT OR BROKEN BRICK AS EROSION AND SEDIMENTATION CONTROL MATERIAL.

- COBBLESTONE. FURNISH COBBLESTONE THAT CONSISTS OF ROUNDED OR SEMI-ROUNDED ROCK FRAGMENTS WITH AN AVERAGE DIMENSION FROM 3 TO 10 INCHES.
- COARSE AGGREGATE 3X1. FURNISH COARSE AGGREGATE 3×1 THAT MEETS THE REQUIREMENTS OF COMMERCIALLY GRADED MATERIAL WITH PARTICLE SIZES FROM TO 3 INCHES.
- RIPRAP. FURNISH RIPRAP THAT IS NATURAL STONE, SOLID PRECAST CONCRETE BLOCKS OF GRADE 3000 CONCRETE, OR SOUND PIECES OF BROKEN CONCRETE. RIPRAP MUST NOT CONTAIN SOIL. RANDOMLY SCORE THE FACE OF THE PRECAST CONCRETE BLOCKS TO PROVIDE PLANE-OF-WEAKNESS JOINTS IN SECTIONS WITH AREAS FROM 4 TO 9 SQUARE FEET. LIFTING LUGS, CAST INTO CONCRETE BLOCKS, MUST NOT PROJECT ABOVE THE FINISHED CONCRETE SURFACE. THE DEPARTMENT CLASSIFIES RIPRAP AS PLAIN OR HEAVY, BASED ON THE HORIZONTAL CROSS SECTION DIMENSIONS ("FOOTPRINT" DIMENSIONS) AND THE IN-PLACE THICKNESS OF THE INDIVIDUAL PIECES.
- PLAIN RIPRAP. PROVIDE NATURAL STONE AND BROKEN CONCRETE WITH FOOTPRINT DIMENSIONS FROM 8 TO 16 INCHES AND AN IN-PLACE THICKNESS OF AT LEAST 16 INCHES. THE CONTRACTOR MAY USE SMALLER PIECES TO FILL SPACES FOR BETTER SLOPE PROTECTION. PROVIDE PRECAST CONCRETE BLOCK AT LEAST 6 INCHES THICK WITH A SURFACE AREA NO GREATER THAN 15 SQUARE FEET.
- HEAVY RIPRAP. THE SMALLEST FOOTPRINT DIMENSION FOR NATURAL STONE AND BROKEN CONCRETE MUST BE AT LEAST 16 INCHES. THE MAXIMUM-TO-MINIMUM DIMENSION RATIO MUST BE NO GREATER THAN 3:1. THE IN-PLACE THICKNESS MUST BE AT LEAST 36 INCHES. PROVIDE PRECAST CONCRETE BLOCK AT LEAST 16 INCHES THICK WITH A SURFACE AREA NO GREATER THAN 20 SQUARE FEET.

REQUIREMENTS FOR SPECIFIC EROSION AND SEDIMENT CONTROL APPLICATIONS

- AGGREGATE COVER - FURNISH DENSE-GRADED AGGREGATE 21AA, OPEN-GRADED AGGREGATE 46G, COARSE AGGREGATE 6A, OR COARSE AGGREGATE 3×1 PRODUCED NATURAL AGGREGATE, IRON BLAST-FURNACE SLAG, REVERBERATORY FURNACE SLAG, OR CRUSHED PORTLAND CEMENT CONCRETE.
- GRAVEL ACCESS APPROACH - FURNISH COARSE AGGREGATE 3×1, OR AS APPROVED BY THE ENGINEER, THAT IS PRODUCED FROM NATURAL AGGREGATE, IRON-BLAST FURNACE SLAG, REVERBERATORY FURNACE SLAG, OR CRUSHED PORTLAND CEMENT CONCRETE.

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

NOTES SHEET

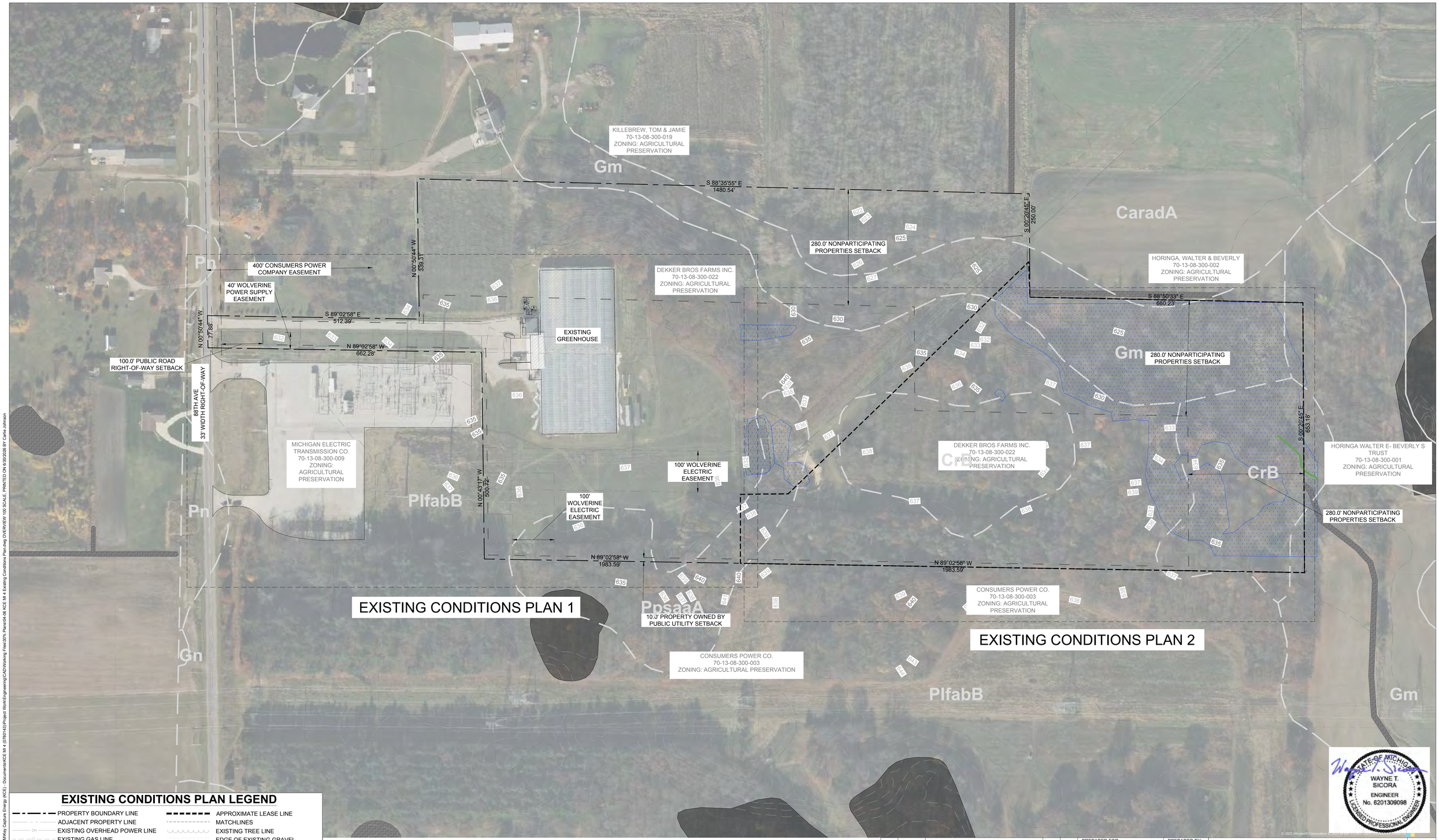
DISCIPLINE NO. C-03

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
N.T.S	LF	0780143	03
DATE DRAWN	DRAWN BY		
08/05/2025	LF		

Environmental Resources Management, Inc.



EXISTING CONDITIONS PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- EXISTING CONTOURS
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- NWI WATERBODY DATA
- NWI WETLAND DATA

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

30% CIVIL PLANS: NOT FOR CONSTRUCTION

NOTES:

1. NATIONAL WETLANDS INVENTORY (NWI) ENVIRONMENTAL DATA IS DISPLAYED OUTSIDE OF THE PROPERTY LINE FOR REFERENCE.
2. ALL ENVIRONMENTAL FEATURES WITHIN THE PROPERTY LINE WERE DELINEATED IN OCTOBER OF 2023.

SCALE 1"=100'
0 100 200 300 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

OVERALL EXISTING CONDITIONS PLAN

DISCIPLINE NO. C-04

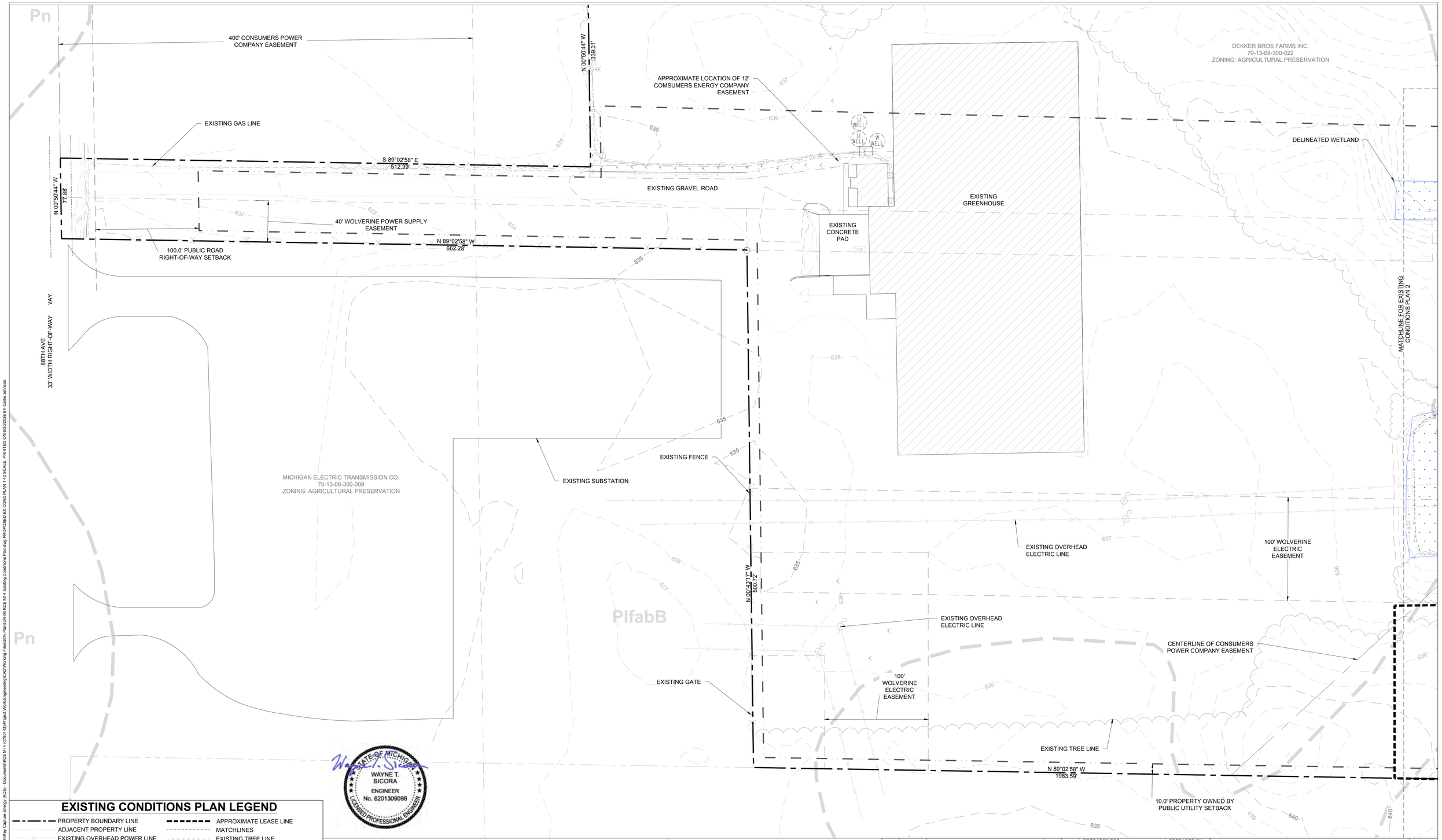
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 100'	CJ, LF	0780143	04
DATE DRAWN: 08/05/2025	DRAWN BY: LF		

Environmental Resources Management, Inc.

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER



EXISTING CONDITIONS PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- EXISTING CONTOURS
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- NWI WATERBODY DATA
- NWI WETLAND DATA

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

30% CIVIL PLANS: NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

N

SCALE 1"=40'
0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

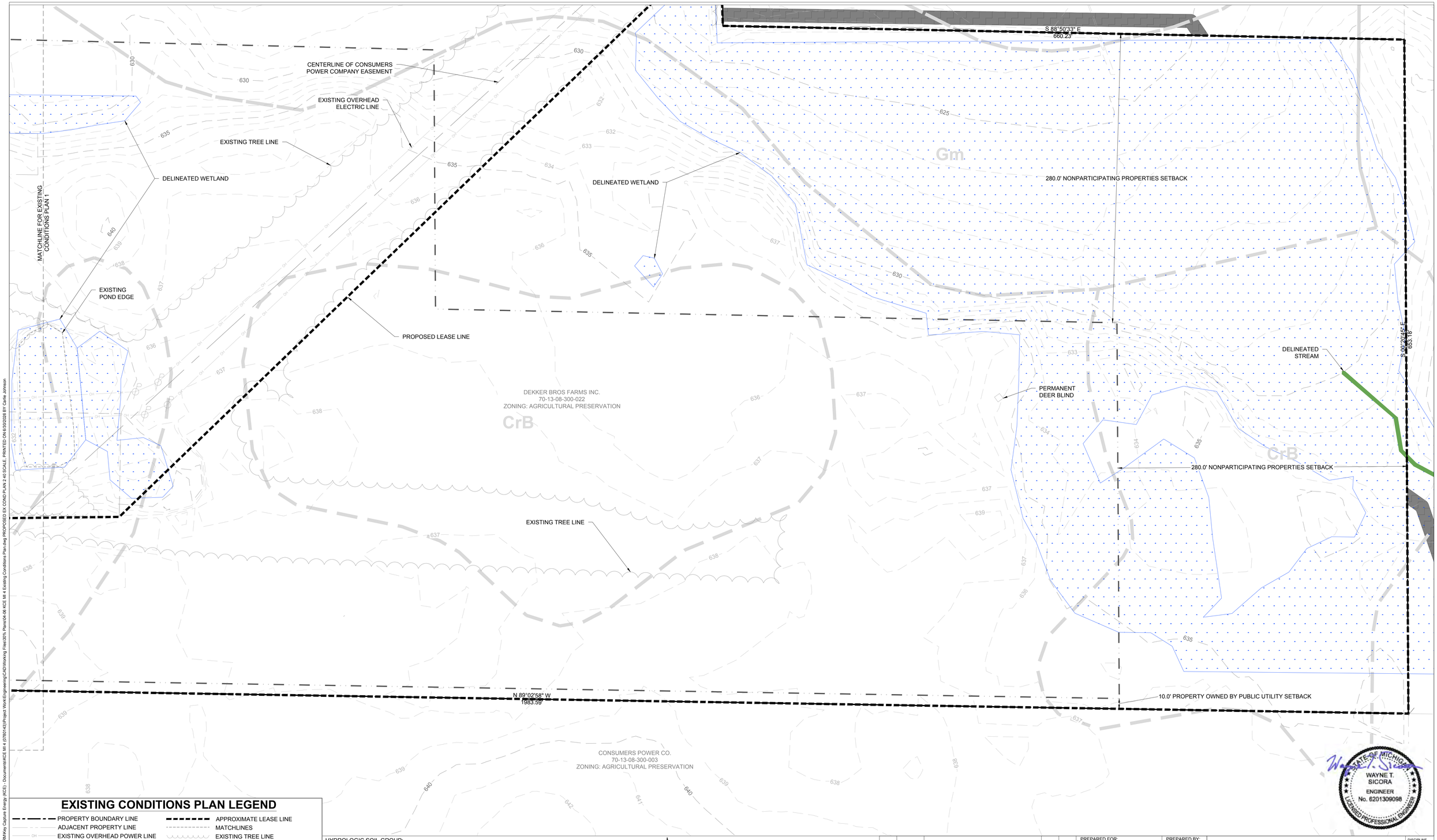
PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM
Environmental Resources Management, Inc.

EXISTING CONDITIONS PLAN 1

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

SCALE	DESIGNED BY	PROJECT NUMBER	DISCIPLINE NO.	REV.
1" = 40'	CJ, LF	0780143	C-05	A
DATE DRAWN	DRAWN BY		SHEET NO.	
08/05/2025	LF		05	



EXISTING CONDITIONS PLAN LEGEND

PROPERTY BOUNDARY LINE	APPROXIMATE LEASE LINE
ADJACENT PROPERTY LINE	MATCHLINES
OH EXISTING OVERHEAD POWER LINE	EXISTING TREE LINE
G EXISTING GAS LINE	EDGE OF EXISTING GRAVEL
YARD SETBACK	EXISTING BUILDING FOOTPRINT
EXISTING CONTOURS	TOP OF EXISTING POND
ROAD RIGHT OF WAY	DELINEATED WETLAND
EASEMENT LINE	DELINEATED STREAM
EDGE OF EXISTING ROAD	EXISTING GUY WIRE
EXISTING ROAD CENTERLINE	EXISTING POWER POLE
SOIL BOUNDARY LINE	CB EXISTING CATCH BASIN
E EXISTING ELECTRIC LINE	EXISTING WELL
FO EXISTING FIBER OPTIC LINE	NWI WATERBODY DATA
X EXISTING FENCE	NWI WETLAND DATA

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

30% CIVIL PLANS: NOT FOR CONSTRUCTION

N

SCALE 1"=40'

0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:

KEY CAPTURE ENERGY

KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210

TEL: 518-903-4187

PREPARED BY:

ERM

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

EXISTING CONDITIONS PLAN 2

DISCIPLINE NO. C-06

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ, LF	0780143	06
DATE DRAWN	DRAWN BY		
08/05/2025	LF		

Environmental Resources Management, Inc.

KILLEBREW, TOM & JAMIE
70-13-08-300-019
ZONING: AGRICULTURAL PRESERVATION

S 88°35'55" E
1480.54'

N 00°50'44" W
339.31'

400' CONSUMERS POWER COMPANY EASEMENT

40' WOLVERINE POWER SUPPLY EASEMENT

APPROXIMATE LOCATION OF PROPOSED PROJECT ADDRESS SIGNAGE

S 89°02'58" E
512.39'

N 00°50'44" W
77.38'

N 89°02'58" W
662.28'

100.0' PUBLIC ROAD RIGHT-OF-WAY SETBACK

88TH AVE
33' WIDTH RIGHT-OF-WAY

DEKKER BROS FARMS INC.
70-13-08-300-022
ZONING: AGRICULTURAL PRESERVATION

EXISTING GREENHOUSE

APPROXIMATE EXTENTS OF SUBSTATION EXPANSION, TO BE COORDINATED BY MEITC.

MICHIGAN ELECTRIC TRANSMISSION CO.
70-13-08-300-009
ZONING: AGRICULTURAL PRESERVATION

N 00°43'17" W
500.72'

PROPOSED 24' WIDE GRAVEL ACCESS ROAD

PROPOSED GEN-TIE ROUTE

100' WOLVERINE ELECTRIC EASEMENT

POI: VAN BUREN SUBSTATION OWNED AND OPERATED BY MICHIGAN ELECTRIC TRANSMISSION CO. 138KV

PROPOSED POWER POLE (TYP.)

N 89°02'58" W
1983.59'

100' WOLVERINE ELECTRIC EASEMENT

10.0' PROPERTY OWNED BY PUBLIC UTILITY SETBACK

PROPOSED SITE PLAN 1

HORINGA, WALTER & BEVERLY
70-13-08-300-002
ZONING: AGRICULTURAL PRESERVATION

S 00°20'45" E
250.00'

S 88°50'33" E
660.23'

PROPOSED LEASE LINE

303'

280.0' NONPARTICIPATING PROPERTIES SETBACK

PROPOSED AUGMENTATION AREA

PROPOSED INFILTRATION BASINS

S 00°20'45" E
653.18'

432'

HORINGA WALTER E- BEVERLY S TRUST
70-13-08-300-001
ZONING: AGRICULTURAL PRESERVATION

46' BETWEEN WETLAND AND PROPOSED PAD

280.0' NONPARTICIPATING PROPERTIES SETBACK

N 89°02'58" W
1983.59'

PROPOSED SUBSTATION AREA (TYP.)

31'

PROPOSED BATTERY ENERGY STORAGE SYSTEM (TYP.)

PROPOSED SITE PLAN 2

CONSUMERS POWER CO.
70-13-08-300-003
ZONING: AGRICULTURAL PRESERVATION

931

SITE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED INFILTRATION BASIN
- PROPOSED SIGNAGE

TECHNOLOGY LEGEND

ITEM	MODEL	SYMBOL	COUNT	EOL TOTAL
BATTERY CONTAINER	SolBank 3.0		110	132
BATTERY CONTAINER FOR AUGMENTATION	SolBank 3.0		22	
PCS	FP4200M		29	36
PCS FOR AUGMENTATION	FP4200M		7	
PCS UNIT CONTROLER	-		29	36
PCS UNIT CONTROLLER FOR AUGMENTATION	-		7	
AUX SKID	-		2	2

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

NOTE: PROPOSED POWER POLES AND PROPOSED OVERHEAD LINES TO BE COMPLIANT WITH 138KV STANDARDS FOR OVERHEAD TRANSMISSION LINES. ELECTRICAL ENGINEER TO PROVIDE DETAILED ELECTRICAL DESIGN OF OVERHEAD LINES AT A LATER DATE AND TO COORDINATE WITH CONTRACTOR AND POWER COMPANY.

SCALE 1"=100'
0 100 200 300 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

OVERALL PROPOSED SITE PLAN

DISCIPLINE NO. C-07

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 100'	CJ, LF	0780143	07
DATE DRAWN	DRAWN BY		
08/05/2025	LF		

Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\07-09 KCE MI 4 Site Plan.dwg OVERVIEW 100 SCALE: PRINTED ON 8/30/2026 BY Carlie Johnson

400' CONSUMERS POWER COMPANY EASEMENT

N 00°50'44" W 339.31'

APPROXIMATE LOCATION OF PROPOSED PROJECT ADDRESS SIGNAGE

APPROXIMATE LOCATION OF 12' COMSUMERS ENERGY COMPANY EASEMENT

DEKKER BROS FARMS INC.
70-13-08-300-022
ZONING: AGRICULTURAL PRESERVATION

EXISTING GREENHOUSE

DELINEATED WETLAND

S 89°02'58" E 512.39'

N 00°50'44" W 77.88'

40' WOLVERINE POWER SUPPLY EASEMENT

100.0' PUBLIC ROAD RIGHT-OF-WAY SETBACK

N 89°02'58" W 662.28'

MATCHLINE FOR SITE PLAN 2

88TH AVE
33' WIDTH RIGHT-OF-WAY

TIE PROPOSED ACCESS ROAD INTO EXISTING GRAVEL AREA

R112.0'

R88.0'

MICHIGAN ELECTRIC TRANSMISSION CO.
70-13-08-300-009
ZONING: AGRICULTURAL PRESERVATION

EXISTING FENCE

EXISTING SUBSTATION

PROPOSED 24' WIDE GRAVEL ACCESS ROAD

APPROXIMATE EXTENTS OF SUBSTATION EXPANSION, TO BE COORDINATED BY MEITC.

PROPOSED ACCESS ROAD TO BE SURFACED TO PROVIDE ALL WEATHER DRIVING CAPABILITIES

100' WOLVERINE ELECTRIC EASEMENT

R238.0'

PROPOSED GEN-TIE ROUTE. COORDINATION IS ONGOING WITH MEITC TO FINALIZE LOCATION.

N 00°43'17" W 600.72'

R262.0'

PROPOSED LEASE LINE

NO PARKING OR STANDING IN FIRE LANE/TURNAROUND AREA. ALL SIGNAGE SHALL MEET LOCAL REQUIREMENTS.

100' WOLVERINE ELECTRIC EASEMENT

POI: VAN BUREN SUBSTATION OWNED AND OPERATED BY MICHIGAN ELECTRIC TRANSMISSION CO. 138KV

EXISTING GATE

R188.0'

EXISTING TREE LINE

R212.0'

N 89°02'58" W 1983.59'

PROPOSED POWER POLE (TYP.)

10.0' PROPERTY OWNED BY PUBLIC UTILITY SETBACK

SITE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED INFILTRATION BASIN
- PROPOSED SIGNAGE

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

30% CIVIL PLANS: NOT FOR CONSTRUCTION

SCALE 1"=40'
0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED SITE PLAN 1

DISCIPLINE NO. C-08

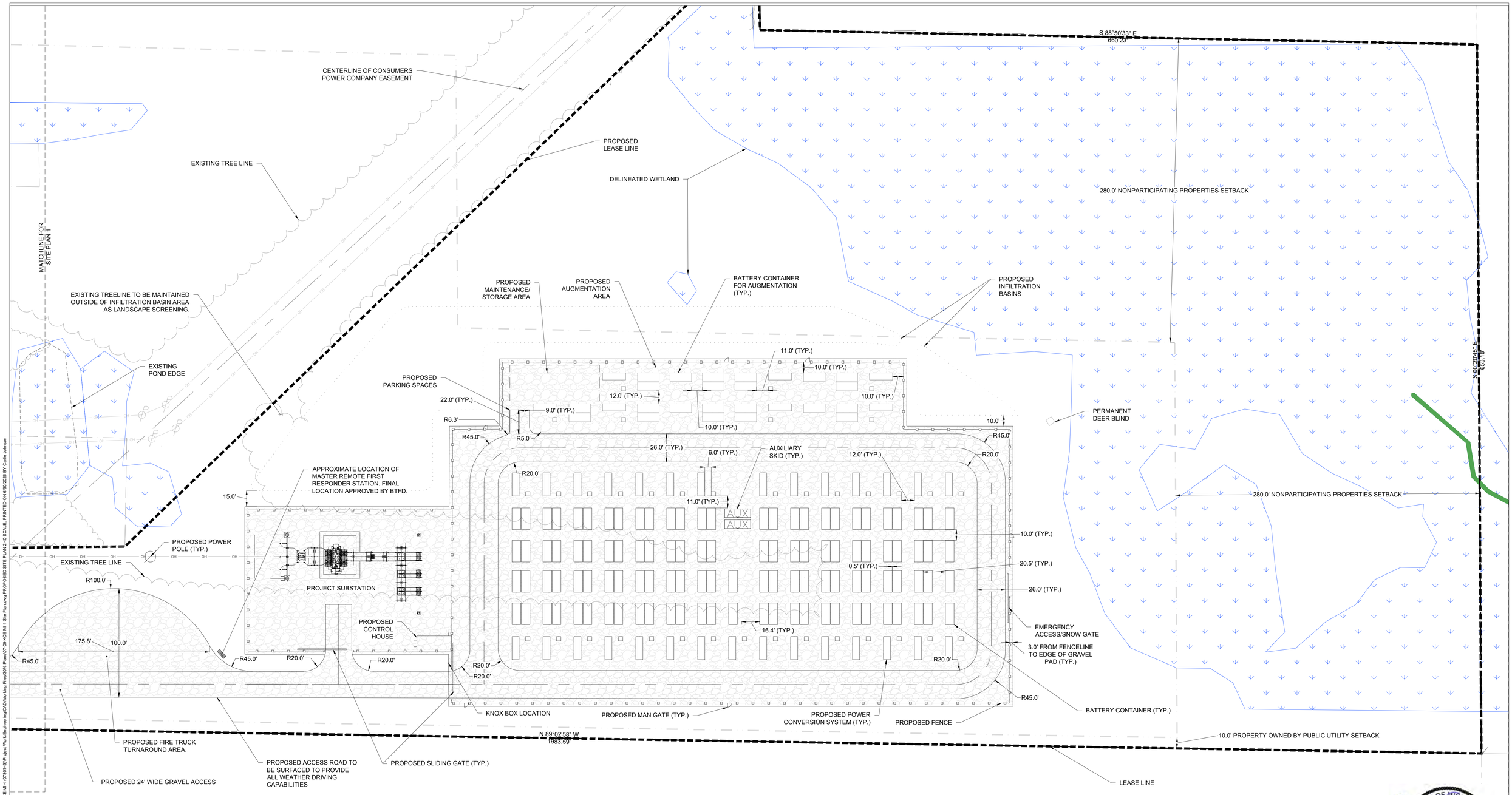
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ, LF	0780143	08
DATE DRAWN 08/05/2025	DRAWN BY LF		

Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\07-09 KCE MI 4 Site Plan.dwg PROPOSED SITE PLAN 1 =40 SCALE, PRINTED ON 6/30/2026 BY Carlie Johnson



SITE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED INFILTRATION BASIN
- PROPOSED SIGNAGE

30% CIVIL PLANS: NOT FOR CONSTRUCTION

N

SCALE 1"=40'

0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:

KEY CAPTURE ENERGY

KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210

TEL: 518-903-4187

PREPARED BY:

ERM

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

PROPOSED SITE PLAN 2

DISCIPLINE NO. C-09

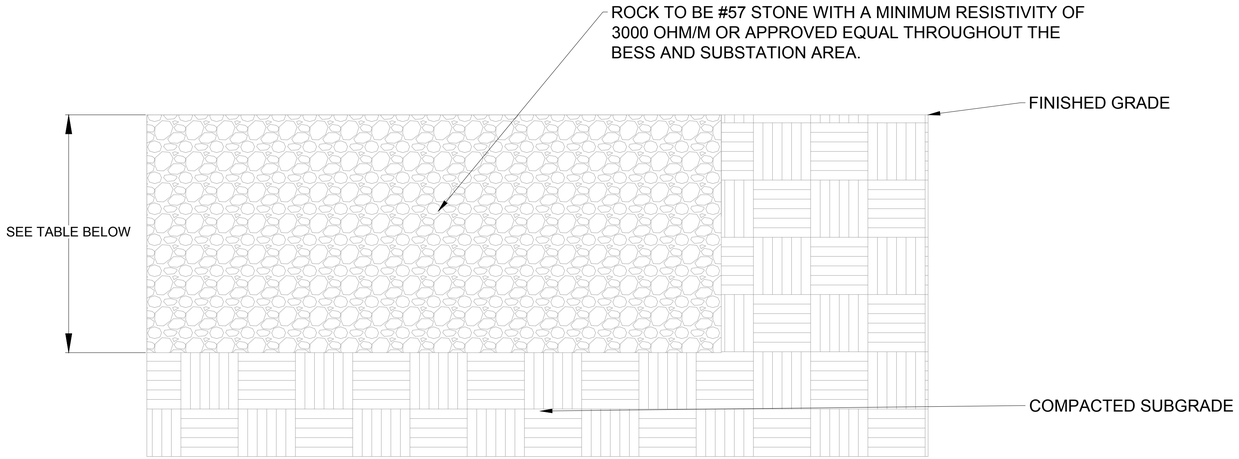
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ, LF	0780143	09
DATE DRAWN 08/05/2025	DRAWN BY LF		

Environmental Resources Management, Inc.

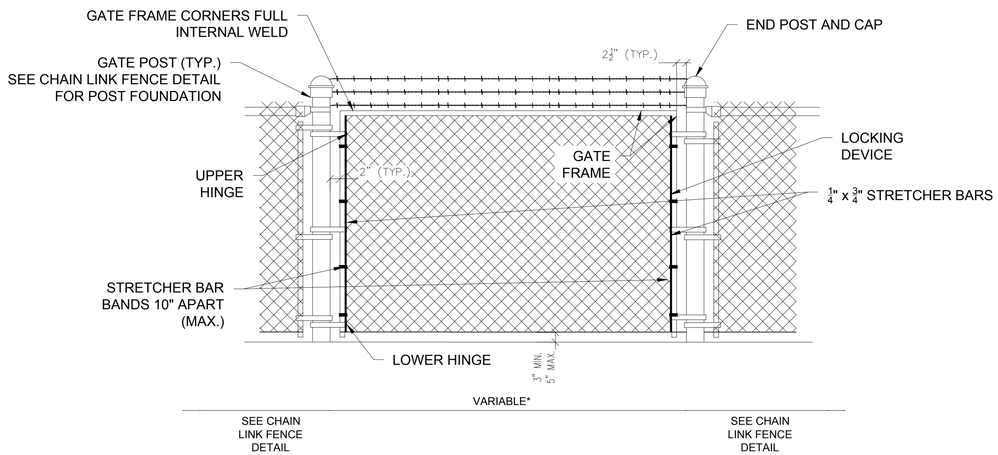
FILE PATH: C:\Users\carla.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\07.09 KCE MI 4 Site Plan.dwg PROPOSED SITE PLAN 2 AT SCALE. PRINTED ON 8/30/2026 BY Carla Johnson



GRAVEL ACCESS ROAD AND PADS
(NTS)

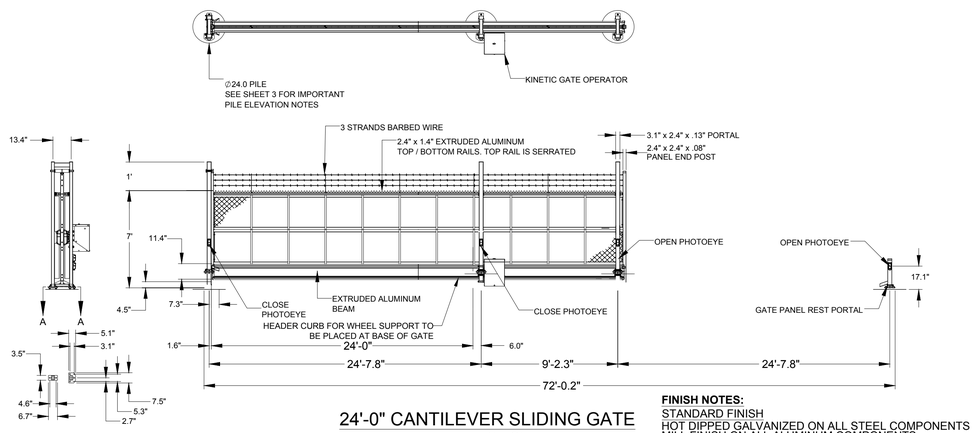
TYPICAL UNPAVED ROAD SECTION			
BASE COURSE THICKENESS	SUBBASE TYPE	GEOGRID STABILIZATION	AREA
7 INCHES	NATIVE SOIL	NO[3]	BESS/ SUBSTATION AREA

NOTES:
1. GRAVEL SECTION APPLICABLE FOR BOTH ACCESS ROADS AND PROPOSED PADS.
2. BASE MATERIALS SHOULD MEET MDOT 21AA STONE OR OTHER ALTERNATE GRADATION AS APPROVED BY THE GEOTECHNICAL ENGINEER.
3. PER RECOMMENDATION FROM GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED JULY 17, 2024.



MAN GATE FOR CHAIN LINK FENCE

- PEDESTRIAN GATE SHALL BE 4'-0" WIDE.



24'-0" CANTILEVER SLIDING GATE
(NTS)

FINISH NOTES:
STANDARD FINISH
HOT DIPPED GALVANIZED ON ALL STEEL COMPONENTS
MILL FINISH ON ALL ALUMINUM COMPONENTS
OPTIONAL FINISH
POWDER COAT PAINT, RAL# TO BE SPECIFIED

KCE MI 4

8284 88TH AVENUE
ZEELAND, MI 49464

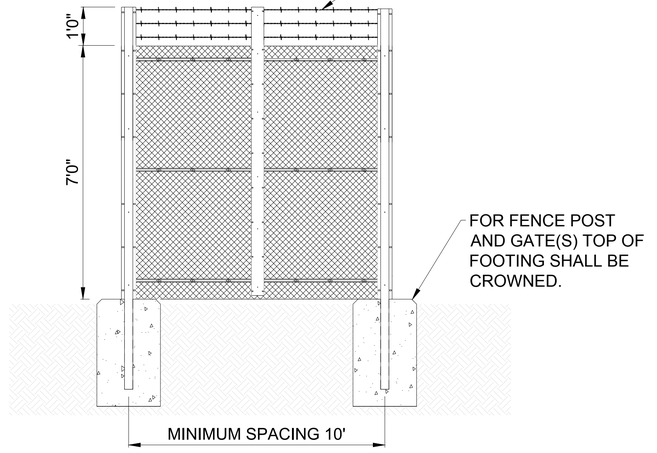
TYPICAL ADDRESS SIGN

NO PARKING OR STANDING IN FIRE LANE TURNAROUND AREA

TYPICAL FIRE LANE SIGN

NOTES:
1. ALL SIGNS TO BE 18" X 24" IN SIZE.
2. SIGNS SHALL BE UV RESISTANT AND IN COLOR. SIGN MATERIAL SHALL BE HDPE OR LIGHT GAGE GALVANIZED STEEL.
3. SIGNS TO BE ATTACHED TO FENCING WITH PERMANENT FASTENERS.
4. ALL SIGNAGE TO BE COMPLIANT WITH LOCAL ORDINANCE REQUIREMENTS

PERMANENT SIGNAGE
(NTS)



8 FT HIGH CHAIN LINK PRIVACY FENCE DETAIL
(NTS)

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

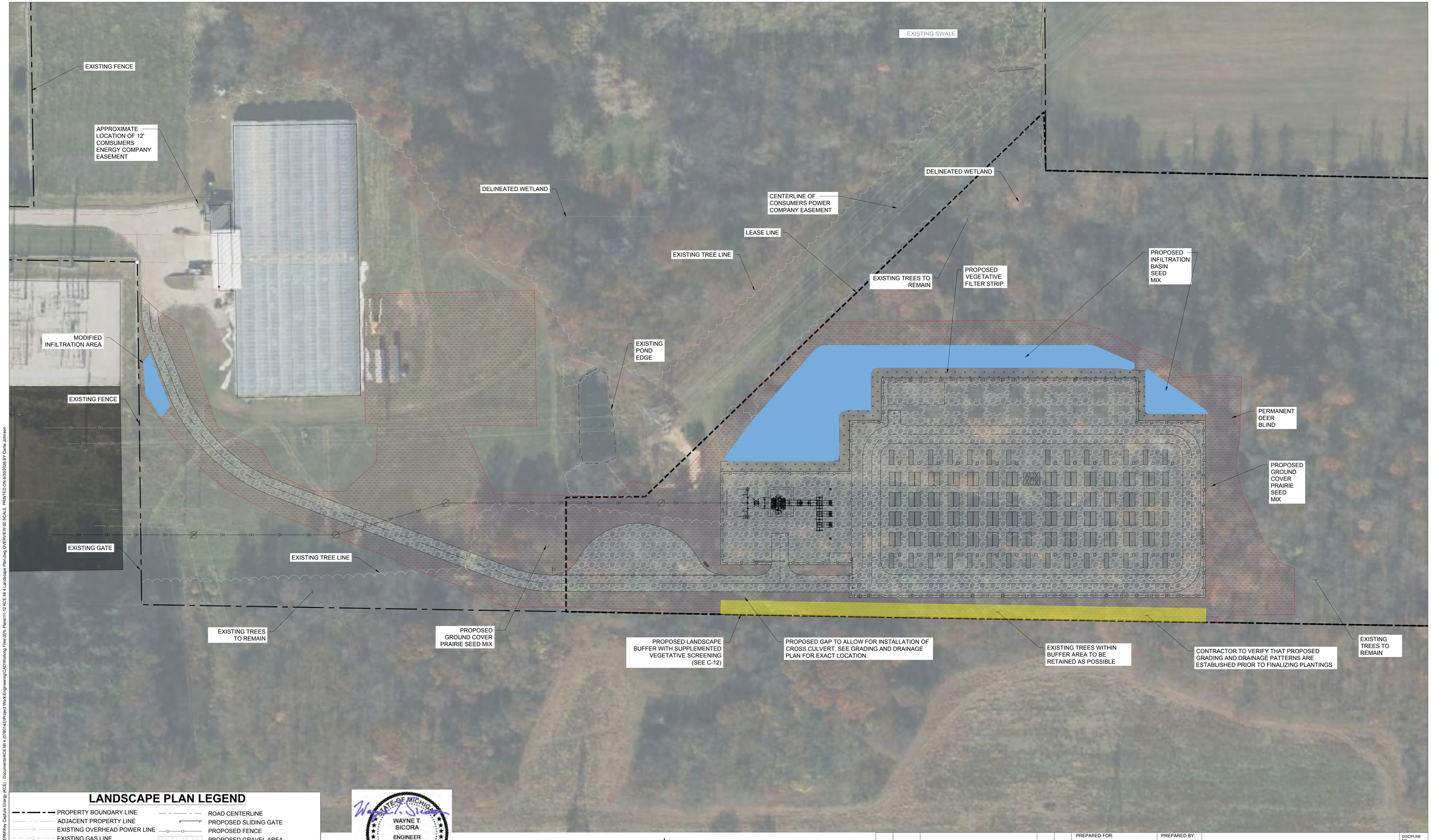
Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

CONSTRUCTION DETAILS
DISCIPLINE NO. C-10
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN
REV. A
SCALE: NTS | DESIGNED BY: JB | PROJECT NUMBER: 0780143 | SHEET NO. 10
DATE DRAWN: 08/05/2025 | DRAWN BY: JB
Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\10 Construction Details.dwg CONSTRUCTION DETAILS 1, PRINTED ON 8/20/2026 BY Carlie Johnson



LANDSCAPE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- EASEMENT LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING POWER POLE
- EXISTING BUILDING FOOTPRINT
- DELINEATED WETLAND
- ROAD CENTERLINE
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED POWER POLE
- GROUND COVER PRAIRIE SEED MIX
- INFILTRATION BASIN SEED MIX

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

30% CIVIL PLANS: NOT FOR CONSTRUCTION

N

SCALE 1"=60'
0 60 120 180 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	NQ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED LANDSCAPE PLAN

DISCIPLINE NO. C-11

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 60'	NQ	0780143	11
DATE DRAWN 08/05/2025	DRAWN BY LF		

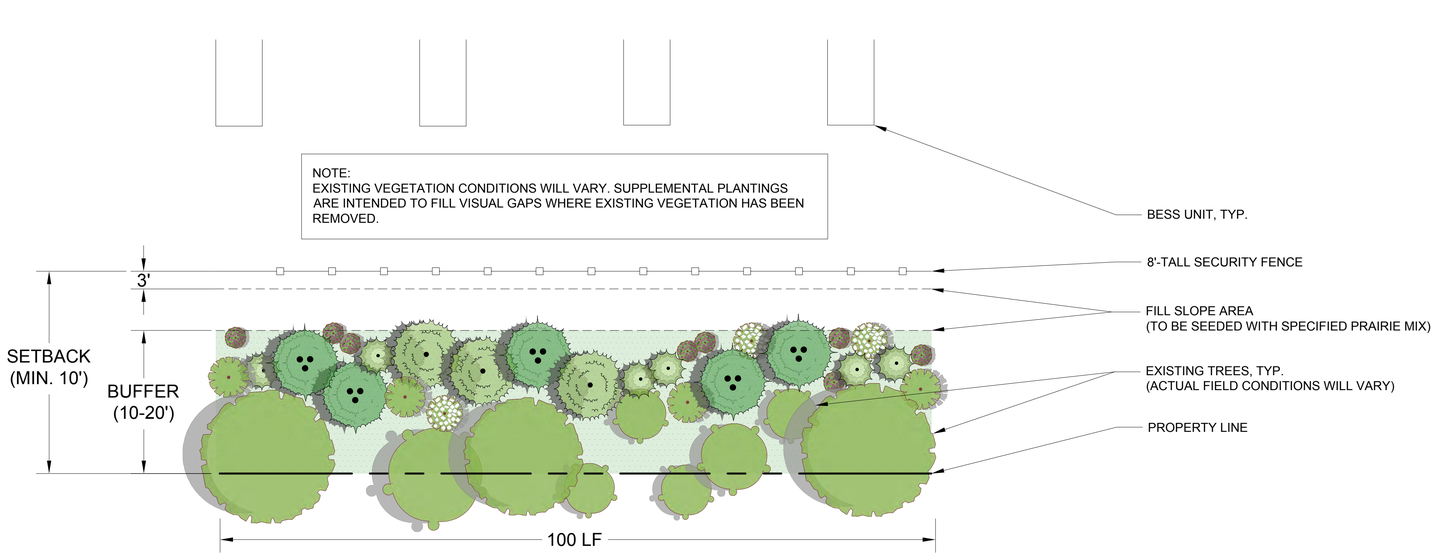
Environmental Resources Management, Inc.

GENERAL LANDSCAPE NOTES:

- ALL EXISTING VEGETATION OUTSIDE THE LIMIT OF DISTURBANCE SHALL BE PROTECTED AND RETAINED.
- TREES TO REMAIN SHALL BE PROTECTED WITH FENCING INSTALLED AT OR BEYOND THE CRITICAL ROOT ZONE (MINIMUM DRIPLINE) PER ANSI A300 (PART 5), MAINTAINED FOR THE DURATION OF CONSTRUCTION.
- SEEDING SHALL OCCUR DURING THE PRIMARY FALL WINDOW (SEPTEMBER 1–NOVEMBER 15), OR AS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT/ENGINEER, WHEN SOIL MOISTURE IS SUITABLE FOR GERMINATION AND EQUIPMENT ACCESS.
- NATIVE GRASSES, RUSHES, AND SEDGES IN THE SEED MIXES MAY BE SUBSTITUTED WITH FUNCTIONALLY EQUIVALENT SPECIES NATIVE TO MICHIGAN'S SOUTHERN PENINSULA, SUBJECT TO LANDSCAPE ARCHITECT OR GOVERNING AGENCY APPROVAL. FORB SUBSTITUTIONS ARE LIMITED TO THE APPROVED LIST IN THESE PLANS.
- SESC MEASURES SHALL BE PROVIDED AND MAINTAINED PER EGLE REQUIREMENTS TO SUPPORT SEED ESTABLISHMENT.
- BASINS SHALL BE SEEDED AT LEAST ONE FULL GROWING SEASON PRIOR TO ACTIVE USE.
- SEEDING SHALL BE CHECKED AND SPOT-SUPPLEMENTED BY THE CONTRACTOR AS NEEDED.
- WHERE FEASIBLE, ALL TREES ≥4" DBH SHALL BE RETAINED OUTSIDE THE PROJECT FOOTPRINT BUT WITHIN THE LIMIT OF DISTURBANCE.
- SCREENING TREES/SHRUBS SHALL BE PLANTED IN RANDOM, NATURALISTIC GROUPINGS WITHIN THE THE BUFFER AREA, CONCENTRATED ALONG THE PROJECT-FACING EDGE PER THE SETBACK DIMENSIONS SHOWN BELOW, TO ACHIEVE FULL VERTICAL/HORIZONTAL SCREENING CONSISTENT WITH THE BLENDON TOWNSHIP ORDINANCE, WHILE BLENDING WITH EXISTING VEGETATION AND MINIMIZING DISTURBANCE TO PROTECTED TREES AND SHRUBS. SEE PLANTING EXAMPLE BELOW.
- NO MORE THAN THREE INDIVIDUALS OF THE SAME SPECIES SHALL BE PLACED ADJACENT TO ONE ANOTHER.
- TO PROTECT RETAINED VEGETATIONI, AVOID PLANTING WITHIN PROTECTED DRIP LINE AND/OR ROOT ZONE.
- SUPPLEMENTAL WATERING (E.G., TRUCK IRRIGATION) SHALL BE PROVIDED BY THE CONTRACTOR DURING THE FIRST TWO GROWING SEASONS AS NECESSARY FOR SUCCESSFUL ESTABLISHMENT OF SCREENING PLANT MATERIAL.
- PRIOR TO INSTALLATION, AN ISA-CERTIFIED ARBORIST OR LICENSED LANDSCAPE ARCHITECT SHALL REVIEW AND CONFIRM SPACING, LAYOUT, AND SPECIES PLACEMENT OF SCREENING PLANTINGS.

PLANT SCHEDULE

SYMBOL	COMMON NAME/ BOTANICAL NAME	EVER-GREEN	SIZE	CONTAINER	AVG HEIGHT (FT)	AVG WIDTH (FT)
TREES						
	EASTERN ARBORVITAE / *THUJA OCCIDENTALIST*	Y	10 GAL	POT	30 - 50	10 - 15
	EASTERN RED CEDAR / *JUNIPERUS VIRGINIANA*	Y	10 GAL	POT	30 - 50	10 - 18
SHRUBS						
	NEW JERSEY TEA / *CEANOTHUS AMERICANUS*	SEMI	5 GAL	POT	1 - 3	2 - 3
	CANADA YEW / *TAXUS CANADENSIS*	Y	5 GAL	POT	3 - 6	4 - 8
	BLACK CHOKEBERRY / *ARONIA MELANOCARPA*	SEMI	5 GAL	POT	3 - 6	3 - 6
	NINEBARK / *PHYSOCARPUS OPULIFOLIUS*	SEMI	5 GAL	POT	6 - 8	6 - 8



SUPPLEMENTED VEGETATIVE SCREEN DETAIL

NOT TO SCALE

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	NQ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

LANDSCAPE PLAN DETAILS
DISCIPLINE NO. C-12
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN
REV. A
SCALE NTS | DESIGNED BY NQ | PROJECT NUMBER 0780143 | SHEET NO. 12A
DATE DRAWN 08/05/2025 | DRAWN BY LF
Environmental Resources Management, Inc.

Native Connections

3815 N Westnedge Ave, Kalamazoo, MI 49004
269.459.6900
info@nativeconnections.net
www.nativeconnections.net

Diverse Wet-Mesic Prairie Mix

This mix is patterned after natural prairie communities with mesic to wet soils and full sun with species that can tolerate seasonal saturation and dry periods. Not intended for long-term flooding or fully saturated areas, this mix will also do well planted just upslope from wetlands.

- Total Seeding Rate: 36.66 lbs per acre • 3.8 lbs grasses • 2.8 lbs forbs • 30 lbs nurse crop 122.81 native seeds per sq ft

Grasses, Sedges & Rushes		PLS Oz/acre	Seeds/sq ft
Andropogon gerardii	Big Bluestem	4.00	0.92
Calamagrostis canadensis	Bluejoint Grass	0.40	2.57
Carex bebbii	Bebb's Oval Sedge	1.20	0.94
Carex granularis	Meadow Sedge	1.20	0.44
Carex hystericina	Porcupine Sedge	3.20	2.20
Carex vulpinoidea	Fox Sedge	2.40	5.51
Elymus virginicus	Virginia Wild Rye	36.00	3.47
Juncus effusus	Soft Rush	0.40	9.18
Leersia oryzoides	Rice Cut Grass	0.40	0.31
Panicum virgatum	Switchgrass	2.40	0.77
Poa palustris	Fowl Bluegrass	1.20	3.58
Scirpus atrovirens	Dark Green Bulrush	0.80	8.45
Scirpus cyperinus	Wool Grass	0.20	7.81
Sorghastrum nutans	Indian Grass	4.00	1.10
Spartina pectinata	Prairie Cordgrass	3.00	0.45
	Total Grasses	60.80	47.70

Forbs		PLS Oz/acre	Seeds/sq ft
Allium cernuum	Nodding Wild Onion	0.20	0.03
Angelica atropurpurea	Angelica	4.00	0.50
Ascelpieas incarnata	Swamp Milkweed	2.40	0.26
Coreopsis tripteris	Tall Coreopsis	0.40	0.13
Desmodium canadense	Showy Tick Trefoil	0.80	0.10
Eupatorium perfoliatum	Boneset	0.80	2.94
Eutrochium purpureum	Sweet Joe Pye Weed	0.40	0.39
Helenium autumnale	Sneezeweed	1.60	4.78
Heliopsis helianthoides	False Sunflower	4.00	0.58
Heracleum maximum (H. lanatum)	Cow Parsnip	1.60	0.10
Hypericum ascryon	Great St John's Wort	4.00	5.23
Iris virginica	Southern Blue Flag Iris	1.60	0.05
Liatris spicata	Marsh Blazingstar	1.20	0.30
Lobelia siphilitica	Great Blue Lobelia	0.40	4.59
Ludwigia alternifolia	Seedbox	0.80	5.17
Mimulus ringens	Monkey Flower	0.40	21.12
Mondarda fistulosa	Wild Bergamot	1.60	2.57
Penstemon digitalis	Foxglove Beardtongue	1.20	3.58
Physostegia virginiana	Obedient Plant	0.40	0.10
Pycnanthemum virginianum	Mountain Mint	0.40	2.02
Ratibida pinnata	Yellow Coneflower	1.20	0.83
Rudbeckia hirta	Back-eyed Susan	3.60	7.60
Rudbeckia triloba	Brown-eyed Susan	2.00	1.56
Scrophularia lenceolata	Early Figwort	0.40	1.70
Senna hebecarpa	Wild Senna	2.80	0.09
Siphium terebinthinaceum	Prairie Dock	0.40	0.01
Solidago riddellii	Riddell's Goldenrod	0.80	1.71
Symphyotrichum novae-angliae	New England Aster	0.40	0.61
Symphyotrichum puniceum	Swamp Aster	0.40	0.73
Verbena hastata	Blue Vervain	1.60	3.42
Verbesina alternifolia	Wingstem	0.40	0.08
Vernonia gigantea (V. altissima)	Tall Ironweed	2.40	1.32
Zizia aurea	Golden Alexander	3.60	0.91
	Total Forbs	45.8	75.11

Temporary Grass Cover		Oz/acre	Seeds/sq ft
Avena sativa	Seed Oats	480.00	11.02
	Total Temp Grasses	480.00	11.02

Stormwater Mix

This mix is designed to withstand the low water quality and highly variable condtions associated with stormwater features. Most of the species are salt tolerant and most species will do well in mesic to wet hydrology with others filling in the wettest and driest ends of the spectrum. The high native seed count and heavy annual nurse crop in this mix ensure full and aggressive establishment.

- Total Seeding Rate: 35.98 lbs per acre • 3.13 lbs grasses • 2.85 lbs forbs • 30 lbs nurse crop 113.11 native seeds per sq ft

Grasses, Sedges, and Rushes		PLS Oz/acre	Seeds/sq ft
Andropogon gerardii	Big Bluestem	3.00	0.69
Carex vulpinoidea	Fox Sedge	2.00	4.59
Eleocharis palustris	Great Spike Rush	0.40	0.47
Elymus canadensis	Canada Wild Rye	12.00	1.430
Elymus virginicus	Virginia Wild Rye	12.00	1.16
Glyceria striata	Fowl Manna Grass Soft	1.20	4.410
Juncus effusus	Soft Rush	0.40	9.18
Juncus tenuis	Path Rush	0.40	9.18
Panicum virgatum	Switchgrass	4.00	1.29
Schizachyrium scoparium	Little Bluestem Wool Grass	8.00	2.750
Scirpus cyperinus	Soft-stem Bulrush Indian	0.40	15.610
Scirpus validus (S. tabernaemontanii)	Grass Prairie Cordgrass	1.00	0.85
Sorghastrum nutans	Indian Grass	4.00	0.83
Spartina pectinata	Prairie Cordgrass	2.00	0.300
	Total Grasses	50.80	52.74

Forbs		PLS Oz/acre	Seeds/sq ft
Allium cernuum	Nodding Wild Onion	2.00	0.35
Asclepias incarnata	Swamp Milkweed	2.40	0.26
Asclepias tuberosa	Butterfly Milkweed	2.40	0.24
Bidens cernua	Nodding Bur Marigold	0.80	0.39
Doellingeria umbellata	Flat-topped Aster	0.40	0.62
Echinacea purpurea	Purple Coneflower	8.00	1.21
Eutrochrium purpureum	Sweet Joe Pye Weed	1.20	1.16
Helenium autumnale	Sneezeweed	0.80	2.39
Heliopsis helianthoides	False sunflower	4.00	0.58
Lobelia siphilitica	Great Blue Lobelia	0.40	4.59
Mimulus ringens	Monkey Flower	0.40	21.12
Monarda fistulosa	Wild Bergamot	0.80	1.29
Penstemon digitalis	Foxglove Beardtongue	1.20	3.58
Physostegia virginiana	Obedient Plant	0.40	0.10
Polygonum pensylvanicum	Pennsylvania Smartweed	4.00	1.19
Pycnanthemum virginianum	Mountain mint	0.40	2.02
Ratibida pinnata	Yellow Coneflower	1.60	1.10
Rudbeckia hirta	Black-eyed Susan	6.00	12.67
Senna hebecarpa	Wild Senna	4.00	0.13
Solidago riddellii	Riddell's Goldenrod	0.40	0.85
Symphyotrichum novae-angliae	New England Aster	0.40	0.61
Verbena hastata	Blue Vervain	1.60	3.42
Zizia aurea	Golden Alexander	2.00	0.51
	Total Forbs	45.60	60.38

Temporary Grass Cover		Oz/acre	Seeds/sq ft
Lolium multiflorum	Annual Ryegrass	112.00	34.71
Avena sativa	Seed Oats	368.00	8.45
	Total Temp Grasses	480.00	43.16

Basic Mesic Tallgrass Prairie Mix

This is the base version of our Mesic Tallgrass Prairie Mix. The lower diversity and seed density provide more than adequate coverage to establish a simple tallgrass prairie in dry to mesic soils.

- Total Seeding Rate: 31.28 lbs per acre • 3.88 lbs grasses • 2.41 lbs forbs • 25 lbs nurse crop 39.42 native seeds per sq ft • up to 8 ft

Grasses		PLS Oz/acre	Seeds/sq ft
Andropogon gerardii	Big Bluestem	10.00	2.30
Elymus canadensis	Canada Wild Rye	16.00	1.91
Panicum virgatum	Switchgrass	8.00	2.57
Schizachyrium scoparium	Little Bluestem	20.00	6.89
Sorghastrum nutans	Indian Grass	8.00	2.20
	Total Grasses	62.00	15.87

Basic Mesic Tallgrass Prairie Mix, cont.

Forbs		PLS Oz/acre	Seeds/sq ft
Asclepias syriaca	Common Milkweed	2.00	0.18
Asclepias tuberosa	Butterfly Milkweed	2.00	0.20
Baptisia lactea (B. leucantha)	White Wild Indigo	1.00	0.04
Chamaecrista fasciculata	Partridge Pea	8.00	0.50
Echinacea purpurea	Purple Coneflower	6.00	0.91
Heliopsis helianthoides	False sunflower	4.00	0.58
Liatris spicata	Marsh Blazingstar	1.50	0.38
Monarda fistulosa	Wild Bergamot	2.00	3.21
Penstemon digitalis	Foxglove Beardtongue	1.50	4.48
Ratibida pinnata	Yellow Coneflower	2.50	1.72
Rudbeckia hirta	Black-eyed Susan	4.00	8.45
Silphium integrifolium	Rosinweed	0.25	0.01
Solidago rigida	Stiff Goldenrod	1.00	0.94
Symphyotrichum novae-angliae	New England Aster	1.00	1.52
Zizia aurea	Golden Alexander	1.75	0.44
	Total Forbs	38.50	23.56

Temporary Grass Cover		Oz/acre	Seeds/sq ft
Lolium multiflorum	Annual Ryegrass	80.00	24.79
Avena sativa	Seed Oats	320.00	7.35
	Total Temp Grasses	400.00	32.14

Acceptable Forb substitutions:
hog peanut (*Amphicarpaea bracteata*), thimbleweed (*Anemone cylindrica*), purple milkweed (*Asclepias purpurascens*, state threatened), false boneset (*Brickellia eupatorioides*, state special concern), prairie coreopsis (*Coreopsis palmata*, state threatened), showy tick-trefoil (*Desmodium canadense*), upland boneset (*Eupatorium sessilifolium*, state threatened), daisy fleabane (*Erigeron strigosus*), flowering spurge (*Euphorbia corollata*), white gentian (*Gentiana alba*, state endangered), veiny pea (*Lathyrus venosus*), bush clovers (*Lespedeza capitata and L. hirta)*, Virginia mountain mint (*Pycnanthemum virginianum*), starry campion (*Silene stellata*, state threatened), early goldenrod (*Solidago juncea*), smooth aster (*Symphyotrichum laeve*), frost aster (*S. pilosum*), yellow pimpernel (*Taenidia integerrima*), feverwort (*Triosteum perfoliatum*), Culver's root (*Veronicastrum virginicum*)

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	NQ	WS

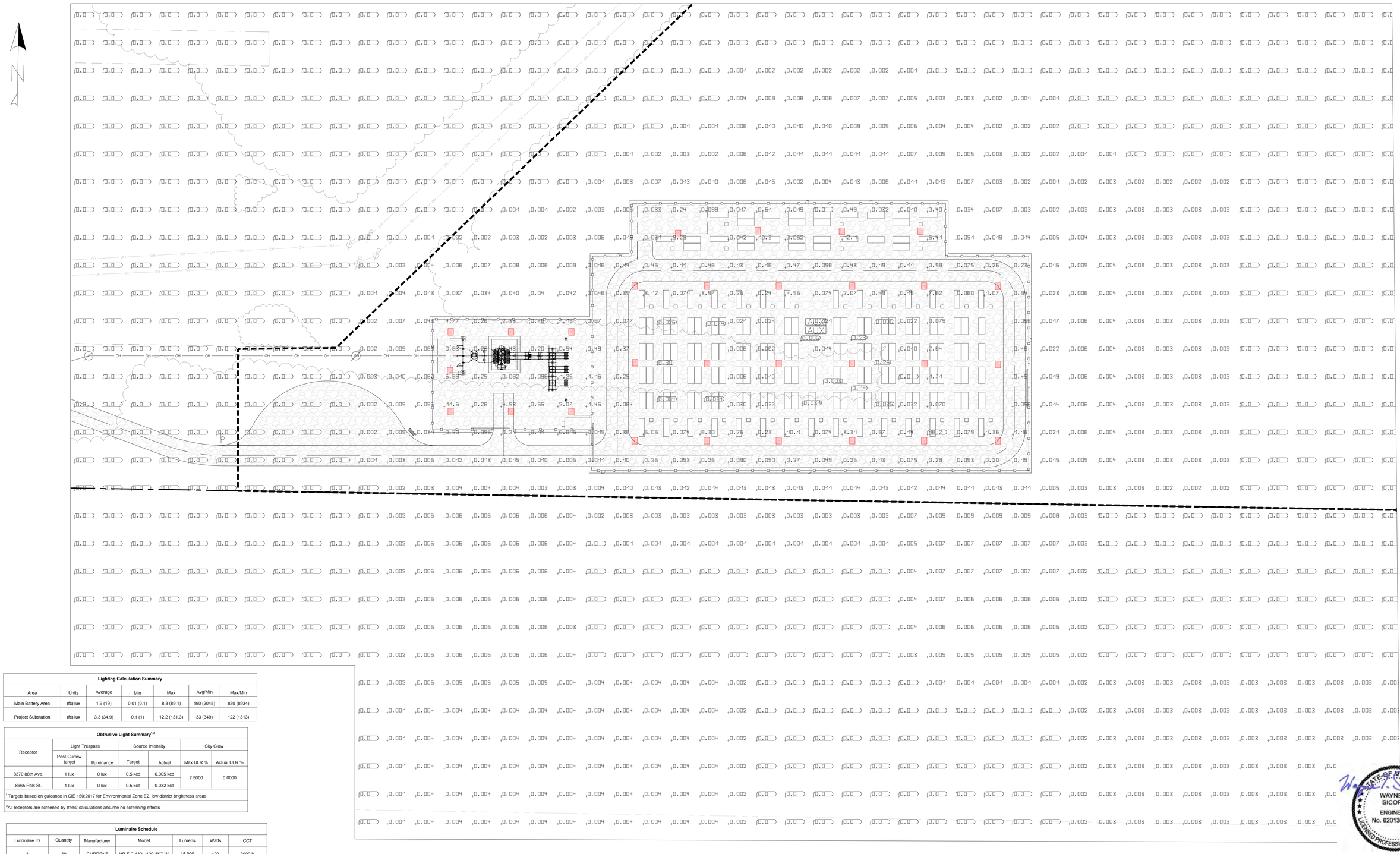
PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM
Environmental Resources Management, Inc.

LANDSCAPE PLAN DETAILS — DISCIPLINE NO. C-12

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN — REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
NTS	NQ	0780143	12B
DATE DRAWN: 08/05/2025	DRAWN BY: LF		



Lighting Calculation Summary

Area	Units	Average	Min	Max	Avg/Min	Max/Min
Main Battery Area	(fc) lux	1.9 (19)	0.01 (0.1)	8.3 (89.1)	190 (2045)	830 (8934)
Project Substation	(fc) lux	3.3 (34.9)	0.1 (1)	12.2 (131.3)	33 (349)	122 (1313)

Obtrusive Light Summary[1,2]

Receptor	Light Trespass		Source Intensity		Sky Glow	
	Post-Curfew target	Illuminance	Target	Actual	Max ULR %	Actual ULR %
8370 88th Ave.	1 lux	0 lux	0.5 kcd	0.005 kcd	2.5000	0.0000
8665 Polk St.	1 lux	0 lux	0.5 kcd	0.032 kcd		

[1] Targets based on guidance in CIE 150:2017 for Environmental Zone E2, low district brightness areas

[2]All receptors are screened by trees; calculations assume no screening effects

Luminaire Schedule

Luminaire ID	Quantity	Manufacturer	Model	Lumens	Watts	CCT
1	30	CURRENT	VP-F-2-132L-120-3K7-W	15,000	120	3000 K

Blendon Township Zoning Ordinance 15.01.08, (Exterior Lighting) Compliance Summary

Ordinance		Lighting Plan Compliance
15.01.08(a)	Exterior lighting shall be fully shielded and directed downward to prevent off-site glare.	All light fixtures are fully shielded and directed downwards.
	The intensity of light within a site shall not exceed ten (10) foot candles within any site.	Maximum intensity of light on site is 9.4 foot candles (see calculation summary table).
	The intensity of light within a site shall not exceed one (1) foot candle at the property boundary.	Maximum intensity of light at the property boundary is less than 0.3 foot candles.
15.01.08(c)	Metal halide fixtures shall be used.	Per guidance from the Township, modern LED fixtures have been substituted for the metal halide fixtures required by the Ordinance.

LIGHTING PLAN LEGEND

- SITE BOUNDARY LINE
- LEASE LINE
- BATTERY CONTAINER
- 2.2 LUMINOUS FLUX CALCULATION RESULTS (FOOT-CANDLES)
- LUMINAIRE ID 1

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

SCALE 1"=50'
0 50 100 150 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED LIGHTING PLAN

DISCIPLINE NO. C-13

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 50'	LP	0780143	13
DATE DRAWN 01/16/2026	DRAWN BY JB		

Environmental Resources Management, Inc.

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

KILLEBREW, TOM & JAMIE
70-13-08-300-019

S 88°35'55" E
1480.54'

400' CONSUMERS POWER COMPANY EASEMENT

40' WOLVERINE POWER SUPPLY EASEMENT

N 00°50'44" W
339.31'

S 89°02'58" E
512.39'

N 00°50'44" W
7.78'

N 89°02'58" W
662.28'

100.0' PUBLIC ROAD RIGHT-OF-WAY SETBACK

88TH AVE
33' WIDTH RIGHT-OF-WAY

EXISTING GREENHOUSE

DEKKER BROS FARMS INC.
70-13-08-300-022

100' WOLVERINE ELECTRIC EASEMENT

MICHIGAN ELECTRIC TRANSMISSION CO.
70-13-08-300-009

N 00°43'17" W
650.72'

N 89°02'58" W
1983.59'

100' WOLVERINE ELECTRIC EASEMENT

CONSUMERS POWER CO.
70-13-08-300-003

HORINGA, WALTER & BEVERLY
70-13-08-300-002

S 00°20'45" E
250.00'

S 88°50'33" E
660.23'

5.0' BETWEEN WETLAND AND PROPOSED GRADING

S 00°20'45" E
653.18'

HORINGA WALTER E-BEVERLY S TRUST
70-13-08-300-001

N 89°02'58" W
1983.59'

PROPOSED GRADING AND DRAINAGE PLAN 1

PROPOSED GRADING AND DRAINAGE PLAN 2

GRADING AND DRAINAGE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED CONTOURS
- PROPOSED STORM PIPING
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED HW/EW
- FLOW ARROW

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

30% CIVIL PLANS: NOT FOR CONSTRUCTION

NOTE: DESIGN INFILTRATION RATE WAS ASSUMED TO BE 3.6 IN/HOUR BASED ON EXISTING SOILS ON-SITE. INFILTRATION TESTING, IN ACCORDANCE WITH THE OTTAWA COUNTY WATER RESOURCE COMMISSIONER SITE DEVELOPMENT RULES MANUAL, SHALL BE PERFORMED PRIOR TO FINAL DESIGN.

SCALE 1"=100'
0 100 200 300 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

OVERALL GRADING AND DRAINAGE PLAN

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

DISCIPLINE NO.: C-14
REV.: A
SCALE: 1" = 100'
DESIGNED BY: CJ
PROJECT NUMBER: 0780143
SHEET NO.: 14
DATE DRAWN: 08/05/2025
DRAWN BY: CJ

Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\14-16 KCE MI 4 GRADING AND DRAINAGE Plan.dwg OVERVIEW 100 SCALE. PRINTED ON 8/30/2026 BY: Carlie Johnson

400' CONSUMERS POWER COMPANY EASEMENT

N 00°50'44" W 339.31'

DEKKER BROS FARMS INC. 70-13-08-300-022

APPROXIMATE LOCATION OF 12' COMSUMERS ENERGY COMPANY EASEMENT

DELINEATED WETLAND

S 89°02'58" E 512.39'

100.0' PUBLIC ROAD RIGHT-OF-WAY SETBACK

40' WOLVERINE POWER SUPPLY EASEMENT

N 00°50'44" W 77.88'

EXISTING GREENHOUSE

N 89°02'58" W 662.28'

88TH AVE 33' WIDTH RIGHT-OF-WAY

MATCHLINE FOR PROPOSED GRADING AND DRAINAGE PLAN 2

PROPOSED INFILTRATION AREA TO BE 2 FT DEEP AND HAVE AN ENGINEERED SOIL MIX WITH 30% VOIDS TO PROMOTE INFILTRATION

MICHIGAN ELECTRIC TRANSMISSION CO. 70-13-08-300-009

EXISTING FENCE

EXISTING SUBSTATION

PlfabB

EXISTING GATE

N 00°43'17" W 600.72'

PROPOSED 3' WIDE BIOSWALE WITH 3:1 SIDE SLOPES FOR STORMWATER TREATMENT

ROAD TO BE GRADED AT 0.5% WITH 2% CROSS SLOPE

100' WOLVERINE ELECTRIC EASEMENT

PROPOSED LEASE LINE

EXISTING TREE LINE

N 89°02'58" W 1983.59'

100' WOLVERINE ELECTRIC EASEMENT

3:1 TIE OFF SLOPE (TYP.)

GRADING AND DRAINAGE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED CONTOURS
- PROPOSED STORM PIPING
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED HW/EW
- FLOW ARROW

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaraA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

30% CIVIL PLANS: NOT FOR CONSTRUCTION

SCALE 1"=40'
0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED GRADING AND DRAINAGE PLAN 1

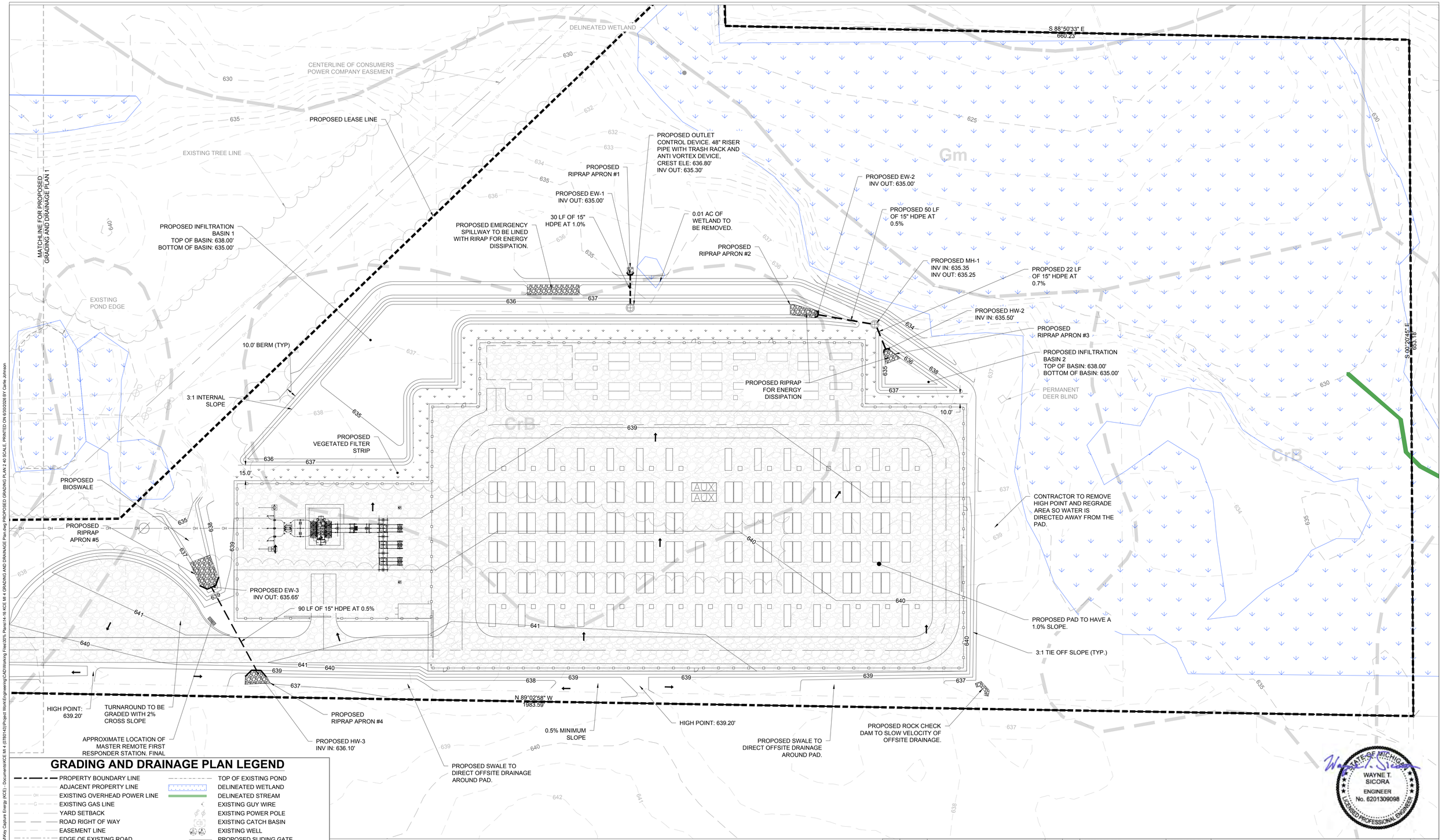
DISCIPLINE NO. C-15

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ	0780143	15
DATE DRAWN 08/05/2025	DRAWN BY CJ		

Environmental Resources Management, Inc.



GRADING AND DRAINAGE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED CONTOURS
- PROPOSED STORM PIPING
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED HW/EW
- FLOW ARROW

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PfabB (A)
- PpsaaA (A/D)

30% CIVIL PLANS: NOT FOR CONSTRUCTION

SCALE 1"=40'
0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED GRADING AND DRAINAGE PLAN 2

DISCIPLINE NO. C-16

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

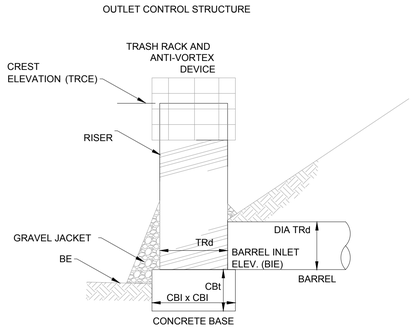
REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ	0780143	16
DATE DRAWN 08/05/2025	DRAWN BY CJ		

Environmental Resources Management, Inc.

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\14-16 KCE MI 4 GRADING AND DRAINAGE Plan.dwg PROPOSED GRADING PLAN 2 40 SCALE, PRINTED ON 6/30/2026 BY Carlie Johnson



BASIN NO.	RISER			CONCRETE BASE	
	DIA TRd (IN)	CREST ELEV TRCE (FT)	MAT'L	LENGTH AND WIDTH CBI (IN)	THICKNESS CBt (IN)
1	48	636.8'	CMP	48	12

OUTLET PIPE				
BASIN NO.	DIA SBd (IN)	MAT'L	LENGTH SBI (FT)	BARREL INLET ELEV. (BIE)
1	15	HDPE	30.0	635.30'

NOTES:

A MINIMUM OF 2-#8 REBAR SHALL BE PLACED AT RIGHT ANGLES AND PROJECTING THROUGH SIDES OF RISER TO ANCHOR IT TO CONCRETE BASE. REBAR SHALL PROJECT A MINIMUM OF 1/4 RISER DIAMETER BEYOND OUTSIDE OF RISER.

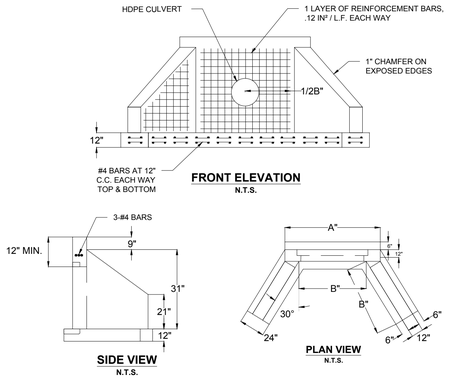
CONCRETE BASE SHALL BE POURED IN SUCH A MANNER SO AS TO INSURE THAT CONCRETE FILLS BOTTOM OF RISER TO INVERT OF THE OUTLET PIPE TO PREVENT RISER FROM BREAKING AWAY FROM THE BASE. MINIMUM BASE WIDTH EQUALS 2 TIMES RISER DIAMETER.

EMBEDDED SECTION OF ALUMINUM OR ALUMINIZED PIPE SHALL BE PAINTED WITH ZINC CHROMATE OR EQUIVALENT.

CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

GRAVEL JACKET SHALL CONSIST OF 3" STONE PLACE IMMEDIATELY ADJACENT TO THE RISER PIPE COVERING THE PERFORATIONS WITH 1" STONE COVERING THE LARGER STONE.

INFILTRATION BASIN #1 RISER STRUCTURE
(NTS)

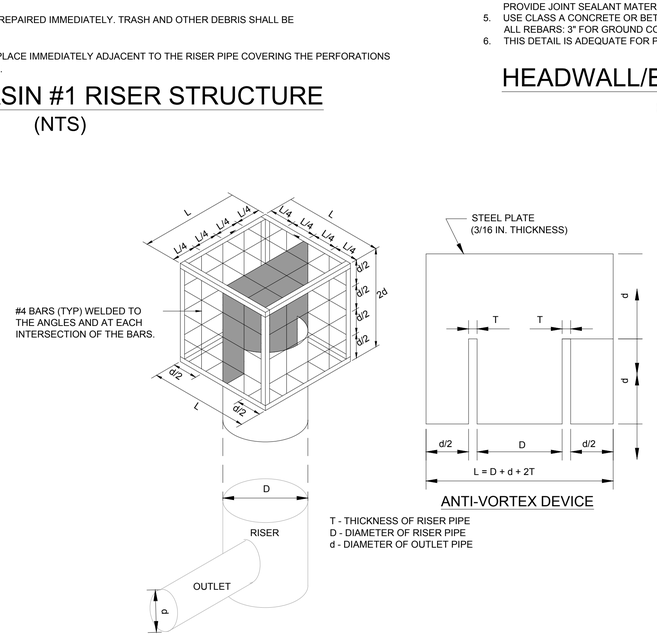


HEADWALL/ENDWALLS					
HW/ EW #	LOCATION	# OF PIPES	PIPE DIAMETER (INCHES)	A (INCHES)	B (INCHES)
EW-1	INFILTRATION BASIN #1 OUTLET	1	15	63	39
HW-2	INFILTRATION BASIN #2 OUTLET	1	15	63	39
EW-2	INFILTRATION BASIN #1 INLET	1	15	63	39
HW-3	ACCESS ROAD CULVERT	1	15	63	39
EW-3	ACCESS ROAD CULVERT	1	15	63	39

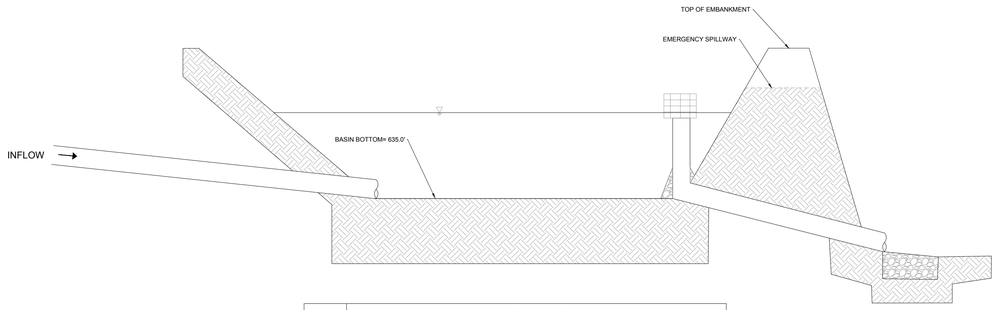
NOTES:

1. PRECAST CONCRETE TO BE 3750 PSI MINIMUM @ 28 DAYS.
2. REINFORCING STEEL TO BE ASTM A615, GRADE 60, REINFORCEMENT TO BE 0.12 IN²/FT. EACH WAY.
3. PROVIDE PIPE OPENING SIZE IN PRECAST UNITS T LEAST 2" BUT NOT MORE THAN 4" LARGER THAN OUTSIDE DIAMETER OF PIPE.
4. FOR PRECAST UNITS PROVIDE NON-SHRINK EPOXY GROUT THROUGHOUT THE CONTACT SURFACE WHEN CONNECTING WING AND HEADWALL SECTION TO BASE SECTION, AND TO PIPE. PROVIDE JOINT SEALANT MATERIAL ALONG ALL ADJOINING SECTIONS, TOOL SMOOTH.
5. USE CLASS A CONCRETE OR BETTER IN CAST-IN-PLACE UNITS. MINIMUM CONCRETE COVER FOR ALL REBARS: 3" FOR GROUND CONTACT SURFACES, 1.5" ALL OTHER.
6. THIS DETAIL IS ADEQUATE FOR PIPE SKEWS BETWEEN 90° AND 60°

HEADWALL/ENDWALL DETAIL
(NTS)



TRASH RACK AND ANTI-VORTEX DEVICE
(NTS)



BASIN NO.	INFILTRATION BASIN SCHEDULE					
	OUTLET PIPE LENGTH (FT)	OUTLET PIPE SLOPE (%)	BASIN BOTTOM ELEVATION (FT)	TOP OF RISER ELEVATION (FT)	EMERGENCY SPILLWAY ELEVATION(FT)	TOP OF EMBANKMENT ELEVATION (FT)
1	30.0	1.0	635.0	636.8	637.0	638.0
2	22.0	0.7	635.0	N/A	N/A	638.0

INFILTRATION BASIN
(NTS)

MAINTENANCE:

1. INSPECT INFILTRATION BASINS AFTER EVERY STORM EXCEEDING ONE INCH.
2. INSPECT FOR SEDIMENT ACCUMULATION, OUTLET CONTROL STRUCTURE DAMAGE, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS AND SLOPE/BERM STABILITY.
3. MOWING SHOULD OCCUR ONLY AS REQUIRED FOR VEGETATIVE COVER.
4. DISPOSE OF SEDIMENT, DEBRIS/TRASH, AND ANY OTHER WASTE MATERIAL REMOVED FROM THE INFILTRATION BASIN AT A SUITABLE DISPOSAL/RECYCLING SITE AND IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL WASTE REGULATION.
5. EVALUATE THE DRAIN DOWN TIME IN THE INFILTRATION BASIN TO ENSURE THE MAXIMUM TIME OF 72 HOURS IS NOT BEING EXCEEDED. IF SLOW DRAINAGE PERSISTS, THE SYSTEM MAY NEED REHABILITATION.

CONSTRUCTION SEQUENCE

1. CLEAR AND GRUB FOR INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS.
2. INSTALL PERIMETER CONTROLS AS SHOWN ON THE PLANS.
3. EXCAVATE 0.5' ABOVE BOTTOM OF INFILTRATION BASINS TO BE USED AS SEDIMENT TRAP DURING CONSTRUCTION.
   3.1. THE BASIN BOTTOM IS TO BE PROTECTED FROM COMPACTION DURING CONSTRUCTION BY USING THE LIGHTEST PRACTICAL EQUIPMENT. EXCAVATION EQUIPMENT SHOULD BE PLACED OUTSIDE THE LIMITS OF THE INFILTRATION BASIN.
4. COMPLETE SITE GRADING AND STABILIZATION.
5. CLEAR SEDIMENT AND DEWATER SEDIMENT TRAP AS NEEDED IN ACCORDANCE WITH DEWATERING PRACTICES.
6. ROUGH GRADE INFILTRATION BASINS.
7. CONSTRUCT BASIN OUTLETS AS SHOWN ON THE PLANS.
8. COMPLETE BASIN EXCAVATION.
9. ALL DISTURBED AREAS MEETING FINAL ELEVATIONS AND GRADES ABOVE THE PERMANENT BOTTOM ELEVATION SHALL BE SEEDED.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

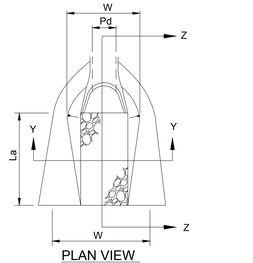
STORMWATER MANAGEMENT DETAILS 1 — DISCIPLINE NO. C-17

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN — REV. A

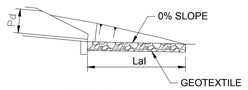
SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
N.T.S	JB	0780143	17
DATE DRAWN: 08/05/2025	DRAWN BY: JB		

Environmental Resources Management, Inc.

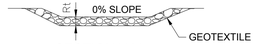
FILE PATH: C:\Users\cwhite.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 0780143\Project Work\Engineering\CAD\Working Files\30% Plans\17-18 MI 4 Stormwater Details.dwg STORMWATER DETAILS 1, PRINTED ON 6/30/2026 BY Cwhite Johnson



PLAN VIEW



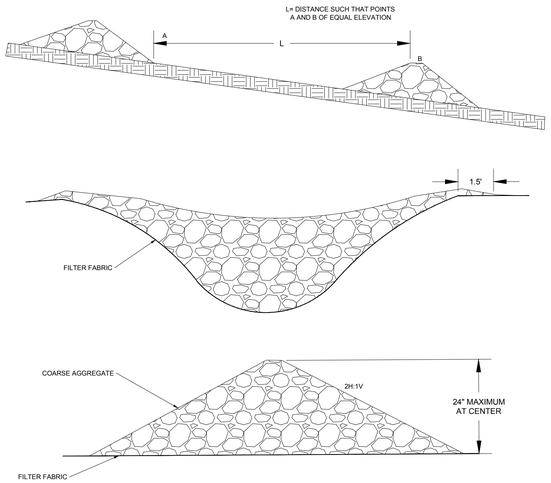
SECTION Z-Z



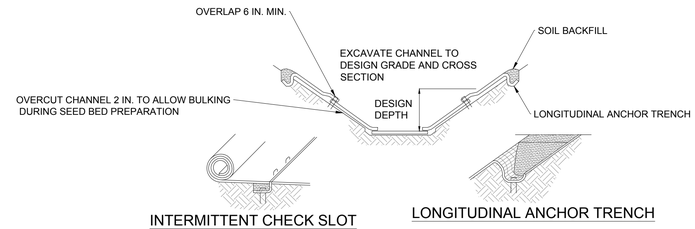
SECTION Y-Y

OUTLET NO.	PIPE SIZE Pd (IN)	TOTAL WATER CONDITION (MAX OR MIN)	Q (CFS)	V (FPS)	RIPRAP SIZE (IN)	La (FT)	W (FT)	DEPTH (Rt, IN)
RIP RAP APRON #1	15	MAX	0.28	0.62	4	6	4	9
RIP RAP APRON #2	15	MAX	9.09	7.41	4	16	4	9
RIP RAP APRON #3	15	MAX	9.09	7.41	4	16	4	9
RIP RAP APRON #4	15	MAX	0.42	2.46	4	6	4	9
RIP RAP APRON #5	15	MAX	0.42	2.46	4	6	4	9
EMERGENCY SPILLWAY	N/A	MIN	0	0	4	8	50	9

RIP RAP APRON
(NTS)

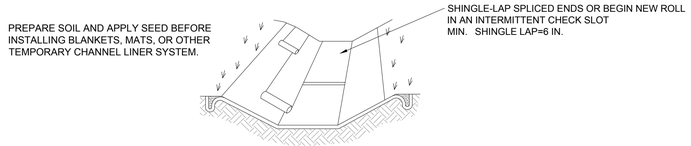


CHECK DAM DETAIL
(NTS)

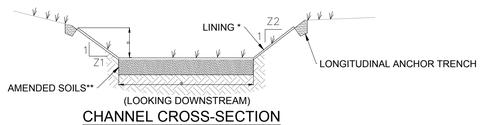


INTERMITTENT CHECK SLOT

LONGITUDINAL ANCHOR TRENCH



ISOMETRIC VIEW



CHANNEL CROSS-SECTION

* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION.
**AMENDED SOILS SPECIFICATIONS TO BE DETERMINED IN THE FINAL PLANS.

NOTES

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.

SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

CONSTRUCTION SEQUENCE

1. BEGIN VEGETATED SWALE CONSTRUCTION ONLY WHEN THE UPGRADIENT TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE. VEGETATED SWALES SHOULD BE CONSTRUCTED AND STABILIZED EARLY IN THE CONSTRUCTION SCHEDULE, PREFERABLY BEFORE MASS EARTHWORK AND PAVING INCREASE THE RATE AND VOLUME OF RUNOFF.
2. ROUGH GRADE THE VEGETATED SWALE. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND/OR LAND DISTURBANCE. EXCAVATING EQUIPMENT SHOULD OPERATE FROM THE SIDE OF THE SWALE AND NEVER ON THE BOTTOM. IF EXCAVATION LEADS TO SUBSTANTIAL COMPACTION OF THE SUBGRADE (WHERE AN INFILTRATION TRENCH IS NOT PROPOSED), 18 INCHES SHALL BE REMOVED AND REPLACED WITH A BLEND OF TOPSOIL AND SAND TO PROMOTE INFILTRATION AND BIOLOGICAL GROWTH. AT THE VERY LEAST, TOPSOIL SHALL BE THOROUGHLY DEEP PLOWED INTO THE SUBGRADE IN ORDER TO PENETRATE THE COMPACTED ZONE AND PROMOTE AERATION AND THE FORMATION OF MACROPORES. FOLLOWING THIS, THE AREA SHOULD BE DISKED PRIOR TO FINAL GRADING OF TOPSOIL.
3. CONSTRUCT CHECK DAMS, IF REQUIRED.
4. FINE GRADE THE VEGETATED SWALE. ACCURATE GRADING IS CRUCIAL FOR SWALES. EVEN THE SMALLEST NONCONFORMITIES MAY COMPROMISE FLOW CONDITIONS.
5. SEED, VEGETATE AND INSTALL PROTECTIVE LINING AS PER APPROVED PLANS AND ACCORDING TO FINAL PLANTING LIST. PLANT THE SWALE AT A TIME OF THE YEAR WHEN SUCCESSFUL ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY. HOWEVER, TEMPORARY IRRIGATION MAY BE NEEDED IN PERIODS OF LITTLE RAIN OR DROUGHT. VEGETATION SHOULD BE ESTABLISHED AS SOON AS POSSIBLE TO PREVENT EROSION AND SCOUR.
6. ONCE ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS. IT IS VERY IMPORTANT THAT THE SWALE BE STABILIZED BEFORE RECEIVING UPLAND STORMWATER FLOW.
7. FOLLOW MAINTENANCE GUIDELINES, AS DISCUSSED BELOW.

NOTE: IF A VEGETATED SWALE IS USED FOR RUNOFF CONVEYANCE DURING CONSTRUCTION, IT SHOULD BE REGRADED AND RESEEDED IMMEDIATELY AFTER CONSTRUCTION AND STABILIZATION HAS OCCURRED. ANY DAMAGED AREAS SHOULD BE FULLY RESTORED TO PROVIDE FUTURE FUNCTIONALITY OF THE SWALE.

VEGETATED/BIO SWALE
(NTS)

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

STORMWATER MANAGEMENT DETAILS 2

DISCIPLINE NO. C-18

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
N.T.S	JB	0780143	18
DATE DRAWN 08/05/2025	DRAWN BY JB		

Environmental Resources Management, Inc.

KILLEBREW, TOM & JAMIE
70-13-08-300-019

DEKKER BROS FARMS INC.
70-13-08-300-022

HORINGA, WALTER & BEVERLY
70-13-08-300-002

400' CONSUMERS POWER COMPANY EASEMENT

40' WOLVERINE POWER SUPPLY EASEMENT

EXISTING GREENHOUSE

PROPOSED TEMPORARY STAGING AREA

100.0' PUBLIC ROAD RIGHT-OF-WAY SETBACK

88TH AVE
33' WIDTH RIGHT-OF-WAY

MICHIGAN ELECTRIC TRANSMISSION CO.
70-13-08-300-009

HORINGA WALTER E-BEVERLY S TRUST
70-13-08-300-001

CONSUMERS POWER CO.
70-13-08-300-003

PROPOSED EROSION AND SEDIMENT CONTROL PLAN 1

PROPOSED EROSION AND SEDIMENT CONTROL PLAN 2

EROSION AND SEDIMENT CONTROL PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED CONTOURS
- PROPOSED STORM PIPING
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED HW/EW
- PROPOSED COMPOST FILTER SOCK
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- PROPOSED STACKED PYRAMID COMPOST FILTER SOCK
- PROPOSED 18" TEMPORARY CHECK DAM
- PROPOSED WETLAND PROTECTION FENCE
- LIMIT OF DISTURBANCE

30% CIVIL PLANS: NOT FOR CONSTRUCTION

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

NOTE: CONTRACTOR TO UTILIZE OPEN SPACE DURING CONSTRUCTION FOR SOIL STOCKPILES. LOCAL CONTROLS TO BE PLACED AROUND STOCKPILES.

SCALE 1"=100'
0 100 200 300 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

OVERALL EROSION AND SEDIMENT CONTROL PLAN

DISCIPLINE NO. C-19

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 100'	CJ, LF	0780143	19
DATE DRAWN	DRAWN BY		
08/05/2025	LF		

Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\19-21 KCE MI 4 ESC Plan.dwg OVERVIEW 100 SCALE, PRINTED ON 6/30/2026 BY Carlie Johnson

400' CONSUMERS POWER COMPANY EASEMENT

DEKKER BROS FARMS INC.
70-13-08-300-022

APPROXIMATE LOCATION OF 12' COMSUMERS ENERGY COMPANY EASEMENT

EXISTING GREENHOUSE

DELINEATED WETLAND

100.0' PUBLIC ROAD RIGHT-OF-WAY SETBACK

40' WOLVERINE POWER SUPPLY EASEMENT

88TH AVE
33' WIDTH RIGHT-OF-WAY

PROPOSED 50' STONE CONSTRUCTION ACCESS (TYP.)

PROPOSED TEMPORARY STAGING AREA; AREA TO BE RESTORED AS SHOWN ON PROPOSED LANDSCAPE PLAN.

MATCHLINE FOR EROSION AND SEDIMENT CONTROL PLAN 2

PROPOSED INFILTRATION AREA TO BE 2 FT DEEP AND HAVE AN ENGINEERED SOIL MIX WITH 30% VOIDS TO PROMOTE INFILTRATION

MICHIGAN ELECTRIC TRANSMISSION CO.
70-13-08-300-009

EXISTING FENCE

EXISTING SUBSTATION

EXISTING GATE

PROPOSED TEMPORARY ACCESS ROAD; AREA TO BE RESTORED AS SHOWN ON PROPOSED LANDSCAPE PLAN.

ROAD TO BE GRADED AT 0.5%

HIGH POINT 638.5'

100' WOLVERINE ELECTRIC EASEMENT

PROPOSED 18" CFS TEMPORARY CHECK DAM (TYP.)

PROPOSED 3' WIDE GRASS SWALE FOR STORMWATER TREATMENT

EXISTING TREE LINE

PROPOSED LIMIT OF DISTURBANCE (TYP.)

PROPOSED OVERHEAD GEN-TIE ROUTE 138KV

100' WOLVERINE ELECTRIC EASEMENT

TEMPORARY EROSION CONTROL MATTING ON SLOPES 3:1 OR STEEPER (TYP.)

3:1 TIE OFF SLOPE (TYP.)

12" CFS #1
12" CFS #2
12" CFS #3
12" CFS #4
12" CFS #5
12" CFS #6
12" CFS #7
12" CFS #8
12" CFS #9
12" CFS #10
12" CFS #11

164'
205'

PlfabB

EROSION AND SEDIMENT CONTROL PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED CONTOURS
- PROPOSED STORM PIPING
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED HW/EW
- PROPOSED COMPOST FILTER SOCK
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- PROPOSED STACKED PYRAMID COMPOST FILTER SOCK
- PROPOSED 18" TEMPORARY CHECK DAM
- PROPOSED WETLAND PROTECTION FENCE
- LIMIT OF DISTURBANCE

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

30% CIVIL PLANS: NOT FOR CONSTRUCTION

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

NOTE: CONTRACTOR TO UTILIZE OPEN SPACE DURING CONSTRUCTION FOR SOIL STOCKPILES. LOCAL CONTROLS TO BE PLACED AROUND STOCKPILES.

SCALE 1"=40'
0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED EROSION AND SEDIMENT CONTROL PLAN 1

DISCIPLINE NO. C-20

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ, LF	0780143	20
DATE DRAWN 08/05/2025	DRAWN BY LF		

Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\19-21 KCE MI 4 ESC Plan.dwg PROPOSED ESC PLAN 1-40 SCALE, PRINTED ON 6/30/2026 BY Carlie Johnson

CENTERLINE OF CONSUMERS POWER COMPANY EASEMENT

PROPOSED INFILTRATION BASIN FOR POST-CONSTRUCTION STORMWATER MANAGEMENT TO BE INSTALLED UPON PAD STABILIZATION. CONTRACTOR TO MINIMIZE USE OF CONSTRUCTION EQUIPMENT ON BASIN BOTTOM AREAS TO PREVENT SOIL COMPACTION. UPON FINAL SEEDING CONTRACTOR TO EXCAVATE TO BASE OF PROPOSED ENGINEERED SOILS. CONTRACTOR TO VERIFY GRADES ARE CONSISTENT WITH THOSE SHOWN ON PROPOSED GRADING AND DRAINAGE PLANS.

EXISTING TREE LINE

OUTLINE OF PROPOSED INFILTRATION BASIN AREA. REFER TO GRADING AND DRAINAGE PLANS FOR FINAL GRADING

CONTRACTOR TO MINIMIZE HEAVY EQUIPMENT USE IN PROPOSED INFILTRATION BASIN AREA

MATCHLINE FOR EROSION AND SEDIMENT CONTROL PLAN 1

PROPOSED 30 FT LONG, 8 FT WIDE SEDIMENT TRAP OUTLET ELE: 637.00

PROPOSED SEDIMENT TRAP A TOP ELE:638.0 BOTTOM ELE:636.0

EXISTING POND EDGE

12" CFS #16

STACKED PYRAMID CFS #17

STACKED PYRAMID CFS #18

STACKED PYRAMID CFS #19

STACKED PYRAMID CFS #20

STACKED PYRAMID CFS #21

12" CFS #22

PROPOSED 30 FT LONG, 8 FT WIDE SEDIMENT TRAP OUTLET ELE: 637.00

TEMPORARY EROSION CONTROL MATTING ON SLOPES 3:1 OR STEEPER (TYP.)

12" CFS #23

PROPOSED SEDIMENT TRAP B TOP ELE:638.0 BOTTOM ELE:635.5

12" CFS #15

12" CFS #14

12" CFS #24

PROPOSED INFILTRATION BASIN FOR POST-CONSTRUCTION STORMWATER MANAGEMENT TO BE UTILIZED AS A SEDIMENT TRAP DURING CONSTRUCTION. CONTRACTOR TO MINIMIZE USE OF CONSTRUCTION EQUIPMENT ON BASIN BOTTOM TO PREVENT SOIL COMPACTION. UPON FINAL SEEDING CONTRACTOR TO REMOVE ANY EXCESS SEDIMENT BUILDUP AND EXCAVATE TO PROPOSED INFILTRATION BOTTOM ELEVATION. CONTRACTOR TO VERIFY GRADES ARE CONSISTENT WITH THOSE SHOWN ON PROPOSED GRADING AND DRAINAGE PLANS.

PROPOSED VEGETATED FILTER STRIP

PERMANENT DEER BLIND

12" CFS #25

12" CFS #13

PROPOSED BIOSWALE

12" CFS #26

PROPOSED ORANGE WETLAND PROTECTION FENCE (TYP.)

12" CFS #12

PROPOSED EW-3 INV OUT: 635.65'

12" CFS #27

TEMPORARY EROSION CONTROL MATTING ON SLOPES 3:1 OR STEEPER (TYP.)

PROPOSED LIMIT OF DISTURBANCE (TYP.)

HIGH POINT: 639.20'

PROPOSED CONCRETE WASHOUT (TYP.)

90 LF OF 15" HDPE AT 0.5%

PROPOSED HW-3 INV IN: 636.10'

PROPOSED 18" CFS TEMPORARY CHECK DAM (TYP.)

TEMPORARY EROSION CONTROL MATTING ON SLOPES 3:1 OR STEEPER (TYP.)

0.5% MINIMUM SLOPE

HIGH POINT: 639.20'

PROPOSED ROCK CHECK DAM TO SLOW VELOCITY OF OFFSITE DRAINAGE.

EROSION AND SEDIMENT CONTROL PLAN LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING GAS LINE
- YARD SETBACK
- ROAD RIGHT OF WAY
- EASEMENT LINE
- EDGE OF EXISTING ROAD
- EXISTING ROAD CENTERLINE
- SOIL BOUNDARY LINE
- EXISTING ELECTRIC LINE
- EXISTING FIBER OPTIC LINE
- EXISTING FENCE
- APPROXIMATE LEASE LINE
- MATCHLINES
- EXISTING TREE LINE
- EDGE OF EXISTING GRAVEL
- EXISTING BUILDING FOOTPRINT
- TOP OF EXISTING POND
- DELINEATED WETLAND
- DELINEATED STREAM
- EXISTING GUY WIRE
- EXISTING POWER POLE
- EXISTING CATCH BASIN
- EXISTING WELL
- PROPOSED SLIDING GATE
- PROPOSED FENCE
- PROPOSED GRAVEL AREA
- PROPOSED GEN-TIE ROUTE
- PROPOSED POWER POLE
- PROPOSED CONTOURS
- PROPOSED STORM PIPING
- PROPOSED VEGETATED FILTER STRIP
- PROPOSED HW/EW
- PROPOSED COMPOST FILTER SOCK
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- PROPOSED STACKED PYRAMID COMPOST FILTER SOCK
- PROPOSED 18" TEMPORARY CHECK DAM
- PROPOSED WETLAND PROTECTION FENCE
- LIMIT OF DISTURBANCE

30% CIVIL PLANS: NOT FOR CONSTRUCTION

HYDROLOGIC SOIL GROUP:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

NOTE: CONTRACTOR TO UTILIZE OPEN SPACE DURING CONSTRUCTION FOR SOIL STOCKPILES. LOCAL CONTROLS TO BE PLACED AROUND STOCKPILES.

SCALE 1"=40'

0 40 80 120 FEET

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

PROPOSED EROSION AND SEDIMENT CONTROL PLAN 2

DISCIPLINE NO. C-21

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

SCALE	DESIGNED BY	PROJECT NUMBER	SHEET NO.
1" = 40'	CJ, LF	0780143	21
DATE DRAWN 08/05/2025	DRAWN BY LF		

Environmental Resources Management, Inc.

FILE PATH: C:\Users\carlie.johnson\Documents\ERM\Key Capture Energy (KCE) - Documents\KCE MI 4 (0780143)\Project Work\Engineering\CAD\Working Files\30% Plans\19-21 KCE MI 4 ESC Plan.dwg PROPOSED ESC PLAN 2 AS SCALE, PRINTED ON 6/30/2026 BY Carlie Johnson

SITE DESCRIPTION

PROJECT NAME AND LOCATION:
KCE MI 4
8284 88TH AVENUE
BLENDON TOWNSHIP, MI 49464
COORDINATES: 42.919458, -86.001456

OWNER NAME, ADDRESS, AND EMAIL:
KCE MI 4, LLC
25 MONROE ST., SUITE 300
ALBANY, NY 12210
BRIAN.MADIGAN@KEYCAPTUREENERGY.COM

DESCRIPTION:
THIS PROJECT WILL CONSIST OF DEVELOPMENT OF A 100MW/ 400 MWh BATTERY STORAGE FACILITY PROJECT WITH A PROPOSED INTERCONNECTION AT THE VAN BUREN SUBSTATION. THE VAN BUREN SUBSTATION IS OPERATED BY MICHIGAN ELECTRIC TRANSMISSION COMPACY, LLC (METC).

SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING; PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; GRADING; GRAVEL PLACEMENT AND FINAL PLANTING AND SEEDING.

CURVE NUMBERS: PRE-DEVELOPMENT CURVE NUMBER - 84
POST-DEVELOPMENT CURVE NUMBER - 87

SITE AREA: THE PROPERTY'S ACREAGE IS 40 ACRES OF WHICH 16.5 ACRES IS PROPOSED AS AN ON-SITE LEASE AREA. APPROXIMATELY 11.9 ACRES ARE EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES.

SITE DESCRIPTION: (CHECK ONE)

SUBDIVISION	_____	(FUTURE)
COMMERCIAL	X	
INDUSTRIAL	_____	
P.U.D.	_____	
OTHER	_____	(SOME EXISTING DEVELOPMENT)

SOIL TYPES:

- AmB (A/D)
- CaradA (A/D)
- CrB (A)
- Gm (A/D)
- PlfabB (A)
- PpsaaA (A/D)

SEQUENCE OF MAJOR ACTIVITIES:
THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:
1. INSTALL PERIMETER CONTROLS
2. CONSTRUCT SEDIMENT TRAPS
   2.1. SEDIMENT TRAP A SHALL BE EXCAVATED 1' ABOVE BOTTOM OF PROPOSED INFILTRATION BASIN 1. SEDIMENT TRAP B SHALL BE EXCAVATED 0.5' ABOVE BOTTOM OF PROPOSED INFILTRATION BASIN 2.
3. CLEAR AND GRUB ONCE SEDIMENT TRAP IS FULLY STABILIZED
4. FULL SITE GRADING
5. PILE TOPSOIL WITHIN PERIMETER EROSION AND SEDIMENT CONTROLS
6. STABILIZE DENUDED AREAS AND STOCKPILES WITHIN 14 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA
7. CONSTRUCTION OF ACCESS ROAD
8. INSTALLATION OF BATTERY STORAGE EQUIPMENT
9. FINAL GRADING, REMOVE TEMPORARY LAYDOWN AREA, AND INSTALL PERMANENT SEEDING
10. INSTALL INFILTRATION BASINS AND ASSOCIATED OUTLET STRUCTURES
11. RESEED ANY DISTURBED AREAS AND LANDSCAPE SITE
12. REMOVAL OF TEMPORARY CONTROLS UPON SITE STABILIZATION

NAME OF RECEIVING WATERS: THE ENTIRE SITE DRAINS INTO BASS CREEK.

GENERAL NOTES

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE EGLE NONPOINT SOURCE BEST MANAGEMENT PRACTICES MANUAL (2017).

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES.

THE CONTRACTOR SHALL USE EROSION CONTROL MEASURES AS NECESSARY TO PREVENT SEDIMENT MOVEMENT INTO AREAS DESIGNATED AS WETLANDS.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.
ADDITIONAL EROSION AND SEDIMENT CONTROL BMP'S MAY BE REQUIRED AS IDENTIFIED BY THE DESC INSPECTOR.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

CONTROLS

EROSION AND SEDIMENT CONTROLS: COMPOST FILTER SOCK, TEMPORARY CHECK DAMS, SEDIMENT TRAPS, AND ROCK CONSTRUCTION ENTRANCE

STABILIZATION PRACTICES

TEMPORARY STABILIZATION - TOPSOIL STOCKPILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS WILL BE STABILIZED WITH TEMPORARY SEED AND MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED SHALL BE APPLIED AS PER THE TEMPORARY SEEDING SPECIFICATIONS.

PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 5 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OR WITHIN 2 DAYS FOR AREAS WITHIN 50 FEET OF A STREAM. REFER TO LANDSCAPE PLAN FOR DETAILS.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING*				◓	◓	◓	◓	◓	◓	◓		
PERMANENT SEEDING**				◓	◓			◓	◓	◓		
DORMANT SEEDING											◓	

* - IRRIGATION OR MULCH NEEDED
** - NO IRRIGATION OR MULCH NEEDED

STORMWATER MANAGEMENT
STORMWATER DRAINAGE WILL BE PROVIDED A GRASS SWALE, SHEET FLOW, AND INFILTRATION BASINS.

OTHER CONTROLS

WASTE DISPOSAL:
ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER RENTED FROM A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER WILL MEET ALL LOCAL, CITY AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF TWICE PER WEEK OR MORE OFTEN IF NECESSARY, AND THE TRASH WILL BE HAULED OFF-SITE. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED IN THE OFFICE TRAILER. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&D) WASTE WILL BE DISPOSED OF IN AN MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY APPROVED C&D LANDFILL AS REQUIRED BY ACT 451 PART 115.

HAZARDOUS WASTE:
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES. THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE:
ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATION.

OFF-SITE VEHICLE TRACKING:
OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

DEWATERING ACTIVITIES:
THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

PROCESS WASTEWATER:
ALL PROCESS WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND COMPOST FILTER SOCK WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 21 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

- COMPOST FILTER SOCK
- ROCK CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- SEDIMENT TRAPS

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES:
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF.

GOOD HOUSEKEEPING: THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO VERIFY PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS: THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS - ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FUEL STORAGE TANKS SHALL BE LOCATED AWAY FROM SURFACE WATERS AND STORM SEWER SYSTEM INLETS. FUEL TANKS SHALL BE STORED IN A DIKED AREA CAPABLE OF HOLDING 150% OF THE TANK CAPACITY.

FERTILIZERS - FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

SOIL STERILENT/PRE-EMERGENT - CONTRACTOR SHALL PLACE ON THE PROPOSED SUBGRADE AND ON THE FINISHED GRADE WITHIN THE LIMITS OF DISTURBANCE.

PAINTS - ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS - CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

EROSION AND SEDIMENT CONTROL DETAILS 1
DISCIPLINE NO. C-22
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN
REV. A
NTS | DESIGNED BY LF, JB | PROJECT NUMBER 0780143 | SHEET NO. 22
DATE DRAWN 08/05/2025 | DRAWN BY LF, JB
Environmental Resources Management, Inc.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
4. WHP EMERGENCY RESPONSE PROTOCOL IS TO CONTACT THE FIRE DEPARTMENT (911) IN THE EVENT OF A CONTAMINANT SPILL OR OTHER EMERGENCY. THE FIRE DEPARTMENT WILL CONTACT THE TOWNSHIP SUPERVISOR IF THE SPILL IS DETERMINED TO BE "SIGNIFICANT". SIGNIFICANT MEANS A SPILL (RELEASE) EXCEEDING 55 GALLONS OF LIQUID MATERIAL OR 440 POUNDS OF DRY WEIGHT.
5. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. SPILLS OF EXTREMELY HAZARDOUS SUBSTANCES SHALL BE REPORTED TO THE MICHIGAN LEPC (734-973-4900) AND MICHIGAN SERC, EGLEPEAS ACCEPTS NOTIFICATION OF BEHALF OF SERC (1-800-292-4706), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 15 MINUTES OF THE SPILL.
6. SOILS CONTAMINATED BY PETROLEUM OR OTHER CHEMICAL SPILLS MUST BE TREATED/DISPOSED AT A MICHIGAN EGLE APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITY (TSDF).
7. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
8. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:

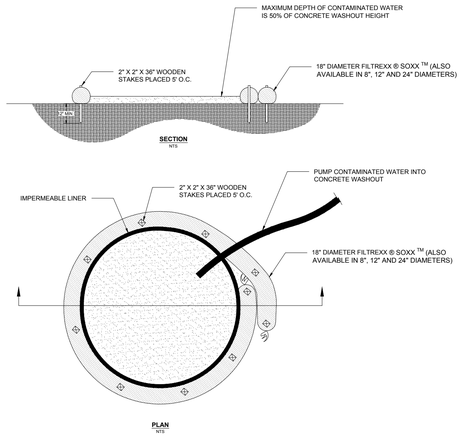
1. VEGETATIVE COVER AND/MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING - SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES - APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.

ADHESIVE	WATER DILUTION (ADHESIVE: WATER)	NOZZLE TYPE	APPLICATION RATE GAL./AC.
LATEX EMULSION	12.5:1	FINE	235
RESIN IN WATER ACRYLIC EMULSION (NO-TRAFFIC)	4:1	FINE	300
ACRYLIC EMULSION (NO-TRAFFIC)	7:1	COARSE	450
ACRYLIC EMULSION (TRAFFIC)	3.5:1	COARSE	350

4. STONE - GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
5. BARRIERS - EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
6. CALCIUM CHLORIDE - THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE. APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS' SPECIFIED RATES.
7. OPERATION AND MAINTENANCE - WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.
8. STREET CLEANING - PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET - TYPE ENDLOADER OR SCRAPER.

CONCRETE WASHOUT

SPECIFICATIONS FOR CONCRETE WASHOUT

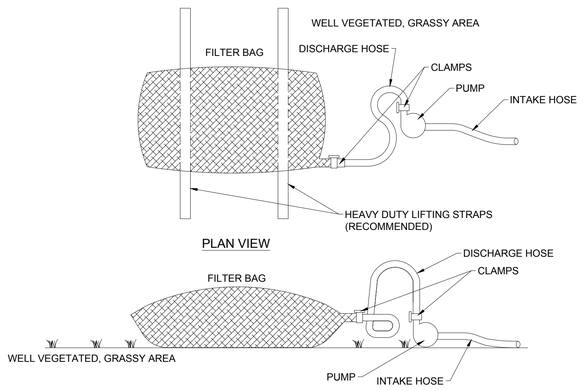


NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
3. A SUITABLE GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS

*ADAPTED FROM FILTREXX

1. THE RESIDUE OR CONTENTS OF ALL CONCRETE MIXERS, DUMP TRUCKS, OTHER CONVEYANCE EQUIPMENT AND FINISHING TOOLS SHALL BE WASHED INTO CONCRETE CLEAN-OUT STRUCTURES CONSISTING OF A STRAW BALE BARRIER WITH GRAVEL BACKFILL. THE LENGTH AND WIDTH OF THESE STRUCTURES SHALL BE AS DETERMINED BY THE CONTRACTOR TO FACILITATE THE PARTICULAR EQUIPMENT USED. THESE STRUCTURES SHALL BE CONSTRUCTED ON LEVEL GROUND AT LEAST 100' FROM THE NEAREST WATERCOURSE, DRAINAGE SWALE OR INLET. AT NO TIME SHALL THE STRUCTURE BE ALLOWED TO BE MORE THAN 50% FULL. THE CONTRACTOR SHALL MAINTAIN THESE PONDS UNTIL ALL CONCRETE PLACEMENT IS COMPLETE FOR THE PROJECT.
2. THE INTENT OF THESE STRUCTURES IS TO COLLECT ALL CONCRETE WASH OUT WATER AND ALLOW IT TO DRY TO A SOLID MATERIAL. AFTER DRYING, THE SOLID MATERIAL CAN BE REMOVED WITH A LOADER OR EXCAVATOR FOR PROPER DISPOSAL. WASH OUT WILL NOT BE PERMITTED IN ANY OTHER AREAS.
3. USE THE MINIMUM AMOUNT OF WATER TO WASH THE VEHICLES AND EQUIPMENT. NEVER DISPOSE OF WASH OUT INTO THE STREET, STORM INLET, DRAINAGE SWALE OR WATERCOURSE. DISPOSE OF SMALL AMOUNTS OF EXCESS DRY CONCRETE, GROUT AND MORTAR IN THE TRASH. ANY SOAPS THAT ARE UTILIZED SHALL BE PHOSPHATE-FREE AND BIODEGRADABLE.
4. ADDITIONAL CONCRETE CLEAN-OUT STRUCTURES SHALL BE CONSTRUCTED WITHIN THE SPECIFIED AREA AS NEEDED BASED UPON THE VOLUME OF WASH OUT GENERATED DAILY.

PUMPED WATER FILTER BAG

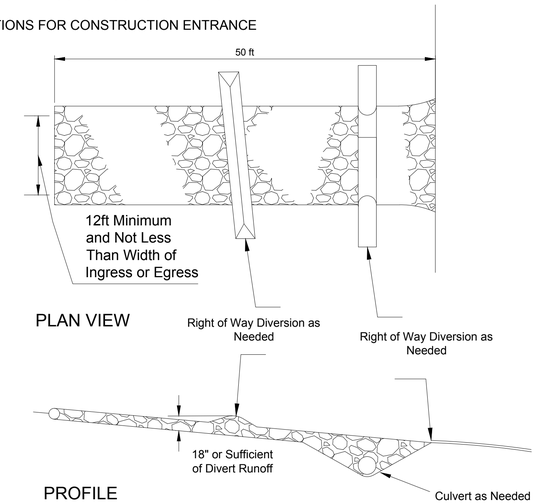


STONE CONSTRUCTION ENTRANCE

DESCRIPTION

A CONSTRUCTION ENTRANCE IS A STABILIZED PAD OF STONE UNDERLAIN WITH GEOTEXTILE AND IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC. LOCATED AT POINTS OF INGRESS/EGRESS, THE PRACTICE IS USED TO REDUCE THE AMOUNT OF MUD TRACKED OFF-SITE WITH CONSTRUCTION TRAFFIC.

SPECIFICATIONS FOR CONSTRUCTION ENTRANCE



1. STONE SIZE - COURSE AGGREGATE (1-3 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FT.
3. THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 TO 8 INCHES THICK.
4. WIDTH - THE ENTRANCE SHALL BE AT LEAST 12 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA, PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION
TABLE 910-1:

GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	270 LBS.
MINIMUM PUNCTURE STRENGTH	620 LBS.
MINIMUM TEAR STRENGTH	100 LBS.
EQUIVALENT OPENING SIZE	EOS < 0.425 MM.
PERMITTIVITY	0.05 PER SEC.

6. TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

EROSION AND SEDIMENT CONTROL DETAILS 2 — DISCIPLINE NO. C-23

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN — REV. A

NTS	DESIGNED BY LF, JB	PROJECT NUMBER 0780143	SHEET NO. 23
DATE DRAWN 08/05/2025	DRAWN BY LF, JB		

Environmental Resources Management, Inc.

TEMPORARY SEEDING

DESCRIPTION

TEMPORARY SEEDINGS ESTABLISH TEMPORARY COVER ON DISTURBED AREAS BY PLANTING APPROPRIATE RAPIDLY GROWING ANNUAL GRASSES OR SMALL GRAINS. TEMPORARY SEEDING PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES WHICH ARE QUICK GROWING ARE SEEDED AND USUALLY MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. IT EFFECTIVELY MINIMIZES THE AREA OF A CONSTRUCTION SITE PRONE TO EROSION AND SHOULD BE USED EVERYWHERE THE SEQUENCE OF CONSTRUCTION OPERATIONS ALLOWS VEGETATION TO BE ESTABLISHED.

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB./1,000 FT.^{2}	LB. PER AC.
APRIL 1- SEPTEMBER 15	OATS BARLEY	2 2	96 96
JUNE 1- JULY 15	BUCKWHEAT	2	75
AUGUST 1- OCTOBER 15	CEREAL RYE PERENNIAL RYEGRASS	3 0.5	120 20
SEPTEMBER 20- OCTOBER 15	WHEAT	3	120
NOV. 1 TO SPRING SEEDING	USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING.		
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.			

1. STRUCTURAL EROSION AND SEDIMENT-CONTROL PRACTICES SUCH AS DIVERSIONS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.

2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 21 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.

3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO PROVIDE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.

4. SOIL AMENDMENTS--TEMPORARY VEGETATION SEEDING RATE SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATE FOR LIME AND FERTILIZER SHALL BE USED.

5. SEEDING METHOD--SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON SITE, AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.

2. MATERIALS:

- STRAW MULCH--IF STRAW MULCH IS USED, IT SHALL BE SMALL GRAIN STRAW MULCH APPLIED AT THE RATE OF 2 TONS PER ACRE.
- STANDARD HYDRO MULCH-- TYPICALLY, 100% PAPER MULCH WITH TACKIFIER OR 50% WOOD BLEND WITH TACKIFIER WHICH SHALL BE APPLIED AT A RATE OF 1,800 TO 2,000 LBS PER ACRE.
- BONDED FIBER MATRIX HYDRO MULCH-- APPLIED AT A RATE OF 2,500 TO 3,000 LBS PER ACRE.
- SINGLE NET STRAW BLANKET-- INSTALL WITH 6" WOOD PEGS OR METAL STAPLES, 36" SPACING. OVERLAP DOWNSLOPE MINIMUM 6" OR BURY EXPOSED EDGES.
- DOUBLE NET STRAW BLANKET-- INSTALL WITH 6" WOOD PEGS OR METAL STAPLES, 24" SPACING. OVERLAP DOWNSLOPE MINIMUM 6" OR BURY EXPOSED EDGES.
- PERMANENT TURF REINFORCEMENT MAT--INSTALL WITH 6" WOOD PEGS OR METAL STAPLES, 18" SPACING. OVERLAP DOWNSLOPE MINIMUM 6" OR BURY EXPOSED EDGES.

NOTE: THESE ARE GUIDELINES; AN EXPERIENCED, TRAINED INDIVIDUAL SHOULD REVIEW SITE CONDITIONS FOR APPROPRIATE METHODS AND MATERIALS.

COMPOST FILTER SOCK

1. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN COMPOST FILTER SOCK THROUGHOUT THE CONSTRUCTION PERIOD.
2. MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 3/8" TO 2".
3. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

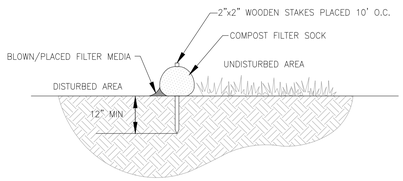
INSTALLATION:

4. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.
5. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
6. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

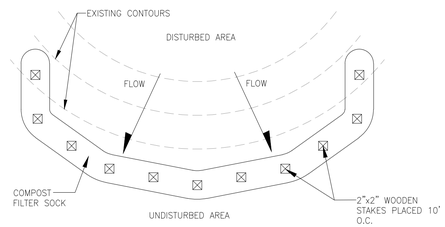
MAINTENANCE:

7. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
8. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
9. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
10. REMOVAL - FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

SPECIFICATIONS FOR COMPOST FILTER SOCK - SEE THE FOLLOWING SHEET FOR ADDITIONAL SIZING INFORMATION

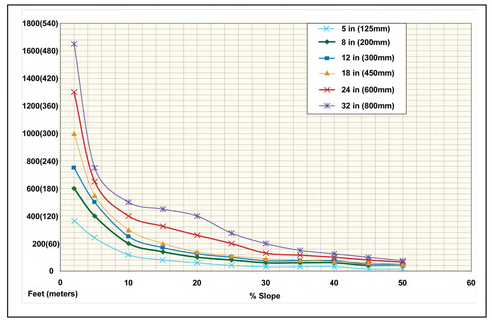


ELEVATION VIEW



FILTREXX CFS SIZING CHART

Figure 1.2. Maximum Slope Lengths of Filtrexx® Perimeter Control Based on a 1 in (25 mm)/24 hr Rainfall Event.



FILTREXX CFS MESH SPECIFICATIONS

Table 1.1. Filtrexx SiltSoxx® Mesh Material Specifications.

Material Type	NATURAL ORIGINAL (Cotton Fiber)	NATURAL PLUS (Wood Fiber)	BASIC (5 mil High Density Polyethylene HDPE)	BASIC PLUS (Multi-Filament Polypropylene MFPP)	DURABLE (Multi-Filament Polypropylene MFPP)	ORIGINAL / DURABLE PLUS / DURASOXX HD (Multi-Filament Polypropylene MFPP)	EXTREME (Multi-Filament Polypropylene MFPP)
Material Characteristic	Biodegradable	Biodegradable	Photodegradable	Photodegradable	Photodegradable	Photodegradable	Photodegradable
Design Diameters	5 in (125mm), 8 in (200mm), 12 in (300mm)	5 in (125mm), 8 in (200mm), 12 in (300mm)	8 in (200mm), 12 in (300mm), 18 in (400mm)	8 in (200mm), 12 in (300mm), 18 in (400mm), 24 in (600mm), 32 in (800mm)	5 in (125mm), 8 in (200mm), 12 in (300mm), 18 in (400mm), 24 in (600mm), 32 in (800mm)	5 in (125mm), 8 in (200mm), 12 in (300mm), 18 in (400mm), 24 in (600mm)	8 in (200mm), 12 in (300mm)
Mesh Opening	1/8 in (3mm)	1/8 in (3mm)	3/8 in (10mm)	3/8 in (10mm)	1/8 in (3mm)	1/8 in (3mm)	1/16 in (1.5mm)
Tensile Strength (ASTM D4595)[1]	MD: 193 lbs TD: 158 lbs	MD: 210 lbs TD: 289 lbs	MD: 211 lbs TD: 79 lbs	MD: 236 lbs TD: 223 lbs	MD: 545 lbs TD: 226 lbs	MD: 670 lbs TD: 423 lbs	MD: 1062 lbs TD: 797 lbs
% Original Strength from Ultraviolet Exposure (ASTM G-155)	ND	ND	23% at 1000 hr	100% at 1000 hr	100% at 1000 hr	100% at 1000 hr	100% at 1000 hr
Functional Longevity/ Project Duration[2]	up to 12 months[3]	up to 18 months[4]	up to 4 yr	up to 4 yr	up to 5 yr	up to 5 yr	up to 5 yr

[1] Tensile Strength is based on 12" diameter using ATSM D4595. See Filtrexx TechLink #3342 for full tensile strength testing.
[2] Functional longevity ranges are estimates only. Site specific environmental conditions may result in significantly shorter or longer time periods.
[3] Data based on Caltrans research and specifications
[4] See TechLink #3339 for research & testing

Table 1.2. Filtrexx® Sediment Control Performance and Design Specifications Summary.

Design Diameter / Design & Performance	5 in (125mm)	8 in (200mm)	12 in (300mm)	18 in (450mm)	24 in (600mm)	32 in (800mm)	Testing Lab/ Reference	Publication(s)
Effective Height	4 in (100mm)	6.5 in (160mm)	9.5 in (240mm)	14.5 in (360mm)	19 in (480mm)	26 in (650mm)	The Ohio State University, Ohio Agricultural Research and Development Center	Transactions of the American Society of Agricultural & Biological Engineers, 2006
Effective Circumference	15 in (380mm)	25 in (630mm)	38 in (960mm)	57 in (1420mm)	75 in (1900mm)	100 in (2500mm)		
Density (when filled)	7.8 lbs (12 kg/m)	13 lbs/ft (20 kg/m)	32 lbs/ft (50 kg/m)	67 lbs/ft (100 kg/m)	133 lbs/ft (200 kg/m)	200 lbs/ft (300 kg/m)	Soil Control Lab, Inc	
Air Space	20%	20%	20%	20%	20%	20%	Soil Control Lab, Inc	
Maximum continuous length	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited		
Staking Requirement	10 ft (3m)	10 ft (3m)	10 ft (3m)	10 ft (3m)	10 ft (3m)	10 ft (3m)		
Maintenance Requirement (sediment accumulation removal at X height)	2 in (50mm)	3.25 in (80mm)	4.75 in (120mm)	7.25 in (180mm)	9.5 in (240mm)	13 in (325mm)		
Initial Maintenance Requirement based on Rainfall-Runoff*	13 in (33 cm); 665 L/linear m	22 in (55 cm); 1109 L/linear m	32 in (80 cm); 1388 L/linear m	42 in (105 cm); 1825 L/linear m	64 in (160 cm); 2776 L/linear m	86 in (215 cm); 3885 L/linear m	The University of Georgia & Auburn University	
Functional Longevity**	6 mo – 5 yr	6 mo – 5 yr	6 mo – 5 yr	6 mo – 5 yr	6 mo – 5 yr	6 mo – 5 yr		
Maximum Slope Length (<2%)	360 ft (110m)	600 ft (183m)	750 ft (229m)	1000 ft (305m)	1300 ft (396m)	1650 ft (500m)	The Ohio State University, Ohio Agricultural Research and Development Center	Filtrexx Design Tool, Filtrexx Library #301, Filtrexx Tech Link #3304 & #3311
Hydraulic Flow Through Rate	4.5 gpm/ft (56 L/min/m)	7.5 gpm/ft (94 L/min/m)	11.3 gpm/ft (141 L/min/m)	15.0 gpm/ft (188 L/min/m)	22.5 gpm/ft (281 L/min/m)	30.0 gpm/ft (374 L/min/m)	The Ohio State University, Ohio Agricultural Research and Development Center; University of Guelph, School of Engineering/ Watershed Research Group	Filtrexx Tech Link #3311 & #3315, #3308; American Society of Agricultural & Biological Engineers Meeting Proceedings, 2006, Second Interagency Conference on Research in Watersheds, 2006
P Factor (RUSLE)	0.1-0.32	0.1-0.32	0.1-0.32	0.1-0.32	0.1-0.32	0.1-0.32	USDA ARS Environmental Quality Lab/ University of Georgia	American Society of Agricultural & Biological Engineers Meeting Proceedings, 2006
Sediment Storage Capacity***	104 cu. in (1710cc)	174 cu. in (2850cc)	396 cu. in (6490cc)	857 cu. in (14040cc)	1631 cu. in (26840cc)	2647 cu. in (43377 cc)		Filtrexx Tech Link #3314
Total Solids Removal	98%	98%	98%	98%	98%	98%	Soil Control Lab, Inc	International Erosion Control Association, 2006
Total Suspended Solids Removal	78%	78%	78%	78%	78%	78%	USDA ARS Environmental Quality Lab	Filtrexx Tech Link #3308; American Society of Agricultural & Biological Engineers Meeting Proceedings , 2006
Turbidity Reduction	63%	63%	63%	63%	63%	63%	USDA ARS Environmental Quality Lab	Filtrexx Tech Link #3308; American Society of Agricultural & Biological Engineers Meeting Proceedings , 2006
Clay (<0.002mm) Removal	65%	65%	65%	65%	65%	65%	USDA ARS Environmental Quality Lab	Filtrexx Tech Link
Silt (0.002-0.05mm) Removal	64%	64%	64%	64%	64%	64%	USDA ARS Environmental Quality Lab	Filtrexx Tech Link
Other Recommended Uses	Slope Interruption	Inlet Protection, Ditch Protection, Slope Interruption	Inlet protection, Ditch Protection, Concrete Washout, Filtration System, Slope Interruption	Ditch Protection, Concrete Washout, Filtration System	Ditch Protection, Concrete Washout, Filtration System	Ditch Protection, Concrete Washout, Filtration System		

* Based on rainfall intensity of 12.5 cm (5 in)/hr applied to a bare clay loam soil at a 10% slope; runoff flow rate of 108 ml/sec/linear m (0.52 gpm/linear ft); and mean runoff volume of 230 L/m2 (6.3 g/ft2).
** Functional Longevity is dependent on mesh material type, UV exposure, freeze/thaw frequency, region of US/Canada, runoff sediment frequency/duration/loading, and adherence to specified maintenance requirement. Functional longevity ranges are estimates only. Site specific environmental conditions may result in significantly shorter or longer time periods.
*** Sediment Storage Capacity = sediment accumulation behind (directly upslope) + within the device.

30% CIVIL PLANS:
NOT FOR CONSTRUCTION

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

EROSION AND SEDIMENT CONTROL DETAILS 3

DISCIPLINE NO. C-24

KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN

REV. A

NTS	DESIGNED BY LF, JB	PROJECT NUMBER 0780143	SHEET NO. 24
DATE DRAWN 08/05/2025	DRAWN BY LF, JB		

Environmental Resources Management, Inc.

COMPOST FILTER SOCK SIZING

CFS #	CFS Diameter (in.)	CFS Length (ft)	Slope (%)	Slope Length(ft)
1	12	41	0.5	25
2	12	80	1	10
3	12	56	1	10
4	12	327	1	10
5	12	63	2	42
6	12	107	2	45
7	12	55	3	18
8	12	176	1	100
9	12	415	0.5	184
10	12	120	0.8	150
11	12	165	2	25
12	12	187	0.8	26
13	12	104	3	197
14	12	50	4	25
15	12	197	5	10
16	12	72	1.5	166
17	12*	95	1.5	395
18	12*	52	1	386
19	24*	125	1	395
20	12*	25	2	150
21	12*	80	2	394
22	12	48	9	45
23	12	40	25	11
24	12	34	9	32
25	12	79	6	17
26	12	257	15	20
27	12	68	N/A	N/A

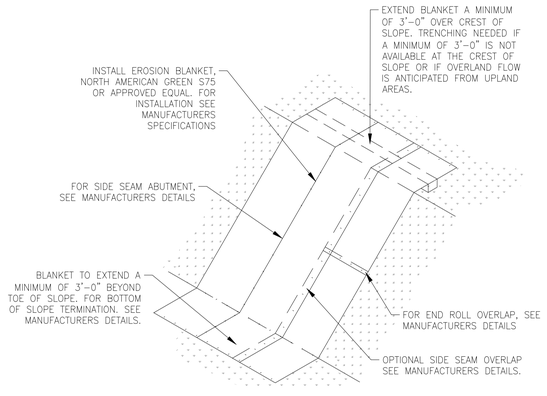
*Pyramid sock due to drainage area size

TEMPORARY EROSION CONTROL MATTING

DESCRIPTION
A TEMPORARY ROLLED EROSION CONTROL PRODUCT (TRECP) IS A DEGRADABLE MANUFACTURED MATERIAL USED TO STABILIZE EASILY ERODED AREAS WHILE VEGETATION BECOMES ESTABLISHED. TEMPORARY ROLLED EROSION CONTROL PRODUCTS ARE DEGRADABLE PRODUCTS COMPOSED OF BIOLOGICALLY, PHOTO CHEMICALLY OR OTHERWISE DEGRADABLE MATERIALS. TEMPORARY RECPS CONSIST OF EROSION CONTROL NETTING, OPEN WEAVE TEXTILES, AND EROSION CONTROL BLANKETS AND MATTINGS. THESE PRODUCTS REDUCE SOIL EROSION AND ASSIST VEGETATIVE GROWTH BY PROVIDING TEMPORARY COVER FROM THE EROSIVE ACTION OF RAINFALL AND RUNOFF WHILE PROVIDING SOIL-SEED CONTACT.

1. CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED RECP WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
2. CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.SLOPE INSTALLATION
3. EXCAVATE TOP AND BOTTOM TRENCHES (12"X6"). INTERMITTENT EROSION CHECK SLOTS (6"X6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2' X 3' OVER CREST OF THE SLOPE.
4. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED, INSTALL RECP IN 6"X6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. RECP SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.
5. INSTALL RECP IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL.
6. UNROLL RECP DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE RECP LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.
7. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE RECP ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED, DOUBLE ANCHOR ACROSS ROLL EVERY 12".
8. INSTALL RECP IN BOTTOM ANCHOR TRENCH (12"X6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURER'S ANCHOR GUIDE.

SPECIFICATIONS FOR TEMPORARY EROSION CONTROL MATTING



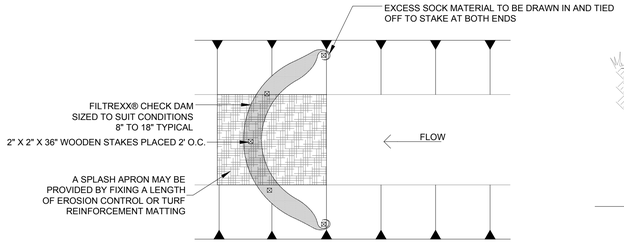
30% CIVIL PLANS:
NOT FOR CONSTRUCTION

COMPOST SOCK CHECK DAM/CHECK WATTLE

1. COMPOST SOCK NETTING SHALL USE A KNITTED MESH FABRIC WITH 1/8-3/8 INCH OPENINGS, AND COMPOST MEDIA WITH PARTICLE SIZES 99% < 3 INCHES, AND 60% > 3/8 INCHES (CONFORMING TO MEDIA DESCRIBED IN CHAPTER 6 FILTER SOCK).
2. COMPOST SOCK CHECK DAMS SHALL BE USED IN AREAS THAT DRAIN 5 ACRES OR LESS.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SOCK WHEN IT REACHES ½ THE HEIGHT OF THE CHECK DAM.
4. COMPOST SOCK CHECK DAMS SHALL BE CONSTRUCTED WITH 12, 18, OR 24 IN DIAMETER COMPOST SOCKS, AND SHALL COMPLETELY
5. COVER THE WIDTH OF THE CHANNEL. THE MIDPOINT OF THE COMPOST SOCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT FLOW ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES. FILTER SOCK CHECK DAMS SHALL BE FILLED TO A DENSITY SUCH THAT THEY SHALL REACH THEIR INTENDED HEIGHT (DIAMETER). AFTER INSTALLATION AND USE, THEY SHALL BE CONSIDERED UNSUITABLE AND IN NEED OF REPLACEMENT AFTER FALLING BELOW 80% OF THEIR MINIMUM REQUIRED HEIGHT (DIAMETER).
6. ALTHOUGH NO TRENCHING IS NECESSARY, COMPOST SOCK CHECK DAMS SHALL BE PLACED ON A GRADED SURFACE WHERE CONSISTENT CONTACT WITH THE SOIL SURFACE IS MADE WITHOUT BRIDGING OVER GAPS, RILLS, GULLIES, STONES OR OTHER IRREGULARITIES.
7. PLACE COMPOST SOCK CHECK DAMS SO THAT THE ENDS EXTEND TO THE TOP OF BANK. STAKING FOR COMPOST SOCK CHECK DAMS SHALL USE 2 INCH X 2 INCH WOODEN STAKES, PLACED 5 FOOT ON CENTER. STAKE LENGTH SHALL ALLOW THEM TO BE DRIVEN 12 INCHES INTO EXISTING SOIL AND ALLOW AT LEAST 2 INCHES ABOVE THE SOCK.
8. SPACE COMPOST SOCK CHECK DAMS SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION OR LOWER ELEVATION AS THE TOP OF THE DOWNSTREAM COMPOST SOCK CHECK DAM (AT THE CENTER OF THE CHANNEL). THIS WILL BE INFLUENCED BY THE HEIGHT OF THE SOCK AND GRADIENT OF THE WATERWAY.
9. A SPLASH APRON MAY BE NEEDED WHERE FLOWS OVER THE SOCK MAY ERODE THE CHANNEL AND UNDERCUT THE COMPOST SOCK CHECK DAM. CREATE THE APRON BY FIXING A LENGTH OF TEMPORARY ROLLED EROSION CONTROL PRODUCT (EROSION CONTROL MATTING) OR TURF REINFORCEMENT MATTING STARTING UPSTREAM OF THE SOCK A DISTANCE EQUAL TO THE SOCK HEIGHT AND EXTENDING A LENGTH TWO TIMES THE HEIGHT OF THE COMPOST SOCK CHECK SEE CHAPTER 7 FOR INFORMATION REGARDING THESE MATERIALS.MATERIALS USED SHOULD BE ABLE TO BE LEFT IN PLACE (E.G. BIODEGRADABLE/PHOTODEGRADABLE TRECP) WITHOUT CREATING PROBLEMS FOR FUTURE MOWING OR MAINTENANCE OF THE CHANNEL.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION OF ALL CHECK DAMS, MAINTENANCE OF, AND SEDIMENT REMOVAL THROUGHOUT THE PROJECT. TEMPORARY CHECK DAMS SHALL BE REMOVED AT THE END OF CONSTRUCTION.

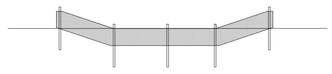
SPECIFICATIONS FOR COMPOST SOCK CHECK DAM

PLAN VIEW



STAKING

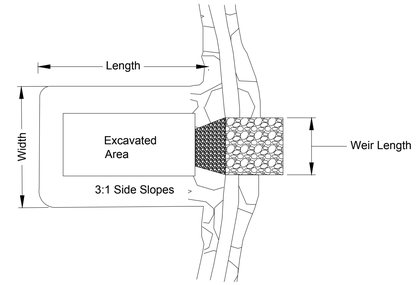
CROSS SECTION VIEW



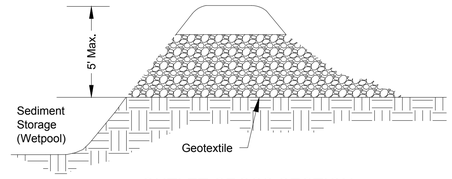
SEDIMENT TRAPS

1. WORK SHALL CONSIST OF THE INSTALLATION, MAINTENANCE AND REMOVAL OF ALL SEDIMENT TRAPS AT THE LOCATIONS DESIGNATED ON THE DRAWINGS.
2. SEDIMENT TRAPS SHALL BE CONSTRUCTED TO THE DIMENSIONS SPECIFIED ON THE DRAWINGS AND OPERATIONAL PRIOR TO UPSLOPE LAND DISTURBANCE.
3. THE AREA BENEATH THE EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF VEGETATION TO A MINIMUM DEPTH OF SIX (6) INCHES. THE POOL SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT.
4. FILL USED FOR THE EMBANKMENT SHALL BE EVALUATED TO ASSURE ITS SUITABILITY AND IT MUST BE FREE OF ROOTS OR OTHER WOODY VEGETATION, LARGE ROCKS, ORGANICS OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL SHALL BE PLACED IN SIX (6) INCH LIFTS AND SHALL BE COMPACTED BY TRAVERSING WITH A SHEEPSFOOT OR OTHER APPROVED COMPACTION EQUIPMENT. FILL HEIGHT SHALL BE INCREASED FIVE (5) PERCENT TO ALLOW FOR STRUCTURE/FOUNDATION SETTLEMENT. CONSTRUCTION SHALL NOT BE PERMITTED IF EITHER THE EARTHFILL OR COMPACTION SURFACE IS FROZEN.
5. THE MAXIMUM HEIGHT OF EMBANKMENT SHALL BE FIVE (5) FEET. ALL CUT AND FILL SLOPES SHALL BE 3:1 (H:V) OR FLATTER.
6. A MINIMUM STORAGE VOLUME BELOW THE CREST OF THE OUTLET OF 1800 CF. FOR EVERY ACRE OF CONTRIBUTING DRAINAGE AREA SHALL BE ACHIEVED AT EACH LOCATION NOTED ON THE DRAWINGS WITH ADDITIONAL SEDIMENT STORAGE VOLUME PROVIDED BELOW THIS ELEVATION.
7. TEMPORARY SEEDING SHALL BE ESTABLISHED AND MAINTAINED OVER THE USEFUL LIFE OF THE PRACTICE.
8. THE OUTLET FOR THE SEDIMENT TRAP STRUCTURE SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN ON THE DRAWINGS.
9. THE OUTLET SHALL BE CONSTRUCTED USING THE MATERIALS IN ACCORDANCE WITH MDOT. WHERE GEOTEXTILE IS USED, ALL OVER-LAPS SHALL BE A MINIMUM OF TWO (2) FEET OR AS SPECIFIED BY THE MANUFACTURER, WHICHEVER IS GREATER. ALL OVERLAPS SHALL BE MADE WITH THE UPPER MOST LAYER PLACED LAST. GEOTEXTILE SHALL BE KEYED IN AT LEAST 6" ON THE UPSTREAM SIDE OF THE OUTLET.
10. WARNING SIGNS AND SAFETY FENCE SHALL BE PLACED AROUND THE TRAPS AND MAINTAINED OVER THE LIFE OF THE PRACTICE.
11. AFTER ALL SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, THE STRUCTURE AND ALL ASSOCIATED SEDIMENT SHALL BE REMOVED AND INFILTRATION BASINS SHALL BE CONSTRUCTED.

SPECIFICATIONS FOR SEDIMENT TRAP



PLAN VIEW
(NOT TO SCALE)



OUTLET CROSS SECTION
(NOT TO SCALE)

	TRIBUTARY ACREAGE	REQUIRED SEDIMENT TRAP STORAGE VOLUME (1,800 CF/AC)	PROVIDED SEDIMENT TRAP STORAGE VOLUME (CF)	OUTLET CONTROL STRUCTURE
SEDIMENT TRAP A	2.43 AC	4370	14826	30' X 8' WEIR
SEDIMENT TRAP B	1.24 AC	2232	2236	30' X 8' WEIR

NOTE: SEDIMENT TRAP WAS DESIGNED USING THE EPA GUIDANCE OF 1,800 CF/AC OF STORAGE VOLUME.

STATE OF MICHIGAN
WAYNE T. SICORA
ENGINEER
No. 6201309098
LICENSED PROFESSIONAL ENGINEER

Rev.	Date	Description	By	Chk
A	8/19/2026	SPECIAL LAND USE PERMIT COMMENTS	CJ	WS

PREPARED FOR:
KEY CAPTURE ENERGY
KCE MI 4, LLC
25 MONROE STREET, SUITE 300
ALBANY, NY 12210
TEL: 518-903-4187

PREPARED BY:
ERM

EROSION AND SEDIMENT CONTROL DETAILS 4
DISCIPLINE NO. C-25
KCE MI 4
KCE MI 4, LLC
BLENDON TOWNSHIP, OTTAWA COUNTY, MICHIGAN
REV. A
NTS | DESIGNED BY LF, JB | PROJECT NUMBER 0780143 | SHEET NO. 25
DATE DRAWN 08/05/2025 | DRAWN BY LF, JB
Environmental Resources Management, Inc.