8320 HIGHLAND

8320 HIGHLAND ROAD
WHITE LAKE, MI 48386

APPLICABLE CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE FOLLOWING CODES:

BUILDING CODE:

2021 MICHIGAN BUILDING CODE (IBC 2021)

ELECTRICAL CODE:

2023 NATIONAL ELECTRICAL CODE (NEC 2023)

PROJECT DESCRIPTION

- PROPOSED INSTALLATION OF (2) 160kW DCFC CHARGERS TO SUPPLY (4) DEDICATED CHARGING STALLS

CONTACTS

APPLICANT:

CHARGE-X USA
22345 W. WARREN AVENUE
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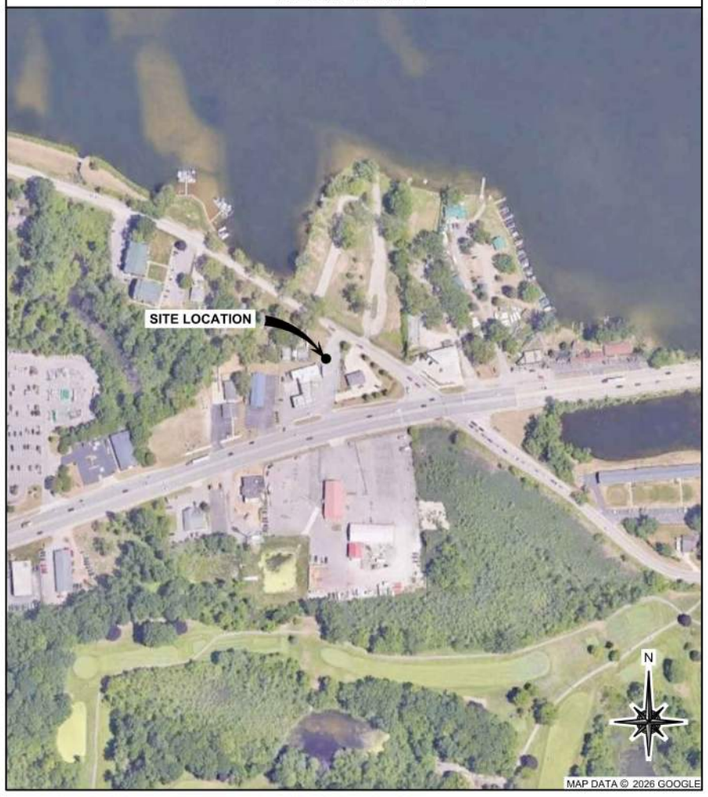
TEL: (313) 523-1333
www.chargexusa.com

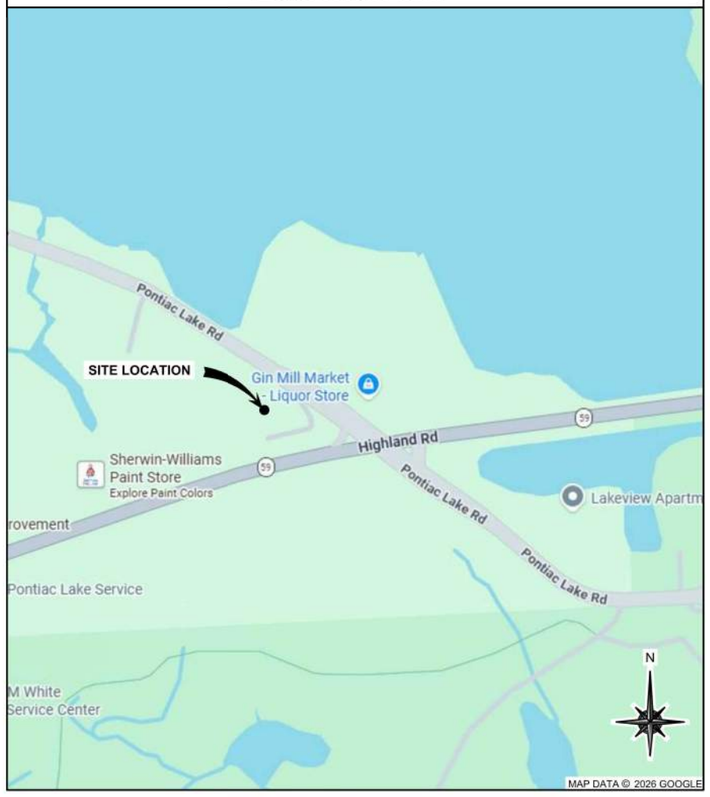
A&E:

WT GROUP AEC, LLC
2000 CENTER DRIVE
SUITE B411
HOFFMAN ESTATES, IL 60192
CONTACT: KEVIN CUNNIE
TEL: (847) 287-2085

AERIAL MAP



LOCATION MAP



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REFERENCED MATERIALS

A SITE WALK WAS NOT PERFORMED FOR THIS SITE PER SCOPE OF WORK. EQUIPMENT LAYOUT AND PLANS SHOWN WITHIN THIS SET WERE TAKEN FROM AVAILABLE DOCUMENTS/DRAWINGS PROVIDED BY OTHERS.

811 Know what's below. Call before you dig.

CALL AT LEAST THREE WORKING DAYS BEFORE YOU DIG

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING LOCATIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE SAME

DO NOT SCALE DRAWINGS

CHARGE-X BY iB ELECTRIC

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STATE OF MICHIGAN
LICENSED PROFESSIONAL ENGINEER
MARK VENTRELLI
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No. 6201057995

EXPIRES: 03/02/28 SIGNED: 09/02/26

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A	FOR CLIENT REVIEW	03/18/26	JTB
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4	REVISION	09/02/26	JTB

AQUATIC \ DESIGN & PROGRAM MANAGEMENT
CIVIL \ TELECOMMUNICATION \ MECHANICAL
PLUMBING \ ELECTRICAL \ LAND SURVEYING
ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR
DRAWN: JTB
JOB: T2600207

T-1
TITLE SHEET

GENERAL NOTES:

1. OBTAIN AND PAY FOR PERMITS, LICENSES, INSPECTION, APPROVALS AND FEES REQUIRED AND ENSURE THAT THE ENTIRE INSTALLATION CONFORMS TO CODES AND REGULATIONS REQUIRED BY AUTHORITY OR AGENCY HAVING JURISDICTION OVER THE INSTALLATION, ALTERATION OR CONSTRUCTION OF WORK INCLUDED. ALL FEES SHALL BE INCLUDED IN THE BASE PROPOSAL.
2. COORDINATE UNDERGROUND WORK WITH NEW AND EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
3. POWER WIRING 120 VOLTS AND GREATER SHALL BE INSTALLED IN CONDUIT AND SHALL BE NEW, UNLESS NOTED OTHERWISE.
4. UNDERGROUND CONDUITS SHALL BE INSTALLED TO MEET NEC. EXPANSION FITTINGS SHALL BE PROVIDED AT ALL TRANSITIONS FROM UNDERGROUND TO EXPOSED CONDUIT, WHERE REQUIRED BY NEC.
5. EMPTY CONDUITS SHALL BE PROVIDED WITH A 1/4" DIA. POLYPROPYLENE FISHLINE.
6. CONDUITS SHALL BE ROUTED TO AVOID OPENINGS IN FLOORS, ROOFS, AND WALLS. LADDERS UP WALLS SHALL NOT BE CROSSED BY EXPOSED CONDUIT RUNS. PROVIDE THE MINIMUM CLEAR SPACE REQUIRED BY ALL GOVERNING CODES BETWEEN HANDRAILS AND ALL ELECTRICAL ENCLOSURES AND RACEWAYS, WHICH IN NO CASE SHALL BE LESS THAN 1-1/2" CLEAR.
7. ELECTRICAL FLOOR MOUNTED EQUIPMENT SUCH AS MOTORS, CONTROL PANELS AND METALLIC SUPPORT RACKS SHALL HAVE A MINIMUM #2 BARE COPPER GROUND CONDUCTOR BETWEEN THE MOTOR, FRAME, ENCLOSURE, OR SUPPORT LEG AND THE BUILDING GROUND SYSTEM.
8. MATERIALS USED SHALL BE NEW AND BEAR THE U.L. LABEL WHERE SUCH SERVICE AND LABEL ARE REGULARLY PROVIDED AND BE OF THE APPROPRIATE NEMA STANDARD.
9. THE CONTRACTOR SHALL FURNISH MATERIALS AND LABOR AS INDICATED ON PLANS AND AS REQUIRED FOR A COMPLETE, REVISED ELECTRICAL SYSTEM.
10. THREADED ELECTRICAL EQUIPMENT (CONDUIT, FITTINGS, BOLTS, SCREWS, ETC.) INSTALLED OUTDOORS SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION. ALL HARDWARE SHALL BE STAINLESS STEEL OR GALVANIZED.
11. FLOOR MOUNTED EQUIPMENT SHALL BE MOUNTED ON A MINIMUM 2" CONCRETE PAD, UNLESS NOTED OTHERWISE.
12. WHEN THE JOB IS COMPLETE, CONTRACTOR SHALL PROVIDE THE OWNER WITH CERTIFICATE OF APPROVAL FROM THE ELECTRICAL INSPECTION AUTHORITY AND SHALL PROVIDE THE OWNER WITH A ONE YEAR WRITTEN GUARANTEE ON ALL NEW MATERIALS AND LABOR.

GENERAL SPECIFICATIONS:

1. THESE SPECIFICATIONS, ALL OTHER DOCUMENTS ATTACHED HERETO, ALL ADDENDA ISSUED AND THE ACCOMPANYING PLANS ARE INTENDED TO PROVIDE FOR THE COMPLETE FURNISHING AND INSTALL OF THE ENTIRE SYSTEM.
2. THE WORK SHALL BE DONE IN ACCORDANCE WITH BEST PRACTICE SO AS TO CONTRIBUTE TO EFFICIENCY OF OPERATION AND MINIMUM MAINTENANCE AND SHALL BE INSTALLED WITH PROPER ACCESSIBILITY. THE MATERIALS AND EQUIPMENT, INCLUDING ALL NECESSARY ACCESSORIES, SHALL BE PUT INTO PROPER ADJUSTMENT SO THAT THE COMPONENT PARTS FUNCTION TOGETHER AS A WORKABLE SYSTEM. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS AND OPERATIONS AS INDICATED EITHER ON THE DRAWINGS OR CONTAINED HEREIN OR AS MAY BE REASONABLY IMPLIED BY EITHER TO ACCOMPLISH THE COMPLETE INSTALLATION.
3. PROVIDE ALL MATERIALS, EQUIPMENT LABOR AND INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE SYSTEMS. PROVIDE ALL NECESSARY TESTS AND PAY FOR ALL FEES, PERMITS, INSPECTIONS, ETC. AS REQUIRED BY LOCAL AUTHORITIES. SECURE PERMITS PRIOR TO STARTING WORK. OBTAIN ALL PERMITS, LICENSES, INSPECTIONS AND BONDS. PERFORMS ALL TESTS REQUIRED. UPON COMPLETION OF THE WORK, OBTAIN AND SEND CERTIFICATES OF INSPECTION AND APPROVAL TO THE ENGINEER/OWNER. PAY ALL FEES AND EXPENSES FOR PERMITS, LICENSES, TESTS AND INSPECTIONS.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR THAT HIS WORK IN INSTALLED IN THE MOST DIRECT AND WORKMANLIKE MANNER, AND THAT INTERFERENCE IS AVOIDED.
5. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE EQUIPMENT AND SYSTEMS TO BE INSTALLED AND THE GENERAL LOCATION AND ARRANGEMENT OF THE WORK. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE THE EXACT LOCATION AND ROUTING OF MECHANICAL WORK, UNLESS REFERENCE DIMENSIONS ARE SPECIFICALLY INDICATED ON THE DRAWINGS. DEVIATIONS FROM CONTRACT DRAWING LAYOUT IN ORDER TO AVOID INTERFERENCES WITH OTHER TRADES OR OTHER MECHANICAL WORK SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT, WITH NO INCREASE IN CONTRACT PRICE. ALL COSTS FOR REMOVAL AND RELOCATION OF MECHANICAL AND ELECTRICAL WORK RESULTING FROM FAILURE TO COORDINATE WITH OTHER TRADES SHALL BE PAID BY THE CONTRACTOR.
6. INSTALLATION SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCE. THE CONTRACTOR SHALL BE HELD TO BE FULLY INFORMED OF ALL LAWS, ORDINANCES AND CODES, AND SHALL, IN THE PERFORMANCE OF THE CONTRACT, COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL AFORESAID REGULATIONS. ANY DEVIATION FROM THE PLANS OR SPECIFICATIONS AND ANY ADDITIONAL WORK NECESSARY TO MEET CODE REQUIREMENTS, SHALL BE MADE BY THE CONTRACTOR WITHOUT EXTRA COST TO THE OWNER.
7. EQUIPMENT IS TO BE U.L. LISTED AND LABELED.
8. ALL TRADES SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. NOTIFY THE ENGINEER OF INTERFERENCES OR DISCREPANCIES AND CLARIFY ALL DISCREPANCIES WITH THE ENGINEER BEFORE SUBMITTING A BID, AS NO EXTRAS WILL BE ALLOWED FOR OMITTED WORK DUE TO FAILURE TO INSPECT THE PREMISES.
9. EACH TRADE SHALL BE RESPONSIBLE FOR ITS OWN CLEANUP.
10. SHOP DRAWING SUBMITTALS FOR EQUIPMENT AND MATERIALS TO BE USED ARE REQUIRED. SUBMIT TO OWNER.
11. FURNISH THE OWNER WITH TWO COPIES OF OPERATION/MAINTENANCE MANUALS FOR ALL EQUIPMENT AND PROVIDE FULL OPERATION INSTRUCTIONS TO THE OWNER'S PERSONNEL.
12. GUARANTEE: CONTRACTOR SHALL REPAIR OR REPLACE ANY PART OF THE INSTALLATION WHICH MAY FAIL WITHIN A PERIOD OF TWO YEARS AFTER FINAL ACCEPTANCE.

ELECTRICAL SPECIFICATIONS:

1. WIRE BETWEEN ELECTRICAL SOURCE AND CT CABINET SHALL BE ALUMINUM (AL). WIRE BEYOND CT CABINET TO DISCONNECT, CHARGER, ETC. SHALL BE COPPER (CU).
2. BOXES SHALL BE GALVANIZED STEEL, CODE THICKNESS, A MINIMUM OF 1" DEEP AND OF SUFFICIENT SIZE TO ACCOMMODATE THE DEVICES THEY SERVE, ACCORDING TO NEC REQUIREMENTS. PULL BOXES FOR ALL CONDUIT RUNS FOR ALL SYSTEMS SHALL BE INSTALLED AT INTERVALS NOT EXCEEDING 100 FEET OR AFTER 270 DEGREES OF BENDS.
3. CONDUITS SHALL NOT BE SUPPORTED FROM MECHANICAL DUCTS, PIPE, OR PIPE AND DUCT SUPPORTS.
4. ELECTRIC SYSTEM GROUNDING SHALL IN ALL INSTANCES COMPLY WITH THE MINIMUM REQUIREMENTS OF THE NEC. ALL CONDUITS SERVING WIRING OF 120 VOLTS OR GREATER SHALL INCLUDE A GROUND WIRE.
5. ELECTRICAL ENCLOSURES, CONDUIT SYSTEMS, ETC. SHALL BE THOROUGHLY GROUNDED IN ACCORDANCE WITH THE NEC AND ALL LOCAL CODES.
6. PROVIDE WATERTIGHT HUBS AT CONDUIT ENTRANCES TO ALL WATERTIGHT (NEMA 4) ENCLOSURES.
7. GFI DUPLEX RECEPTACLES SHALL BE 125 VOLT, 3 WIRE GFCI TYPE WITH FACE MOUNTED TEST AND RESET BUTTONS AND MATCHING STAINLESS STEEL COVER PLATE, HUBBELL HBL GF-5362-I, LEVITON 6898-I, OR EQUAL. ALL SWITCHES AND RECEPTACLES SHALL BE PROVIDED WITH STAINLESS STEEL COVER PLATES AND LOCKABLE COVERS, OR LOCKABLE, WEATHERPROOF WHILE-IN-USE COVERS, AS INDICATED ON THE DRAWINGS.
8. DUPLEX RECEPTACLE SHALL BE 20 AMP, 125 VOLT, 3 WIRE, GROUNDING TYPE BY HUBBELL, GE, COOPER, OR EQUAL.
9. CIRCUIT BREAKERS FOR PANELBOARDS SHALL BE OF BOLT-IN-PLACE TYPE USING SINGLE POLE OR COMMON TRIP, TWO OR THREE POLE AS INDICATED ON THE DRAWINGS. CIRCUIT BREAKERS SHALL BE ON MOLDER CASE TYPE WITH THERMAL MAGNETIC TRIP AND BREAKER HANDLES INDICATING "ON" - "OFF" AND "TRIP" POSITIONS. GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE BREAKERS SHALL BE PROVIDED WHERE INDICATED ON INTERRUPTING CAPACITY MINIMUM AND SHALL BE APPROVED FOR "SWITCHING DUTY." ALL CIRCUIT BREAKERS SHALL BE LOCKABLE. CIRCUIT BREAKERS SHALL BE EATON-CUTLER-HAMMER, SQUARE D BY SCHNEIDER ELECTRIC, OR ABB.
10. THE RECEPTACLE PANELBOARDS SHALL BE FACTORY ASSEMBLED FOR 208/120V, THREE PHASE SERVICE. PANELBOARDS SHALL HAVE MAIN CIRCUIT BREAKERS AS INDICATED ON THE DRAWINGS. PANELBOARD SHALL HAVE A NEMA TYPE 1 RATING. THE PANELBOARDS SHALL BE LISTED BY UL WITH AN INTEGRATED INTERRUPTING CAPACITY OF 10,000 RMS SYMMETRICAL AMPERES AT 160 VAC, MINIMUM. PANELBOARDS SHALL BE EATON, SCHNEIDER ELECTRIC, OR ABB. THE PANEL SHALL BE PROVIDED WITH A DIRECTORY ON THE INSIDE OF THE DOOR.
11. WHERE INDICATED ON THE DRAWINGS, PROVIDE MODIFICATIONS TO EXISTING PANELBOARDS AS REQUIRED. PANELBOARDS SHALL BE MODIFIED BY THE ADDITION OF NEW DEVICES, CONNECTIONS TO EXISTING DEVICES, AND/OR DISCONNECTION FROM EXISTING DEVICES. CIRCUIT BREAKERS FOR ADDITION TO EXISTING PANELBOARDS SHALL BE THE PANELBOARD MANUFACTURER'S COMPATIBLE REPLACEMENT PARTS AND SHALL MATCH THE PANELBOARD'S EXISTING BREAKER INTERRUPTING RATINGS. BREAKER TRIP RATINGS AND NUMBER OF POLES SHALL BE INDICATED ON THE DRAWINGS.
12. DRY TYPE TRANSFORMERS SHALL BE INDOOR OR OUTDOOR, SELF AIR-COOLED, DRY TYPE WITH MIN. TWO 5% FCBN TAPS. TRANSFORMERS SHALL HAVE A BIL OF NOT LESS THAN 10kV ON THE PRIMARY AND SECONDARY AND SHALL NOT BE RATED 115°C TYPE RISE WITH INSULATION SYSTEM DESIGNED FOR A TOTAL TEMPERATURE OF 185°C. TRANSFORMERS SHALL BE BY EATON, SQUARE D, OR EQUAL. PROVIDE MIN. 3" CONCRETE PAD FOR FLOOR MOUNTED TRANSFORMERS.

ELECTRICAL SPECIFICATIONS (CONT.):

13. DISCONNECT SWITCHES SHALL BE 600 VOLT RATED. NEMA TYPE 3R ENCLOSED DISCONNECT SWITCHES SHALL BE EATON-CUTLER-HAMMER, SQUARE D BY SCHNEIDER ELECTRIC, ABB, OR SIEMENS. ALL DISCONNECT SWITCHES SHALL HAVE PROVISIONS FOR PADLOCKING IN EITHER THE "ON" OR "OFF" POSITIONS AND ALL TERMINALS OR LUGS SHALL BE 75°C RATED FOR CONDUCTORS. FUSED SWITCHES SHALL UTILIZE CLASS R FUSES. ENCLOSURES SHALL BE AS INDICATED ON THE DRAWINGS.
14. RIGID STEEL CONDUITS SHALL CONSIST OF HEAVY WALL, MILD STEEL TUBE, HOT-DIPPED GALVANIZED WITH THREADS ELECTROGALVANIZED AFTER CUTTING, AS MANUFACTURED BY WHEATLAND TUBE, ALLIED TUBE, OR EQUAL.
15. ELECTRICAL METALLIC TUBING (EMT) SHALL BE THIN WALL, GALVANIZED STEEL CONDUIT AS MANUFACTURED BY WHEATLAND TUB, ALLIED TUBE, OR EQUAL.
16. PVC SCHEDULE 40 CONDUIT SHALL BE HEAVY WALL WITH INTEGRAL BELL AND SHALL BE BY THOMAS & BETTS - CARLON, JM EAGLE, OSBURN, OR EQUAL.
17. ALL CONDUIT RUNS (POWER AND CONTROL) SHALL BE LABELED IN ACCORDANCE WITH ANSI 13.1 WITH LABELS THAT ARE WATER-RESISTANT. CIRCUIT NUMBER MARKERS SHALL CONSIST OF SELF-ADHESIVE VINYL CLOTH OR POLYVINYL FLUORIDE FILM MARKERS WITH 1/8" HIGH (MINIMUM), BLACK LETTERING ON A YELLOW BACKGROUND, W.H. BRADY CO. MARKERS MAY ALSO CONSIST OF COMPUTER GENERATED, VINYL CLOTH, PERMANENT, NON-SMEARING, SELF-ADHESIVE MARKERS SUCH AS BRADY DATAB, BRADYMAKER XC PLUS, 3M SCOTCHCODE SCS OR STS, OR EQUAL. CIRCUIT NUMBER MARKERS FOR PANELBOARD CIRCUIT BREAKERS MAY BE THE MANUFACTURER'S STANDARD.
18. UNDERGROUND CONDUIT FOR DIRECTIONAL BORING SHALL BE COILABLE HIGH-DENSITY POLYETHYLENE TYPE III, GRADE P-22. CONDUIT WITHIN 5'-0" OF POLE AND HANDHOLES SHALL BE RIGID GALVANIZED STEEL.
19. FUSES SHALL BE DUAL ELEMENT OR CURRENT LIMITED TYPE, CLASS R OR AS OTHERWISE REQUIRED FOR INSTALLATION IN EXISTING EQUIPMENT OR IN THE EQUIPMENT FURNISHED, AND AS SHOWN ON THE DRAWINGS. FUSES SHALL PROVIDE TYPE II PROTECTION FOR MOTOR CIRCUITS.

CODE AND STANDARDS:

WORK SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL STATE BUILDING, ELECTRICAL & CONSTRUCTION CODES.

IF AUTHORITY HAVING JURISDICTION HAS NOT ADOPTED CURRENT EDITIONS OF THE NATIONAL CODE, THEN THE AUTHORIZED EDITION SHALL BE FOLLOWED.

CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS REQUIRED TO COMPLETE THE WORK.

CONTRACTOR "RECORD DRAWINGS":

THE CONTRACTOR SHALL MAINTAIN A CLEAR, LEGIBLE, MARKED-UP SET OF DRAWINGS AT THE SITE, THAT RECORD FIELD CONDITIONS AND CHANGES MADE TO THE WORK. THE DRAWINGS SHALL RECORD THE CONTRACTOR'S NOTES, MEASUREMENTS, ETC. AS THEY PERTAIN TO THE WORK. THE DRAWINGS SHALL BE TURNED OVER TO THE ENGINEER OF RECORD AT THE COMPLETION OF THE PROJECT FOR DEVELOPMENT OF FINAL RECORD DOCUMENTS.

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EXPIRES: 03/02/28 SIGNED: 09/02/26

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DRAWN: JTB
JOB: T2600207

T-2
GENERAL NOTES

GENERAL CIVIL CONSTRUCTION NOTES:

1. CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF THE JURISDICTION AND LOCAL STATE DOT.
2. PAVEMENT SHALL BE SAWCUT FULL DEPTH PRIOR TO REMOVAL.
3. EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE JURISDICTION.
   - 3.1. EROSION AND ANY SEDIMENTATION RESULTING FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF SITE AREAS OR INCLUDE BOTH NATURAL AND MAN MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES OR PONDS.
   - 3.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SOIL EROSION AND SEDIMENTATION CONTROL DEVICES.
   - 3.3. FOR ANY AND ALL DEWATERING OPERATION, WATER SHALL BE DISCHARGED THROUGH A SOCK FILTER AND DISSIPATED PRIOR TO DISCHARGE.
   - 3.4. CONTRACTOR TO INSTALL INLET FILTERS AS REQUIRED OF AS DIRECTED BY THE LOCAL GOVERNING AGENCY/ENGINEER. INLET FILTERS SHALL BE CLEANED ONCE PER WEEK OR AFTER EACH STORM EVENT.
   - 3.5. CONTRACTOR TO INSTALL SILT FENCE AS REQUIRED OR AS DIRECTED BY THE LOCAL GOVERNING AGENCY/ENGINEER.
     - A. SILT FENCE SHALL BE INSTALLED PER DETAIL.
     - B. BUILD UP OF SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE SILT FENCE.
     - C. IF SILT FENCE FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF EXPECTED USABLE LIFE AND THE BARRIER IS STILL REQUIRED, THE SILT FENCE SHALL BE REPLACED PROMPTLY.
     - D. SILT FENCE SHALL BE INSPECTED WEEKLY UNDER NORMAL CONDITIONS, WITHIN 24 HOURS OF RAINFALL AND DAILY DURING A PROLONGED RAIN EVENT. REQUIRED MAINTENANCE SHALL BE PROVIDED PROMPTLY.
4. IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW, SPREAD UNIFORMLY AT THE RATE OF 1 TO 2 TONS PER ACRE OR 100 POUNDS (2-3 BALES) PER 1000 SQUARE FEET. THIS MULCH SHOULD BE ANCHORED WITH DISC TYPE MULCH ANCHORING TOOL. MULCH MATTING MAY BE USED IN LIEU OF LOOSE MULCH.
5. STOCKPILED SOILS SHALL BE MAINTAINED IN SUCH A WAY AS TO PREVENT EROSION FROM LEAVING THE SITE. IF THE STOCKPILE WILL BE ON SITE FOR MORE THAN 30 DAYS, THEN THE STOCKPILE MUST BE SEEDED. SILT FENCE MUST BE INSTALLED AROUND THE PERIMETER OF THE STOCKPILE.
6. DIRT TRACKED ONTO ANY ROADWAY SHALL BE REMOVED IMMEDIATELY.
7. STREET AND/OR PARKING AREAS WILL BE SCRAPED ON A DAILY BASIS AND SWEPT AT A MINIMUM OF ONCE PER WEEK BY THE CONTRACTOR.
8. DURING DRY PERIODS, DISTURBED AREAS SHALL BE WATERED FOR DUST CONTROL.
9. FINAL GRADE, ESTABLISH VEGETATION AND/OR LANDSCAPE ALL DISTURBED AREAS NOT BUILT OR PAVED UPON.
10. REMOVE ALL TEMPORARY SOIL EROSION DEVICES AFTER PERMANENT STABILIZATION IS ESTABLISHED AND UPON LOCAL AGENCY APPROVAL.
11. EXISTING PAVEMENT MARKING SCHEDULED FOR REMOVAL SHALL BE BLACKED OUT WITH WATERBORNE PAINT OR BY AN APPROVED ALTERNATE METHOD AND SHALL BE FROM A LOCAL STATE DOT APPROVED SOURCE.
12. PROPOSED PAVEMENT MARKINGS SHALL EITHER BE WATERBORNE PAINT OR APPROVED ALTERNATE AND SHALL BE FROM A LOCAL STATE DOT APPROVED SOURCE.
13. PROPOSED PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE LOCAL STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
14. THE CONTRACTOR SHALL RESTORE DISTURBED AREAS FROM CONSTRUCTION OPERATIONS TO THEIR ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER. LANDSCAPE AREAS REQUIRING RESTORATION SHALL INCLUDE MIN. 4" TOPSOIL, SEED AND MULCH. PAVEMENT AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, WITH THE APPLICABLE CROSS SECTION TO MATCH EXISTING AND THE MINIMUM REQUIREMENTS OF THE JURISDICTION.

GENERAL PAVING NOTES:

1. EXISTING TOPSOIL, VEGETATION, AND ORGANIC MATERIALS SHALL BE STRIPPED AND REMOVED FROM THE PROPOSED PAVEMENT AREA PRIOR TO PLACEMENT OF THE BASE MATERIAL. TREE ROOTS SHALL BE COMPLETELY REMOVED.
2. THE PAVEMENT SUBGRADE SHALL BE THOROUGHLY PROOF-ROLLED IN THE PRESENCE OF THE ENGINEER TO DETERMINE STABILITY OF LOOSE OR YIELDING. AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHALL BE REMOVED AND REPLACED WITH 1"x3" CRUSHED LIMESTONE OR AS DIRECTED BY THE ENGINEER. ALL FILL MATERIAL AND BASE MATERIAL SHALL BE TESTED AND ITS COMPACTION AND SUITABILITY FOR ACCEPTANCE OF THE BASE MATERIAL AND PAVEMENT SHALL BE ACCEPTED BY THE ENGINEER.
3. AGGREGATE BASE MATERIAL SHALL BE CRUSHED CONCRETE COMPACTED TO 98% OF THE MAXIMUM DENSITY DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557) METHOD OF TESTING. THE AGGREGATE BASE SHALL EXTEND A MINIMUM OF ONE FOOT BEYOND THE BACK OF CURB OR THE PAVED EDGE. AGGREGATE SHALL BE FROM A LOCAL STATE DOT APPROVED SOURCE.
4. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT JURISDICTION CONSTRUCTION STANDARDS AND SPECIFICATIONS AND THE CURRENT LOCAL STATE DOT STANDARDS AND SPECIFICATIONS.
5. FILL AREAS SHALL BE MACHINE COMPACTED IN UNIFORM LIFTS NOT EXCEEDING 9 INCHES IN THICKNESS (BEFORE COMPACTION) TO 95% OF THE MAXIMUM DENSITY DETERMINED BY THE MODIFIED PROCTOR (ASTM D1557) METHOD OF TESTING PRIOR TO PLACEMENT OF THE PROPOSED PAVEMENT.

CONCRETE SPECIFICATIONS:

CONCRETE SHALL BE FURNISHED, PLACED, FINISHED AND INSTALLED IN ACCORDANCE WITH THE CURRENT JURISDICTION CONSTRUCTION STANDARDS AND SPECIFICATIONS AND THE CURRENT LOCAL STATE DOT STANDARDS AND SPECIFICATIONS.

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. (DRILL & GROUT) - REFERS TO DRILLING INTO EXISTING CONCRETE TO THE SPECIFIED HOLE DIAMETER AND EMBEDMENT UNLESS OTHERWISE SHOWN AND ANCHORING THE REINFORCEMENT WITH STRUCTURAL EPOXY ADHESIVE, HIT-HY 200 SYSTEM HIGH STRENGTH INJECTION ADHESIVE SYSTEM BY HILTI CORP. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. MINOR REINFORCEMENT RELOCATION, AS APPROVED BY THE ENGINEER MAY OCCUR WHEN ENCOUNTERING EXISTING REINFORCEMENT.
3. CONCRETE SHALL BE RESISTANT TO EXCESSIVE EXPANSION CAUSED BY ALKALI-SILICA REACTIVITY (ASR). CONCRETE MIX DESIGNS SHALL BE A REFERENCE WITH THE FOLLOWING:
   - A. CEMENT FOR CONCRETE SHALL BE ASTM C-150 TYPE I OR II WITH EQUIVALENT TOTAL ALKALI CONTENT AS Na_2O NO GREATER THAN 0.60%
   - B. A PORTION OF THE CEMENT WILL BE SUBSTITUTED WITH GROUND GRANULATED BLAST FURNACE SLAG (GGBFS) MINIMUM 25% TO MAXIMUM 35% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL. GGBFS SHALL COMPLY WITH ASTM C-989 GRADE 100 OR 120.
   - C. FINE AGGREGATE SHALL BE NATURAL SAND 2NS.
   - D. COARSE AGGREGATE SHALL CONFORM TO ASTM C-33 AND SHALL BE GRADED IN ACCORDANCE WITH LOCAL STATE DOT CLASS 26A LIMESTONE FOR SIDEWALKS, CURBS (UNLESS INTEGRAL) AND 7" CONCRETE PAVEMENT. LOCAL STATE DOT CLASS 6AA LIMESTONE SHALL BE USED FOR 8" & GREATER CONCRETE PAVEMENT.
   - E. FINE AND COARSE AGGREGATES SHALL BE FROM SOURCES THAT HAVE BEEN TESTED FOR ALKALI-SILICA REACTIVITY (ASR) PER ASTM 1260 AND ASTM 1293 AND HAVE SHOWN TO BE RESISTANT TO EXCESSIVE EXPANSION CAUSED BY ASR.
   - F. CONCRETE SHALL BE AIR ENTRAINED TO A TOTAL AIR CONTENT OF 6% +/- 1%
   - G. CONCRETE MIXTURE WATER-CEMENT RATIO SHALL BE NO GREATER THAN 0.45
   - H. THE USE OF FLY ASH IS NOT ALLOWED.
   - I. NO WATER SHALL BE ADDED TO CONCRETE AFTER BATCHING.
   - J. NO FIELD ADDITION OF AIR ENTRAINED CHEMICALS IS ALLOWED.
   - K. CONCRETE NOT MEETING PROJECT REQUIREMENTS WILL BE REJECTED AND NOT PLACED ON PROJECT SITE.
5. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. SUBMITTAL SHALL CONTAIN:
   - MIX RECIPE
   - CURRENT CEMENT MANUFACTURER DATA SHEET
   - HISTORICAL TEST DATA WITH STANDARD DEVIATION PER ACI 318 CHAPTER 5 OR 3 POINT TRIAL BATCH CURVE DATE
   - FINE AND COARSE AGGREGATE: GRADATION, ANY AVAILABLE ASTM TEST DATA FOR ALKALI SILICA REACTION (ASR), PIT ID, LOCAL STATE DOT PIT ID
   - ADMIXTURE DATA SHEETS

CONCRETE SPECIFICATIONS (CONT.):

6. CONCRETE MIX TESTING MAY BE PERFORMED BY THE OWNER FOR EACH CONCRETE PLACEMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER'S AGENT ACCESS TO THE AREAS TO BE TESTED.
7. ALL CONCRETE SHALL HAVE A WHITE CURING COMPOUND COMPLYING WITH LOCAL STATE DOT SPECIFICATIONS FOR CONSTRUCTION APPLIED AT A MAXIMUM OF 150 SFT PER GALLON WITHIN ONE HOUR OF PLACEMENT.

ASPHALT PAVEMENT SPECIFICATIONS:

1. SUBMIT MIX REPORT FOR ASPHALT/CONCRETE MIXTURE TO BE USED. SUBMIT IN SUFFICIENT TIME TO ALLOW REVIEW AND APPROVAL BEFORE START OF FIELD OPERATIONS.
2. DO NOT INSTALL ANY MATERIALS WHEN GROUND IS FROZEN OR COVERED WITH SNOW, ICE OR WATER; IT IS RAINING; OR WHEN RAIN IS THREATENING.
3. JOINT SEALANT - HOT APPLIED, SINGLE COMPONENT, POLYMER-MODIFIED ASPHALT SEALANT.
4. BOND/TACK COAT - RAPID CURING LIQUID ASPHALT CONFORMING TO LOCAL STATE DOT DESIGNATION RC-70; OR ASPHALT EMULSION CONFORMING TO LOCAL STATE DOT DESIGNATION SS-1H OR MS-2A. APPLY UNIFORMLY TO VERTICAL SURFACES ABUTTING OR PROJECTING INTO NEW, HOT-MIX ASPHALT PAVING AT RATE OF 0.05 TO 0.15 GAL. PER SQ. YD. (0.2 TO 0.7 L/SQ. M.). ALLOW BOND COAT TO CURE UNDISTURBED BEFORE APPLYING HOT-MIX ASPHALT PAVING. AVOID SMEARING OR STAINING ADJOINING SURFACES, APPURTENANCES, AND SURROUNDINGS. REMOVE SPILLAGES AND CLEAN AFFECTED SURFACES.
5. FINE GRADE AND COMPACT EARTH SUBGRADES AND BRING TO REQUIRED ELEVATIONS AND CROSS SECTIONS.
6. MACHINE PLACE HOT-MIX ASPHALT ON PREPARED SURFACE, SPREAD UNIFORMLY, AND STRIKE OFF. PLACE ASPHALT MIX BY HAND TO AREA INACCESSIBLE TO EQUIPMENT IN MANNER THAT PREVENTS SEGREGATION OF MIX. PLACE EACH COURSE TO REQUIRED GRADE, CROSS SECTION, AND THICKNESS WHEN COMPACTED.
7. PLACE ASPHALT AT SURFACE TEMPERATURES EQUAL TO OR GREATER THAN 35°F AS SPECIFIED IN LOCAL STATE DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
8. BEGIN COMPACTION AS SOON AS PLACED HOT-MIX PAVING WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT. COMPACT HOT-MIX PAVING WITH HOT, HAND TAMPERS OR VIBRATORY-PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS. COMPLETE COMPACTION BEFORE MIX TEMPERATURE COOLS TO 185°F (85°C).
9. AVERAGE DENSITY: 96% OF REFERENCE LABORATORY DENSITY ACCORDING TO AASHTO T 245, BUT NOT LESS THAN 94% NOR GREATER THAN 100%
10. AVERAGE DENSITY: 92% OF REFERENCE MAXIMUM THEORETICAL DENSITY ACCORDING TO ASTM D 2041, "STANDARD TEST METHOD FOR THEORETICAL MAXIMUM SPECIFIC GRAVITY AND DENSITY OF BITUMINOUS PAVING MIXTURES", BUT NOT LESS THAN 90% NOR GREATER THAN 96%
11. FINISH ROLLING: FINISH ROLL PAVED SURFACES TO REMOVE ROLLER MARKS WHILE HOT-MIX ASPHALT IS STILL WARM.
12. EDGE SHAPING: WHILE SURFACE IS BEING COMPACTED AND FINISHED, TRIM EDGES OF PAVEMENT TO PROPER ALIGNMENT. ROLL EDGES LEVEL WHEN ABUTTING EXISTING PAVEMENT & HOT SEAL JOINT.
13. REPAIRS: REMOVE PAVED AREAS THAT ARE DEFECTIVE OR CONTAMINATED WITH FOREIGN MATERIALS AND REPLACE WITH FRESH, HOT-MIX ASPHALT. COMPACT BY ROLLING TO SPECIFIED DENSITY AND SURFACE SMOOTHNESS.
14. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED.
15. JOINTS: CONSTRUCT JOINTS TO ENSURE A CONTINUOUS BOND BETWEEN ADJOINING PAVING SECTIONS. CLEAN CONTACT SURFACES AND APPLY BOND COAT TO JOINTS.

EXCAVATION & BACKFILL NOTES:

1. ALL MATERIALS EXCAVATED SHALL BE STOCKPILED ON THE SITE AS DIRECTED BY THE OWNER. EXCAVATED MATERIAL MAY BE RE-USED FOR BACKFILL UNLESS NEW SAND BEDDING/SUB-BASE IS SPECIFIED. RE-USED MATERIALS SHALL MEET THE REQUIREMENTS OF THIS SECTION SPECIFICATION. FOR THE PURPOSES OF BIDDING, ASSUME THAT EXCAVATED MATERIALS ARE SUITABLE FOR RE-USE.
2. BROKEN CONCRETE AND ASPHALT SHALL NOT BE USED FOR BACKFILL AND BE LEGALLY DISPOSED OF OFF-SITE.
3. ALL MATERIALS USE IN BACKFILLING SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. LIFTS SHALL NOT EXCEED 9 INCHES BETWEEN TESTING.
4. ALL EXCAVATION ACTIVITIES SHALL BE DONE IN SUCH A MANNER AS TO NOT JEOPARDIZE THE FOUNDATION OF THE BUILDING OR UTILITIES IN AREA.
5. SAND FOR SUB-BASE UNDER BUILDING SLAB AREAS AND PIPE BEDDING SHALL BE LOCAL STATE DOT CLASS II MATERIAL, COMPACTED IN PLACE.

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WHITE LAKE TOWNSHIP, MI 48386

STATE OF MICHIGAN
LICENSED PROFESSIONAL ENGINEER
MARK VENTRELLI ENGINEER
No. 6201057985

EXPIRES: 03/02/28 SIGNED: 09/02/26

REVISIONS

REV.	ISSUED FOR	DATE	BY
A	FOR CLIENT REVIEW	03/18/26	JTB
0	REVISION	03/23/26	JTB
1	REVISION	05/20/26	JTB
2	REVISION	06/12/26	JTB
3	REVISION	07/16/26	JTB
4	REVISION	09/02/26	JTB

AQUATIC \ DESIGN & PROGRAM MANAGEMENT
CIVIL \ TELECOMMUNICATION \ MECHANICAL
PLUMBING \ ELECTRICAL \ LAND SURVEYING
ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR
DRAWN: JTB
JOB: T2600207

T-3
GENERAL NOTES

ELECTRICAL LEGEND

S	SINGLE POLE SWITCH
F	DISCONNECT SWITCH (F = FUSED)
	PUSHBUTTON STATION (SEE WIRING DIAG'S FOR TYPE)
T	TRANSFORMER (PLAN VIEW)
	TRANSFORMER (DIAGRAM VIEW)
	LIGHTING PANEL
	DISTRIBUTION PANEL
CP	CONTROL PANEL
	120V DUPLEX RECEPTACLE
	NEMA 14-50 RECEPTACLE
J.B.	JUNCTION BOX
P.B.	PULL BOX
	HEATER
	LEVEL 3 DC EV CHARGER (PLAN VIEW)
	LEVEL 2 AC EV CHARGER SINGLE PORT (PLAN VIEW)
	LEVEL 2 AC EV CHARGER DUAL PORT (PLAN VIEW)
	EV CHARGER (DIAGRAM VIEW)
	MOTOR, 1 PHASE
	MOTOR, 3 PHASE
- - - - -	CONDUIT RUN CONCEALED ABOVE CEILING ON IN WALL
— E —	CONDUIT RUN UNDERGROUND
———	CONDUIT RUN EXPOSED
— G —	BUILDING GROUND MASS & GROUND CONDUCTOR
	GROUND ROD, 5/8" DIA. x 8'-0" LONG
— OHW —	OVERHEAD LINE
	DISTRIBUTION PANELBOARD POSITION NUMBER

ABBREVIATIONS

PVC	POLYVINYL CHLORIDE CONDUIT
RGS	RIGID GALVANIZED STEEL
A.F.F.	ABOVE FINISHED FLOOR
W.T.	WATERTIGHT (NEMA 4)
W.T.X.	WATERTIGHT, CORROSION RESISTANT (NEMA 4X)
W.P.	WEATHERPROOF (NEMA 3R)
C.	CONDUIT
GFI	GROUND FAULT INTERRUPTER
EX.	EXISTING
O.C.	ON CENTER
ASR	ALKALI-SILICA REACTIVITY
NEC	NATIONAL ELECTRICAL CODE
DOT	DEPARTMENT OF TRANSPORTATION
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
U.L.	UNDERWRITERS LABORATORIES
EMT	ELECTRICAL METALLIC TUBING
EV	ELECTRIC VEHICLE
HDPE	HIGH-DENSITY POLYETHYLENE TYPE III
EQ.	EQUAL
CLR.	CLEAR
DIA.	DIAMETER
LG.	LONG
MISC.	MISCELLANEOUS
I.D.	INNER DIAMETER
PSI	POUNDS PER SQUARE INCH
TYP.	TYPICAL
GALV.	GALVANIZED
A	AMPERES
W.	WIRE
KAIC	KILO AMPERAGE INTERRUPTING CAPACITY
LSIG	LONG TIME SHORT TIME, INSTANTANEOUS AND GROUND FAULTS
kW	KILOWATT
P.	POLE
AC	ALTERNATING CURRENT
PH.	PHASE
kVA	KILOVOLT-AMPERE
DCFC	DIRECT CURRENT FAST CHARGER
QTY.	QUANTITY
RECEPT.	RECEPTACLE
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
TVSS	TRANSIENT VOLTAGE SURGE SUPPORTER

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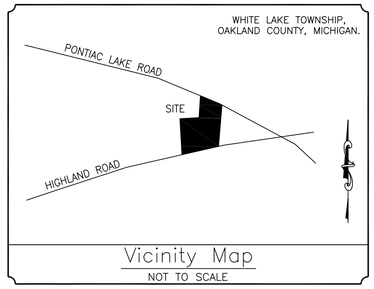
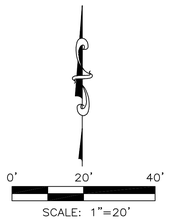
CHECK: JKR
DRAWN: JTB
JOB: T2600207

T-4
GENERAL NOTES



Vicinity Map
NOT TO SCALE



ZONING INFORMATION

A ZONING REPORT WAS NOT PROVIDED BY THE CLIENT PER TABLE A 6(a) AND 6(B). THE ZONING CLASSIFICATION, SETBACK REQUIREMENTS, THE HEIGHT AND FLOOR SPACE AREA RESTRICTIONS, AND PARKING REQUIREMENTS ARE NOT SHOWN HEREON.

NOTES CORRESPONDING TO SCHEDULE B

A TITLE COMMITMENT WAS NOT PROVIDED

GENERAL NOTES

1) NO EVIDENCE OF EARTH MOVING OR BUILDING CONSTRUCTION/ADDITIONS WERE OBSERVED WHILE CONDUCTING THE FIELD WORK. (ITEM 16, TABLE A).

2) NO EVIDENCE OF PROPOSED STREET RIGHT OF WAY LINE CHANGES WERE PROVIDED BY THE CONTROLLING JURISDICTION. (ITEM 17, TABLE A).

3) THERE IS NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS. (ITEM 17, TABLE A).

4) THIS PARCEL HAS IMPROVED DIRECT ACCESS TO PONTIAC LAKE ROAD AND HIGHLAND ROAD (M-59), BOTH DEDICATED PUBLIC RIGHT OF WAYS.

5) THIS SURVEY MAP CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY.

6) THERE ARE NO OBSERVED GAPS OR OVERLAPS BETWEEN THE BOUNDARY LINES OF THE PARCEL AS SHOWN ON THIS SURVEY MAP AND AS PROVIDED IN THE DESCRIPTION PRESENTED IN THE TITLE COMMITMENT.

7) THE BOUNDARY LINE DIMENSIONS AS SHOWN ON THIS SURVEY MAP FORM A MATHEMATICALLY CLOSED FIGURE WITHIN +/-0.1 FOOT.

8) THE BOUNDARY LINES OF THE PARCEL AS PROVIDED IN THE DESCRIPTION PRESENTED IN THE TITLE COMMITMENT ARE CONTIGUOUS WITH THE BOUNDARY LINES OF ALL ADJOINING STREETS, HIGHWAYS, RIGHTS OF WAY AND EASEMENTS, PUBLIC OR PRIVATE, AS DESCRIBED IN THEIR MOST RECENT RESPECTIVE DESCRIPTIONS OF RECORD.

9) EXCEPT AS OTHERWISE NOTED BELOW, IF THE OVERALL PARCELS CONSISTS OF TWO OR MORE DESCRIPTIONS, THERE ARE NO GAPS OR GORES BETWEEN SAID DESCRIPTIONS.

10) THIS PARCEL FRONTS ON BOTH PONTIAC LAKE ROAD AND HIGHLAND ROAD (M-59). (ITEM 14, TABLE A).

11) EASEMENTS AND EXCEPTIONS SHOWN HEREON WERE PROVIDED BY THE TITLE INSURANCE COMPANY. NO RESEARCH HAS BEEN CONDUCTED BY GEODETIC DESIGNS INC. TO IDENTIFY ANY ADDITIONAL EASEMENTS OR RECORD ENCUMBRANCES THAT MAY AFFECT THIS PARCEL.

12) ALL LINEAR DIMENSIONS SHOWN ARE IN INTERNATIONAL FEET AND DECIMALS THEREOF.

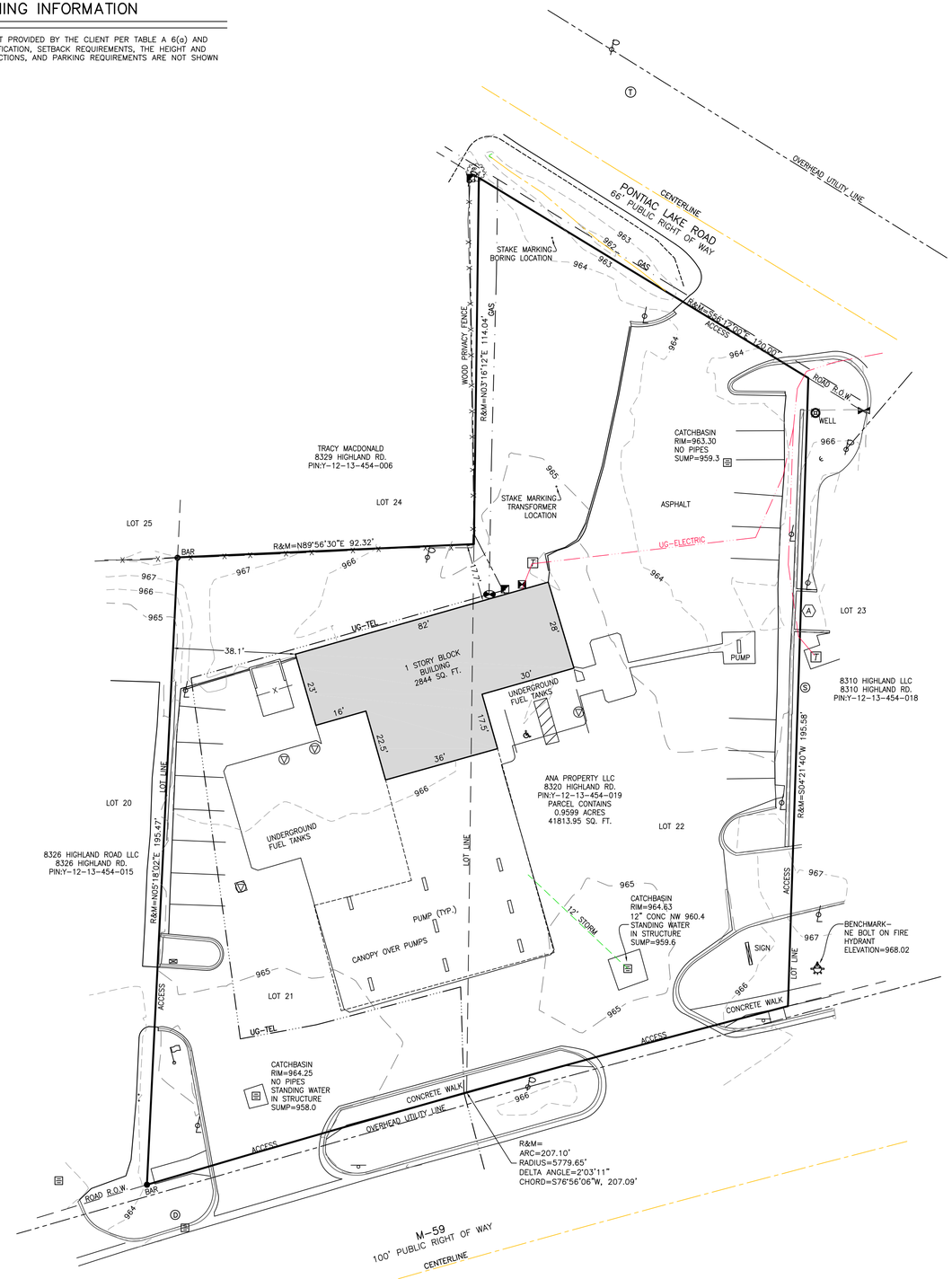
13) WHITE LAKE TOWNSHIP HAS NOT RESPONDED TO A REQUEST FOR MAPS OF UNDERGROUND WATER AND SANITARY AND THOSE ARE NOT SHOWN HEREON.

LEGEND

- Power Pole
- Power Pole w/Light
- Light Pole
- Telephone Pole
- Guy Wire
- Transformer
- Electric Manhole
- Telephone Manhole
- Telephone Pedestal
- Electric Meter
- Cable Box
- Air Conditioner Unit
- Easement Identifier
- Distance not to scale
- Flag Pole
- Sign (As Noted)
- Well Head
- Satellite Dish
- Tower
- Water Valve
- Fire Hydrant
- Water Manhole
- Water Meter Pit
- Water Meter
- Indicates Handicapped Parking
- Parking Count
- Mailbox
- Storm Manhole
- Storm Catchbasin
- Deciduous Tree
- Coniferous Tree
- Sanitary Manhole
- Sanitary Clean Out
- Gas Valve
- Gas Manhole
- Gas Meter
- Gas Marker
- Section Corner
- Set 5/8" Bar & Cap
- Found Corner Monument
- Monitoring Well

ABBREVIATIONS

R = RECORDED	T-N = TOWN - NORTH	AVE. = AVENUE
M = MEASURED	R-E = RANGE - EAST	BLVD. = BOULEVARD
C = CALCULATED	SQ. FT. = SQUARE FEET	CT. = COURT
N = NORTH	NE = NORTHEAST	RD. = ROAD
E = EAST	SE = SOUTHEAST	ST. = STREET
S = SOUTH	SW = SOUTHWEST	PIN = PARCEL IDENTIFICATION NUMBER
W = WEST	NW = NORTHWEST	



UNDERGROUND UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND/OR EXISTING DRAWINGS AS PROVIDED BY THE FACILITY OWNER. THE UNDERGROUND UTILITIES SHOWN MAY NOT COMPRISE ALL SUCH UTILITIES ON OR NEAR THE SURVEYED PARCEL, EITHER IN SERVICE OR ABANDONED. THE LOCATION OF BURIED UTILITIES ARE SHOWN TO INDICATE THAT A UTILITY EXIST, BUT MAY REQUIRE SUB-SURFACE INVESTIGATION TO DETERMINE THE EXACT LOCATION.

DESCRIPTION

That part of Section 13, T3N, R8E, White Lake Township, Oakland County, Michigan being described as:

Lots 21 & 22, Huron River Subdivision, as recorded in Liber 57 of Plats, on Page 55, Oakland County Records.

BEARING BASIS

BEARINGS ARE BASED ON THE CENTERLINE OF PONTIAC LAKE ROAD RECORDED AS BEARING S56°12"E.

FEMA 100 YEAR FLOODPLAIN

BY GRAPHIC PLOTTING ONLY, THIS PARCEL IS LOCATED IN ZONE X OF THE FLOOD INSURANCE RATE MAP NUMBER 26125C0337F WHICH BEARS AN EFFECTIVE DATE OF 9/29/2006.

SIGNIFICANT OBSERVATIONS

INFORMATION NOTED BELOW IS SIMPLY A STATEMENT OF FACT REGARDING THE LOCATION OF OBSERVED IMPROVEMENTS RELATIVE TO BOUNDARY, EASEMENT, AND SETBACK LINES, AND IS NOT A LEGAL OPINION, OPINION OF OWNERSHIP, OR DETERMINATION OF ENCROACHMENTS.		
BOUNDARY LINES	(A)	DUMPSTER WALL CROSS PROPERTY LINE AS SHOWN
ROW & EASEMENTS		NONE OBSERVED
SETBACKS		NONE OBSERVED
PHYSICAL ACCESS BETWEEN ADJOINING PROPERTIES		NONE OBSERVED
USE OF ADJOINING PARCELS		NONE OBSERVED

CERTIFICATION

TO: RED E CHARGE:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 5, 6a, 6b, 7a, 7b1, 7b2, 7c, 8, 9, 10a, 10b, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 of Table A thereof. The fieldwork was completed on May 28, 2026.

STATE OF MICHIGAN
DAVID J. VanDenBerghe
PROFESSIONAL SURVEYOR
No. 4001051489
LICENSED PROFESSIONAL SURVEYOR

DAVID J. VANDENBERGHE
PROFESSIONAL SURVEYOR #4001051489

Registration No. 4001051489
Within the State of Michigan

"ALTA/NSPS LAND TITLE SURVEY"

PREPARED BY:

GEODETIC DESIGNS, INC.
2300 N. GRAND RIVER AVE.
LANSING, MI 48906
PHONE: (517) 908-0008
FAX: (517) 908-0009
WWW.GEODETICDESIGNS.COM

DATE	REVISION	BY

RED E CHARGE

8320 Highland Road
White Lake, MI
Parcel #12-13-454-019

DATE: May 28, 2026	SCALE: 1" = 20'
DRAWN BY: DJV	JOB NUMBER: S092-2026
CHECKED BY: DJV	SHEET 1 OF 1

GENERAL NOTES:

1. CONTRACTOR RESPONSIBILITIES INCLUDE CHARGING STATION MOUNTING, OVERHEAD CONDUIT INSTALLATION AND WIRING.
2. CONTRACTOR TO PAINT PROPOSED EV PARKING SPACES PER JURISDICTIONAL REQUIREMENTS.
3. CONTRACTOR TO FIELD SCAN/X-RAY EXISTING CONCRETE SLAB TO ENSURE NO REINFORCEMENT IS DAMAGED DURING EQUIPMENT OR CONDUIT ANCHORING, ENSURE 1" GAP MIN. BETWEEN REBAR AND ANCHORAGE.
4. EXACT STATION PLACEMENT AND ROTATION ANGLE MAY VARY SLIGHTLY UPON INSTALLATION DEPENDING ON SITE CONDITIONS.
5. UNDERGROUND CONDUIT PATH TO BE VERIFIED BY GPR PRIOR TO INSTALLATION.
6. OVERALL CONDUIT ROUTE TO BE VERIFIED IN FIELD BY CONTRACTOR AND PROPERTY OWNER.
7. 3/4" MINIMUM FOR ALL CONDUIT.
8. ROOFTOP CONDUIT UTILIZING NON-PENETRATING SUPPORTS MAY BE USED IN ADDITION IF APPROVED BY PROPERTY OWNER.

PROPERTY INFORMATION	
JURISDICTION:	WHITE LAKE TOWNSHIP
ZONING:	GB
SUBDIVISION:	HURON RIVER
LOT AREA:	±0.9599 ACRES
OWNER:	ANA PROPERTY, LLC 8320 HIGHLAND ROAD WHITE LAKE TOWNSHIP, MI 48386

DISTANCES TO EXISTING BODIES OF WATER	
DIRECTION	
NORTH (PONTIAC LAKE)	±290'-0"
SOUTH (CEDAR CREEK)	±2575'-0"
EAST (INLET TO PONTIAC LAKE)	±660'-0"
WEST (UNNAMED PONDS)	±2690'-0"

LATITUDE AND LONGITUDE: 42.660101°, -83.449880°
SOURCE: GOOGLE MAPS, DATED 03/18/2026

NOTE:
TYPICAL PARKING SPACE MINIMUM DIMENSION FOR 90° PARKING STALL:
- 9'-0" WIDTH
- 18'-0" DEPTH

NOTE:
THIS SITE PLAN IS BASED ON A SURVEY PROVIDED BY GEODETIC DESIGNS, INC., DATED 05/28/2026. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

FLOOD STATEMENT:
BY GRAPHIC PLOTTING ONLY, THIS PARCEL IS LOCATED IN ZONE X OF FLOOD INSURANCE RATE MAP NUMBER 26125C0337F WHICH BEARS AN EFFECTIVE DATE OF 09/29/2006.

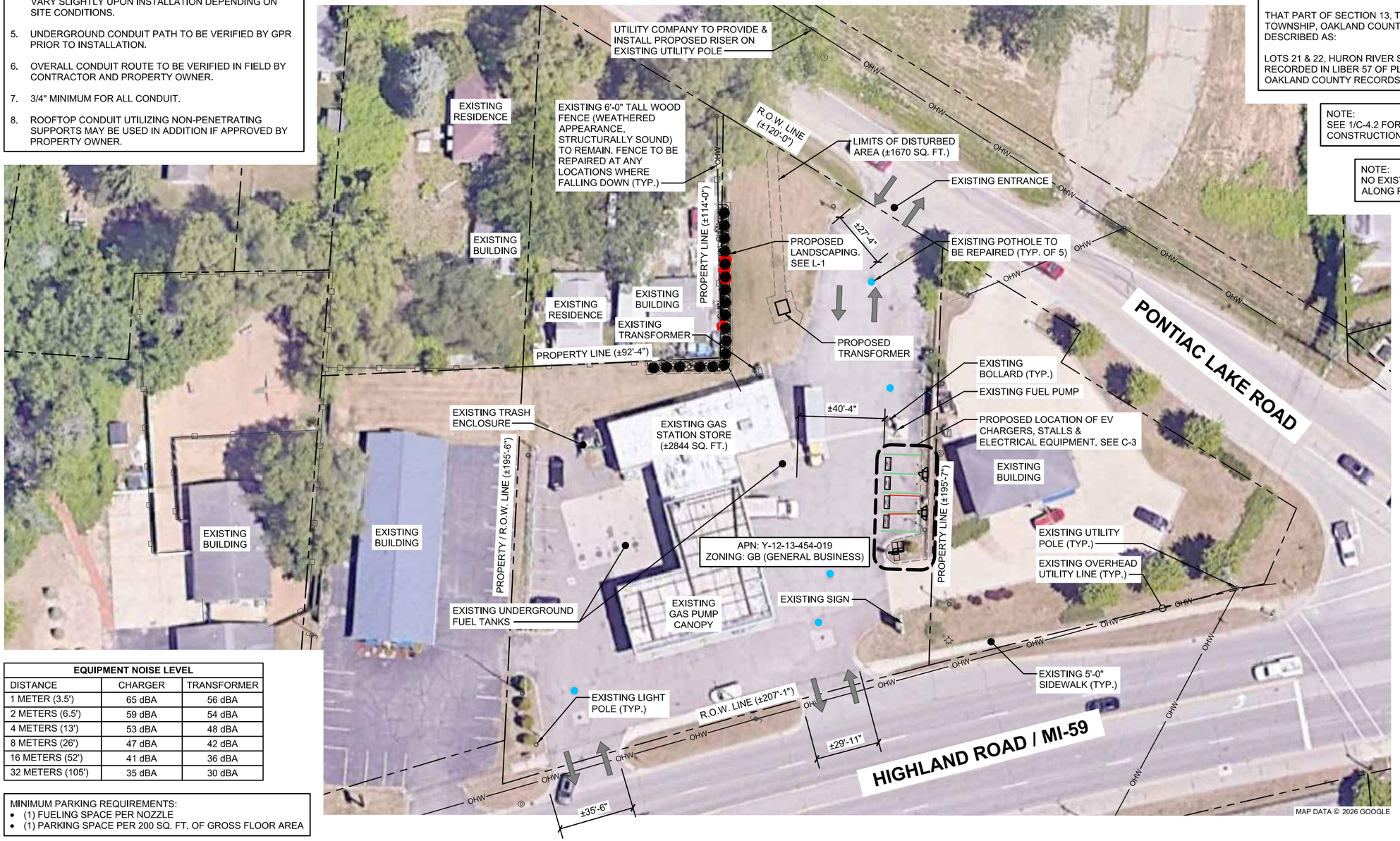
LEGAL DESCRIPTION:

THAT PART OF SECTION 13, T3N, R8E, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN BEING DESCRIBED AS:

LOTS 21 & 22, HURON RIVER SUBDIVISION, AS RECORDED IN LIBER 57 OF PLATS, ON PAGE 55, OAKLAND COUNTY RECORDS.

NOTE:
SEE 1/C-4.2 FOR SEQUENCE OF CONSTRUCTION & COST ESTIMATES.

NOTE:
NO EXISTING SIDEWALK ALONG PONTIAC LAKE ROAD.



EQUIPMENT NOISE LEVEL		
DISTANCE	CHARGER	TRANSFORMER
1 METER (3.5')	65 dBA	56 dBA
2 METERS (6.5')	59 dBA	54 dBA
4 METERS (13')	53 dBA	48 dBA
8 METERS (26')	47 dBA	42 dBA
16 METERS (52')	41 dBA	36 dBA
32 METERS (105')	35 dBA	30 dBA

MINIMUM PARKING REQUIREMENTS:
- (1) FUELING SPACE PER NOZZLE
- (1) PARKING SPACE PER 200 SQ. FT. OF GROSS FLOOR AREA

BUILDING SQUARE FOOTAGE	EXISTING REGULAR PARKING STALLS	EXISTING ADA PARKING STALLS	EXISTING PARKING STALLS CONVERTED TO EV PARKING STALLS	NEW EV PARKING STALLS	TOTAL PARKING STALLS (INCLUDING EV STALLS)	TOTAL PARKING STALLS (EXCLUDING EV STALLS)
±2844	17	2	3	1	20	16

0' 50' 100' 150'
SCALE: 1" = 50'-0"

N

OVERALL PROPERTY PLAN

SCALE: 1" = 50'-0"

1

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C-1
OVERALL PROPERTY PLAN

GENERAL NOTES:

1. CONTRACTOR RESPONSIBILITIES INCLUDE CHARGING STATION MOUNTING, OVERHEAD CONDUIT INSTALLATION AND WIRING.
2. CONTRACTOR TO PAINT PROPOSED EV PARKING SPACES PER JURISDICTIONAL REQUIREMENTS.
3. CONTRACTOR TO FIELD SCAN/X-RAY EXISTING CONCRETE SLAB TO ENSURE NO REINFORCEMENT IS DAMAGED DURING EQUIPMENT OR CONDUIT ANCHORING, ENSURE 1" GAP MIN. BETWEEN REBAR AND ANCHORAGE.
4. EXACT STATION PLACEMENT AND ROTATION ANGLE MAY VARY SLIGHTLY UPON INSTALLATION DEPENDING ON SITE CONDITIONS.
5. UNDERGROUND CONDUIT PATH TO BE VERIFIED BY GPR PRIOR TO INSTALLATION.
6. OVERALL CONDUIT ROUTE TO BE VERIFIED IN FIELD BY CONTRACTOR AND PROPERTY OWNER.
7. 3/4" MINIMUM FOR ALL CONDUIT.
8. ROOFTOP CONDUIT UTILIZING NON-PENETRATING SUPPORTS MAY BE USED IN ADDITION IF APPROVED BY PROPERTY OWNER.

PROPERTY INFORMATION	
JURISDICTION:	WHITE LAKE TOWNSHIP
ZONING:	GB
SUBDIVISION:	HURON RIVER
LOT AREA:	±0.9599 ACRES
OWNER:	ANA PROPERTY, LLC 8320 HIGHLAND ROAD WHITE LAKE TOWNSHIP, MI 48386

DISTANCES TO EXISTING BODIES OF WATER	
DIRECTION	
NORTH (PONTIAC LAKE)	±290'-0"
SOUTH (CEDAR CREEK)	±2575'-0"
EAST (INLET TO PONTIAC LAKE)	±660'-0"
WEST (UNNAMED PONDS)	±2690'-0"

LATITUDE AND LONGITUDE: 42.660101°, -83.449880°
SOURCE: GOOGLE MAPS, DATED 03/18/2026

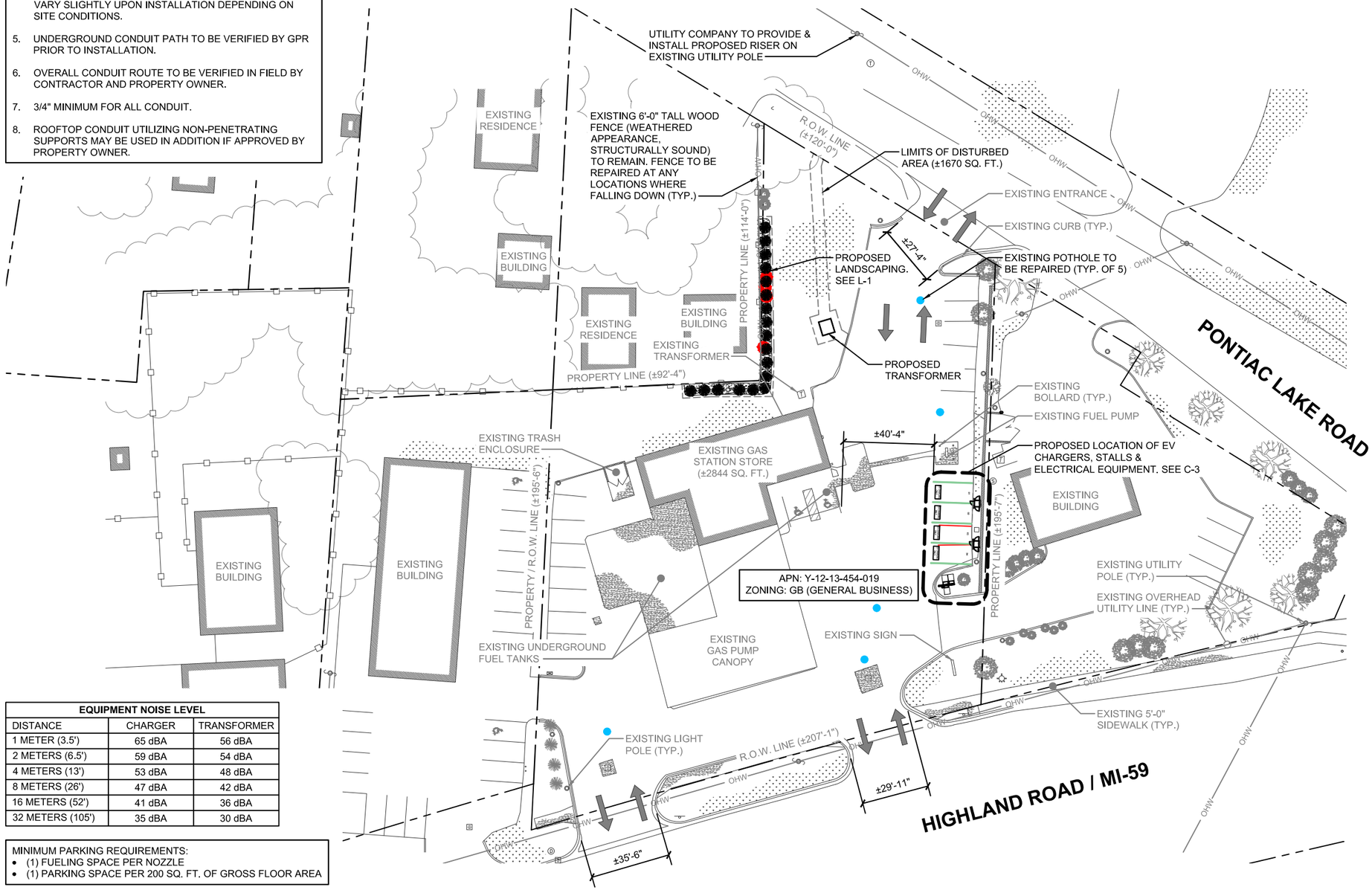
NOTE:
TYPICAL PARKING SPACE MINIMUM DIMENSION FOR 90° PARKING STALL:
- 9'-0" WIDTH
- 18'-0" DEPTH

NOTE:
THIS SITE PLAN IS BASED ON A SURVEY PROVIDED BY GEODETIC DESIGNS, INC., DATED 05/28/2026. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

FLOOD STATEMENT:
BY GRAPHIC PLOTTING ONLY, THIS PARCEL IS LOCATED IN ZONE X OF FLOOD INSURANCE RATE MAP NUMBER 26125C0337F WHICH BEARS AN EFFECTIVE DATE OF 09/29/2006.

NOTE:
SEE 1/C-4.2 FOR SEQUENCE OF CONSTRUCTION & COST ESTIMATES.

NOTE:
NO EXISTING SIDEWALK ALONG PONTIAC LAKE ROAD.



EQUIPMENT NOISE LEVEL		
DISTANCE	CHARGER	TRANSFORMER
1 METER (3.5')	65 dBA	56 dBA
2 METERS (6.5')	59 dBA	54 dBA
4 METERS (13')	53 dBA	48 dBA
8 METERS (26')	47 dBA	42 dBA
16 METERS (52')	41 dBA	36 dBA
32 METERS (105')	35 dBA	30 dBA

MINIMUM PARKING REQUIREMENTS:
- (1) FUELING SPACE PER NOZZLE
- (1) PARKING SPACE PER 200 SQ. FT. OF GROSS FLOOR AREA

BUILDING SQUARE FOOTAGE	EXISTING REGULAR PARKING STALLS	EXISTING ADA PARKING STALLS	EXISTING PARKING STALLS CONVERTED TO EV PARKING STALLS	NEW EV PARKING STALLS	TOTAL PARKING STALLS (INCLUDING EV STALLS)	TOTAL PARKING STALLS (EXCLUDING EV STALLS)
±2844	17	2	3	1	20	16

0' 50' 100' 150'
SCALE: 1" = 50'-0"

N

OVERALL SITE PLAN

SCALE: 1" = 50'-0"

1

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STATE OF MICHIGAN
LICENSED PROFESSIONAL ENGINEER
MARK VENTRELLI
ENGINEER
No. 6201057995

EXPIRES: 03/02/28 SIGNED: 09/02/26

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4	REVISION	09/02/26	JTB

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ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR
DRAWN: JTB
JOB: T2600207

C-2
OVERALL SITE PLAN

NOTE:
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FLOOD STATEMENT:
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NOTE:
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NOTE:
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LATITUDE AND LONGITUDE: 42.660101°, -83.449880°
SOURCE: GOOGLE MAPS, DATED 03/18/2026

NOTE:
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- 9'-0" WIDTH
- 18'-0" DEPTH

EQUIPMENT NOISE LEVEL

DISTANCE	CHARGER	TRANSFORMER
1 METER (3.5')	65 dBA	56 dBA
2 METERS (6.5')	59 dBA	54 dBA
4 METERS (13')	53 dBA	48 dBA
8 METERS (26')	47 dBA	42 dBA
16 METERS (52')	41 dBA	36 dBA
32 METERS (105')	35 dBA	30 dBA

DISTANCES TO EXISTING BODIES OF WATER

DIRECTION	
NORTH (PONTIAC LAKE)	±290'-0"
SOUTH (CEDAR CREEK)	±2575'-0"
EAST (INLET TO PONTIAC LAKE)	±660'-0"
WEST (UNNAMED PONDS)	±2690'-0"

GENERAL NOTES:

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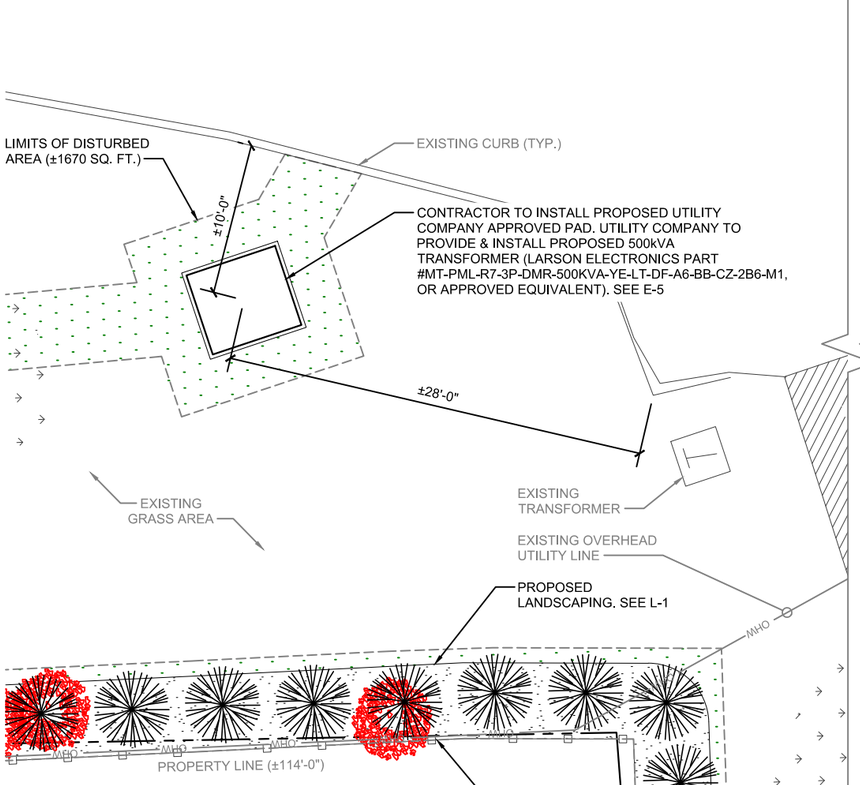
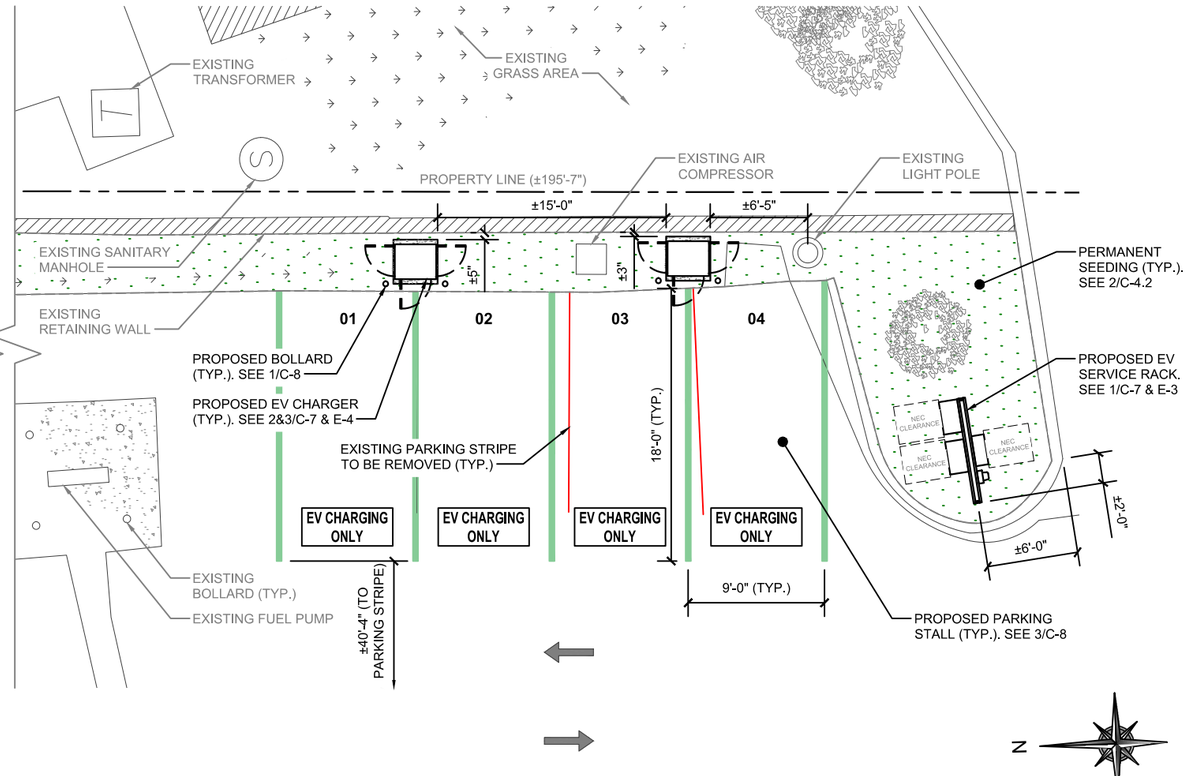
6. OVERALL CONDUIT ROUTE TO BE VERIFIED IN FIELD BY CONTRACTOR AND PROPERTY OWNER.
7. 3/4" MINIMUM FOR ALL CONDUIT.
8. ROOFTOP CONDUIT UTILIZING NON-PENETRATING SUPPORTS MAY BE USED IN ADDITION IF APPROVED BY PROPERTY OWNER.

NOTE (ALL PROPOSED CONCRETE PADS):
WT'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL ANALYSIS OF THE CONCRETE PAD. THE CONCRETE DIMENSIONS, ANCHORING AND REBAR INFORMATION AS SHOWN IS DIAGRAMMATIC ONLY AND NOT FOR CONSTRUCTION. CONTRACTOR TO INSTALL FOUNDATION PER APPROVED STRUCTURAL ANALYSIS (BY OTHERS). A STRUCTURAL ANALYSIS SHALL BE PERFORMED PRIOR TO CONSTRUCTION.





N

0' 10' 20' 30'

SCALE: 1" = 10'-0"

ENLARGED SITE PLAN

SCALE: 1" = 10'-0"

1

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CHECK: JKR
DRAWN: JTB
JOB: T2600207

C-3
ENLARGED SITE PLAN

LEGEND

XXX.XX — PROPOSED CONTOUR (FT)	LF — LINEAR FEET
XXX.XX — PROPOSED ELEVATION (FT)	T/F — TOP OF FOUNDATION (CONCRETE)
T/F=XXX.XX T/P=XXX.XX — FOUNDATION/PAVEMENT ELEVATIONS (FT)	T/P — TOP OF PAVEMENT (FINISHED GRADE/GRAVEL)
XXX.XX — INVERT/INLET (FT)	FLOW DIRECTION
XXX.XX — PROPOSED SPOT GRADE (FT)	PROPOSED CMP (CORRUGATED METAL PIPE)
	CENTER OF SWALE
	PROPOSED CONTOUR

DISTANCES TO EXISTING BODIES OF WATER	
DIRECTION	
NORTH (PONTIAC LAKE)	±290'-0"
SOUTH (CEDAR CREEK)	±2575'-0"
EAST (INLET TO PONTIAC LAKE)	±660'-0"
WEST (UNNAMED PONDS)	±2690'-0"

NOTE:
DUE TO EXISTING TOPOGRAPHY, A GRADING PLAN IS NOT REQUIRED.

NOTE:
CHARGE-X USA SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF SESC MEASURES UNTIL FINAL STABILIZATION.

NOTE:
THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY CHARGE-X USA.

NOTE:
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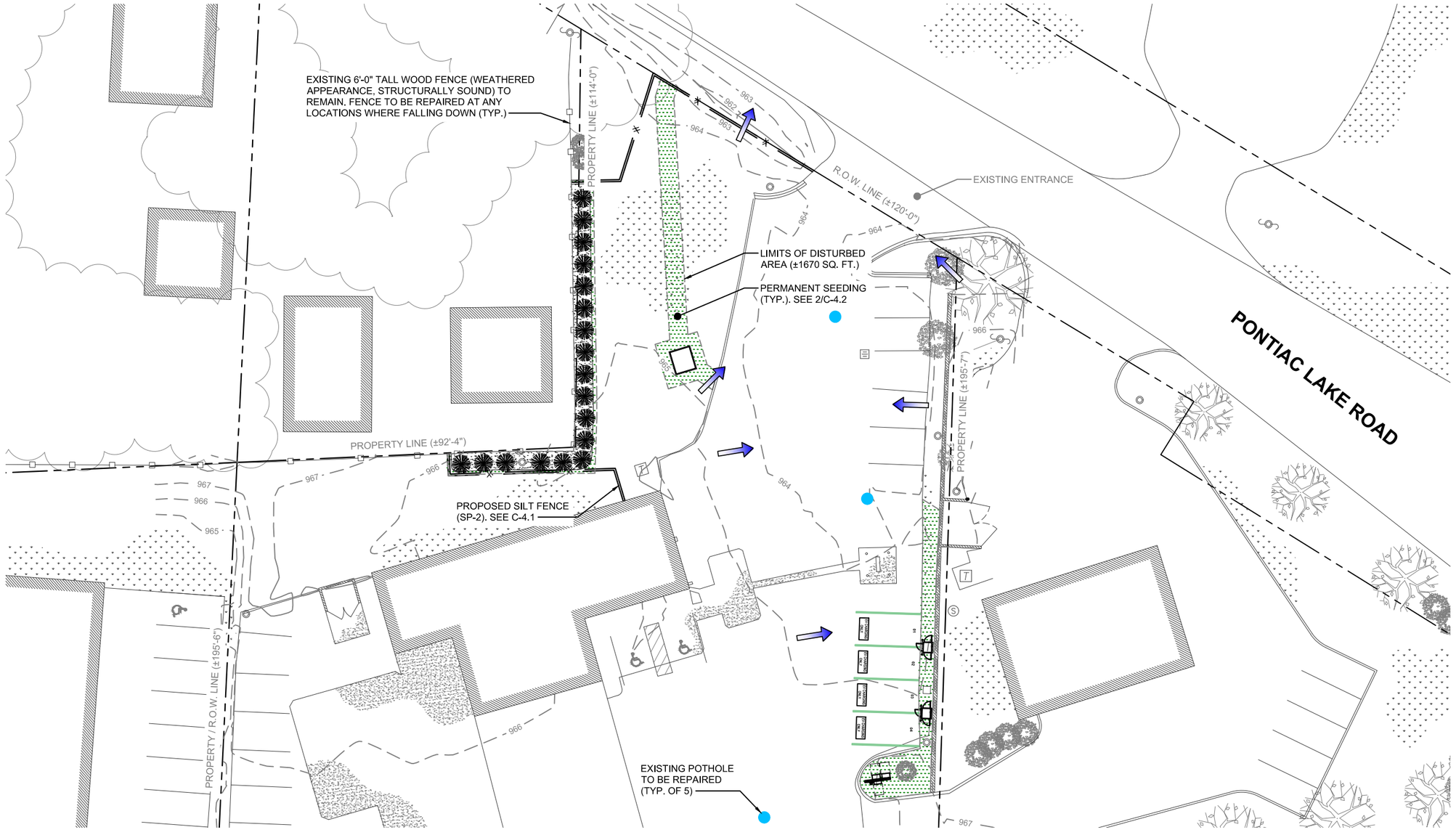

0' 30' 60' 90'

SCALE: 1" = 30'-0"

SOIL EROSION CONTROL PLAN

SCALE: 1" = 30'-0"

1

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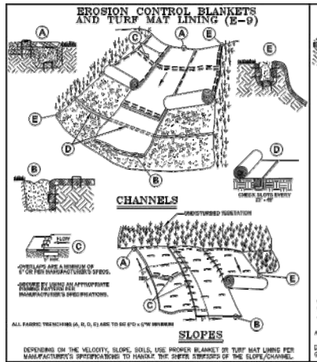
CHECK: JKR
DRAWN: JTB
JOB: T2600207

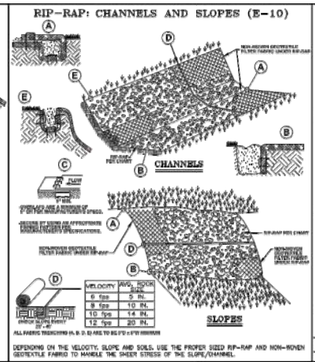
C-4
SOIL EROSION CONTROL PLAN

EROSION CONTROL BLANKETS AND TURF MAT LINING (E-9)



DEPENDING ON THE VELOCITY, SLOPE, SOILS, USE PROPER BLANKET OR TURF MAT LINING PER MANUFACTURER'S SPECIFICATIONS TO HANDLE THE SHEER STRESSES OF THE SLOPE/CHANNEL.

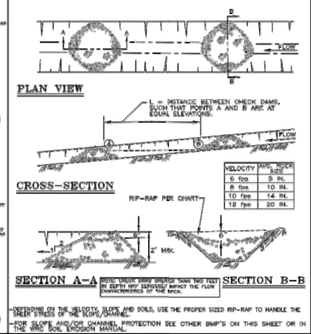
RIP-RAP: CHANNELS AND SLOPES (E-10)



VELOCITY	AVG. ROCK SIZE
6 fps	5 IN.
8 fps	10 IN.
10 fps	14 IN.
12 fps	20 IN.

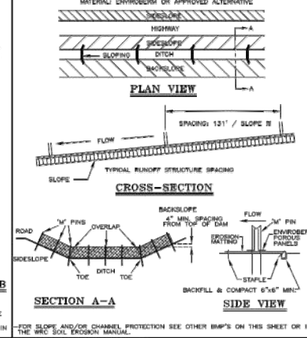
DEPENDING ON THE VELOCITY, SLOPE, SOILS, USE THE PROPER SIZED RIP-RAP TO HANDLE THE SHEER STRESS OF THE SLOPE/CHANNEL.

CHECK DAMS (E-3)



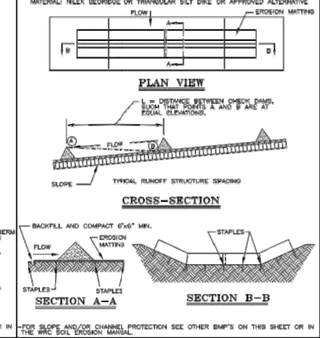
DEPENDING ON THE VELOCITY, SLOPE AND SOILS, USE THE PROPER SIZED RIP-RAP TO HANDLE THE SHEER STRESS OF THE SLOPE/CHANNEL.
FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

CHECK DAMS ALTERNATIVE "A" (E-3A)



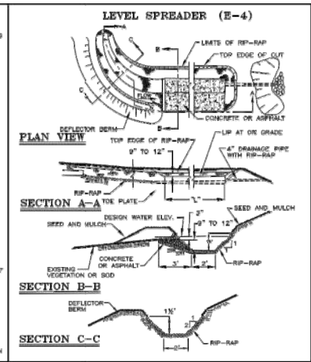
FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

CHECK DAMS ALTERNATIVE "B" (E-3B)

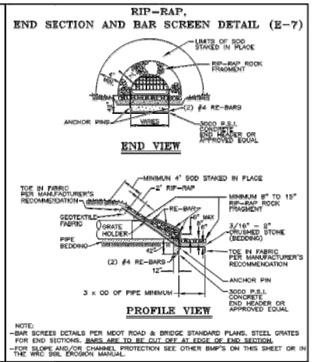


FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

LEVEL SPREADER (E-4)



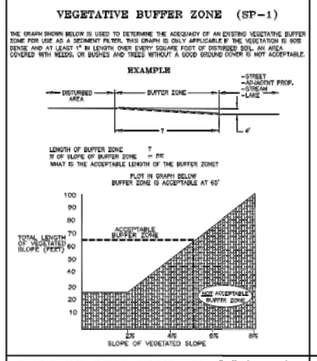
RIP-RAP, END SECTION AND BAR SCREEN DETAIL (E-7)



NOTE:
-BAR SCREEN DETAILS PER MDOT ROAD & BRIDGE STANDARD PLANS. STEEL GRATES FOR END SECTIONS. BARS ARE TO BE CUT OFF AT EDGE OF END SECTION.
-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

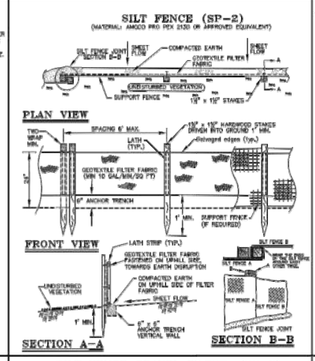
VEGETATIVE BUFFER ZONE (SP-1)

THE GRAPH SHOWN BELOW IS USED TO DETERMINE THE ADEQUACY OF AN EXISTING VEGETATIVE BUFFER ZONE FOR USE AS A SEDIMENT FILTER. THIS GRAPH IS ONLY APPLICABLE IF THE VEGETATION IS SOD FORMING AND AT LEAST 1" IN LENGTH OVER EVERY SQUARE FOOT OF DISTURBED SOIL. AN AREA COVERED WITH WEEDS, OR BUSHES AND TREES WITHOUT A GOOD GROUND COVER IS NOT ACCEPTABLE.



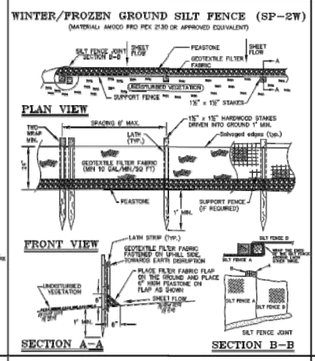
SILT FENCE (SP-2)

(MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)



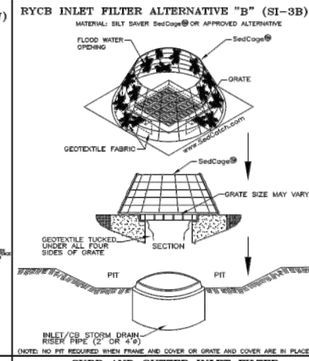
WINTER/FROZEN GROUND SILT FENCE (SP-2W)

(MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)



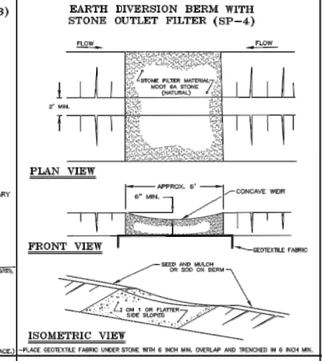
RYCB INLET FILTER ALTERNATIVE "B" (SI-3B)

MATERIAL: SILT SAVER SedCage® OR APPROVED ALTERNATIVE

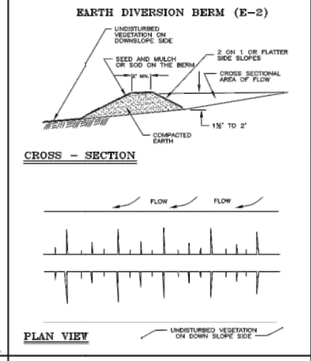


(NOTE: NO PIT REQUIRED WHEN FRAME AND COVER OR GRATE AND COVER ARE IN PLACE.)

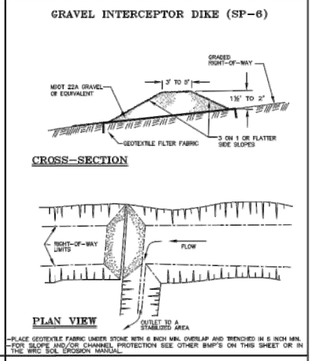
EARTH DIVERSION BERM WITH STONE OUTLET FILTER (SP-4)



EARTH DIVERSION BERM (E-2)

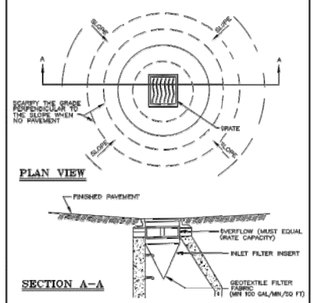


GRAVEL INTERCEPTOR DIKE (SP-6)

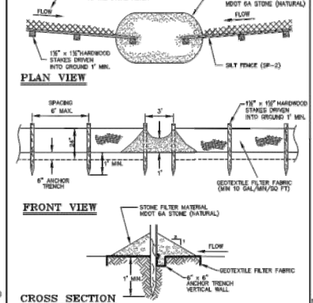


LOW POINT INLET FILTER ALT. "A" (SI-2A)

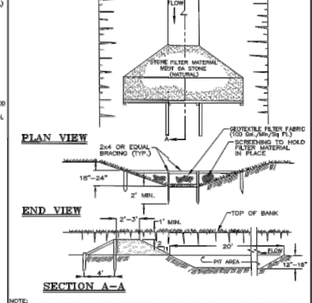
MATERIAL: DATCH-ALL, ULTRA-URBAN FILTERS, FLOGARD +PLUS OR APPROVED ALTERNATIVE



SILT FENCE GRAVEL FILTER (SP-3)



DITCH SEDIMENT TRAP (SO-4)

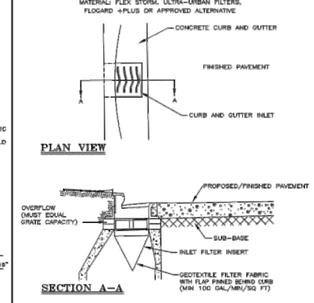


NOTE: FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THE SHEET O/S IN THE WRC SOIL EROSION MANUAL.

CURB AND GUTTER INLET FILTER ALTERNATIVE "A" (SI-4A)

(BEFORE AND AFTER PAVING)

MATERIAL: FLEX STORM, ULTRA-URBAN FILTERS, FLOGARD +PLUS OR APPROVED ALTERNATIVE

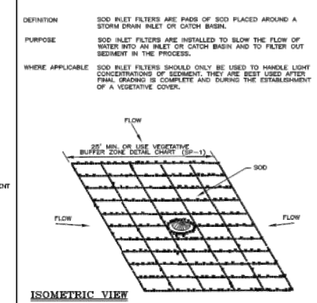


SOD INLET FILTER (SI-1)

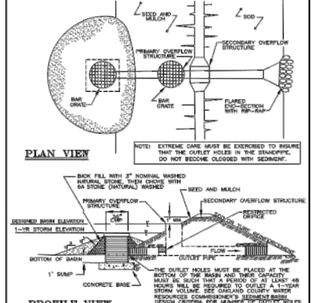
DEFINITION: SOD INLET FILTERS ARE PADS OF SOD PLACED AROUND A STORM DRAIN INLET OR CATCH BASIN.

PURPOSE: SOD INLET FILTERS ARE INSTALLED TO SLOW THE FLOW OF WATER INTO AN INLET OR CATCH BASIN AND TO FILTER OUT SEDIMENT IN THE PROCESS.

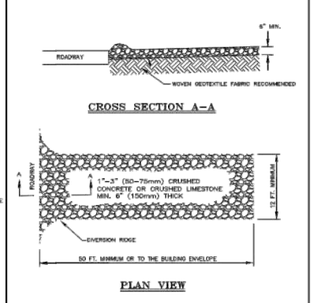
WHERE APPLICABLE: SOD INLET FILTERS SHOULD ONLY BE USED TO HANDLE LIGHT CONCENTRATIONS OF SEDIMENT. THEY ARE BEST USED AFTER FINAL GRADING IS COMPLETE AND DURING THE ESTABLISHMENT OF A VEGETATIVE COVER.



TEMPORARY DETENTION BASIN OUTLET STONE FILTER (SO-2)

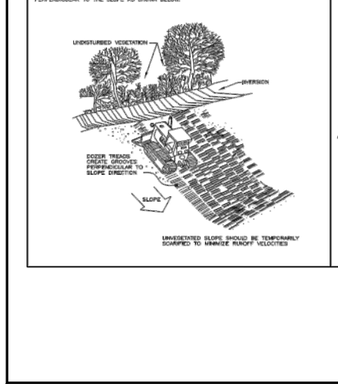


TEMPORARY STONE ACCESS DRIVE (SP-9)

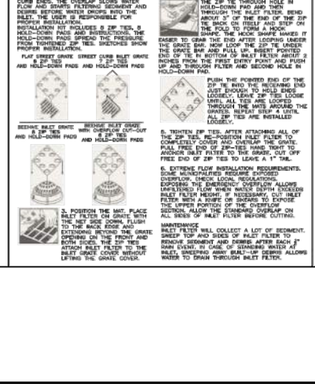


SURFACE ROUGHENING AND SCARIFICATION (E-8)

THIS IS AN EASY AND ECONOMICAL WAY TO REDUCE SOIL EROSION. IT IS SIMPLY THE PLACING OF HORIZONTAL GROOVES IN A SLOPE PERPENDICULAR TO THE FLOW OF RUNOFF. THIS CAN BE DONE BY EITHER DISC HARROWING, BACK BLADING OR JUST RUNNING THE TREADS OF A CRAWLER TRACTOR PERPENDICULAR TO THE SLOPE AS SHOWN BELOW.



INLET FILTER
INLET PROTECTION DEVICE (IF-1)
INSTALLATION AND MAINTENANCE GUIDE



NOTE:

The Oakland County Water Resources Soil Erosion and Sedimentation Control standard details cannot be modified, reduced, edited, or changed in any way. Any deviation from these standard details must be approved in writing by the Oakland County Water Resources Commissioner. Changes otherwise made are in violation of Part 91 of Act 451 of 1994, the Natural Resources and Environmental Protection Act.

SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

ORIG. DATE:	01/01/01
SCALE:	NONE
DESIGNED BY:	WRC
DRAWN BY:	Mapping

WRC WATER RESOURCES COMMISSIONER — Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907

SHEET NO.: 1 of 1

DETAILS FROM WRC

WRC SOIL EROSION DETAILS	1
SCALE: NONE	

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MARK VENTRELLI
ENGINEER
No. 6201057995

EXPIRES: 03/02/28 SIGNED: 09/02/26

REVISIONS

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A	FOR CLIENT REVIEW	03/18/26	JTB
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PLUMBING \ ELECTRICAL \ LAND SURVEYING
ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR
DRAWN: JTB
JOB: T2600207

C-4.1
WRC SOIL EROSION DETAILS

SEQUENCE OF CONSTRUCTION:

- INITIALIZATION
  - TRENCH AND LAY CONDUIT FOR THE UTILITY TO INTERCEPT THE PRIMARY LINE FROM THE EXISTING XFMR TO THE NEW XFMR
  - TRENCH FROM NEW XFMR TO A FREE-STANDING SERVICE RACK –> LAY CONDUIT
  - ASSEMBLE THE SERVICE RACK AND ATTACH THE CT CABINET, CT METER, DISCONNECT 1, AND DISCONNECT 2
  - TRENCH FROM D1 TO FIRST EV CHARGER ON GRASS –> LAY CONDUIT
  - TRENCH FROM D2 AND SAW CUT CEMENT ABOUT 10-15 FEET TO CHARGER 2 --> LAY CONDUIT
  - RE-POUR CEMENT
- INSTALLATION
  - DROP THE PRE-CAST TRANSFORMER PAD OVER THE TRENCHED TRANSFORMER WINDOWS
  - TRENCH 35X35 L X W DOWN TO THE FREEZE LINE FOR EACH CHARGER PAD
  - POUR CEMENT FOR THE PADS
  - DROP CHARGERS ON PADS
  - BACKFILL AND COMPACT

ITEMIZED ESTIMATED COST LIST:

- TRENCHING: $3,782.63
- SAW-CUTTING CEMENT: $1,537.28
- POURING CONCRETE FOR 8" AND 12" SONOTUBES: $850.00
- SERVICE: $26,127
  - METER BASE
  - CT CABINET
  - D1
  - D2
  - 3" RIGID PIPE
  - PVC PIPE
  - WIRE
- POURING CEMENT FOR 35X35 PADS: $5,135.00
- PRE-CAST XFMR PAD W/COST OF INSTALLATION: $1900.00
- REPOUR CEMENT AFTER SAW-CUTTING: $2286.93
- DROPPING CHARGERS W/COST OF INSTALLATION: $4563.28
- BACKFILLING AND COMPACTION: $2,517.00
- TOTAL COST: $48,699.12

SEQUENCE OF CONSTRUCTION

SCALE: NONE

1

SEEDING SCHEDULE FOR WINTER / SPRING CONSTRUCTION ACTIVITIES

SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120
ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SEEDING DATES

MOUNTAINS – ABOVE 2500 FT:	FEB 15 - MAY 15
BELOW 2500 FT.:	FEB. 1 - MAY 1
PIEDMONT --	JAN. 1 - MAY 1
COASTAL PLAIN –	DEC. 1 - APR. 15

SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH

APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE

RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

SEEDING SCHEDULE FOR SUMMER CONSTRUCTION ACTIVITIES

SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
COMMON BERMUDA GRASS	40-80 (1-2 LB/1,000 SQ. FT.)

SEEDING DATES

COASTAL PLAIN --	APR. 1 - JULY
PIEDMONT –	APR. 15 - JUNE 30

SOIL AMENDMENTS

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 500 LB/ACRE 10-10-10 FERTILIZER.

MULCH

USE JUTE, EXCELSIOR MATTING, OR OTHER EFFECTIVE CHANNEL LINING MATERIAL TO COVER THE BOTTOM OF CHANNELS AND DITCHES. THE LINING SHOULD EXTEND ABOVE THE HIGHEST CALCULATED DEPTH OF FLOW. ON CHANNEL SIDE SLOPES ABOVE THIS HEIGHT, AND IN DRAINAGE NOT REQUIRING TEMPORARY LINING, APPLY 4,000 LB/ACRE GRAIN STRAW AND ANCHOR STRAW BY STAPLING NETTING OVER THE TOP.

MAINTENANCE

A MINIMUM OF 3 WEEKS IS REQUIRED FOR ESTABLISHMENT. INSPECT AND REPAIR MULCH FREQUENTLY. RE-FERTILIZE THE FOLLOWING APR. WITH 50 LB/ACRE NITROGEN.

SOIL STABILIZATION - SEEDING

SCALE: NONE

2

NOT USED

SCALE: NONE

3

NOT USED

SCALE: NONE

4

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CHECK: JKR
DRAWN: JTB
JOB: T2600207

C-4.2
CONSTRUCTION DETAILS

National Flood Hazard Layer FIRMette

FEMA

83°27'18"W 42°39'50"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/8/2026 at 5:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

N

FEMA FIRMETTE MAP | 1

SCALE: NONE

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DRAWN: JTB
JOB: T2600207

C-5
FEMA FIRMETTE MAP

U.S. Fish and Wildlife Service

National Wetlands Inventory

8320 Highland

April 8, 2026

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

N

WETLANDS MAP — **1**

SCALE: NONE

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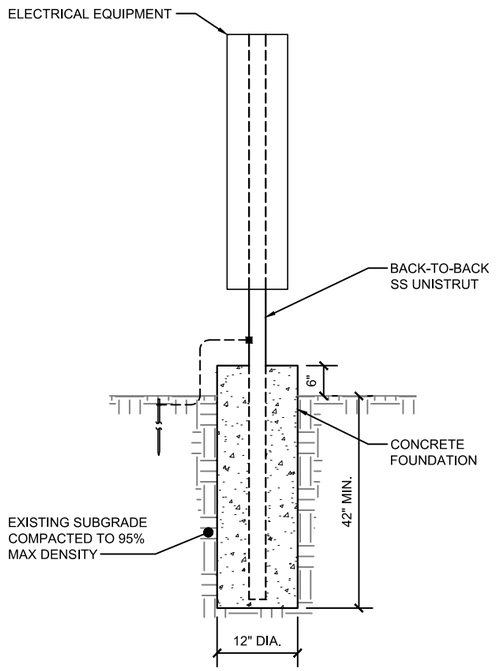
CHECK: JKR
DRAWN: JTB
JOB: T2600207

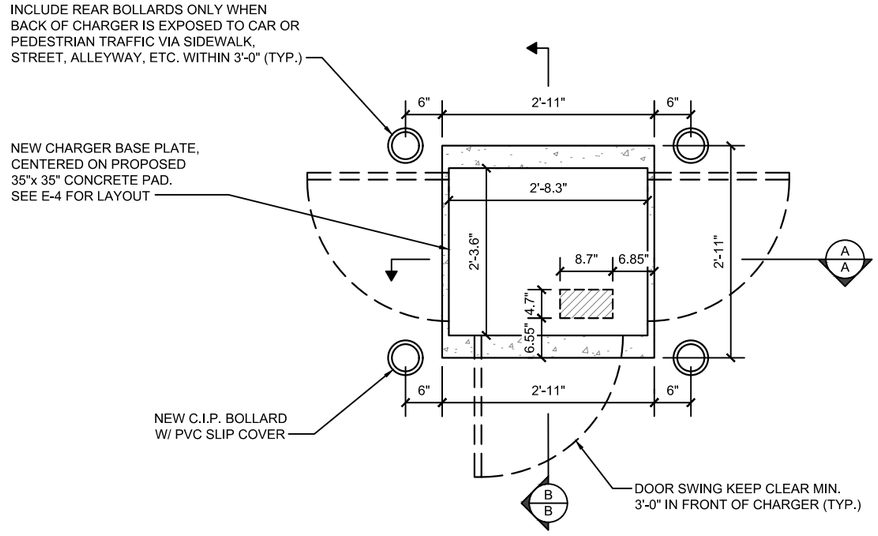
C-6
WETLANDS MAP



EQUIPMENT RACK & FOUNDATION DETAIL

SCALE: NONE

1



CHARGER EQUIPMENT PAD PLAN

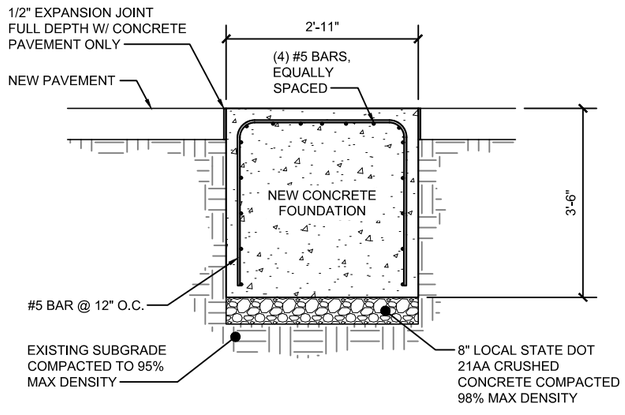
SCALE: NONE

2

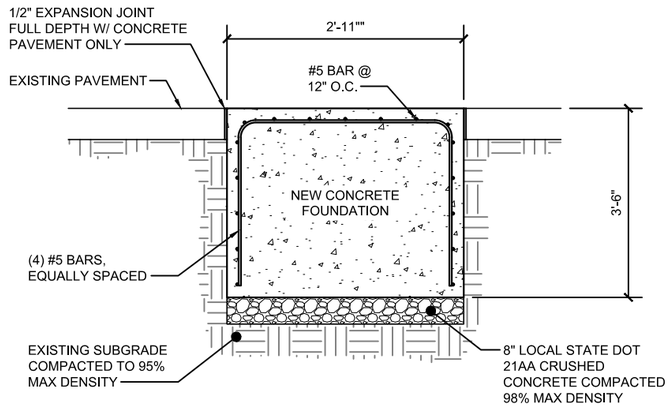
NOTE (ALL PROPOSED CONCRETE PADS):
WT'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL ANALYSIS OF THE CONCRETE PAD. THE CONCRETE DIMENSIONS, ANCHORING AND REBAR INFORMATION AS SHOWN IS DIAGRAMMATIC ONLY AND NOT FOR CONSTRUCTION. CONTRACTOR TO INSTALL FOUNDATION PER APPROVED STRUCTURAL ANALYSIS (BY OTHERS). A STRUCTURAL ANALYSIS SHALL BE PERFORMED PRIOR TO CONSTRUCTION.

CONSTRUCTION NOTES:

1. PROVIDE 3" MIN. CLEAR SPACE FROM EDGE OF PAD FOR ALL MOUNTING ANCHORS OR PENETRATIONS.
2. ALL CONCRETE TO USE LOCAL STATE DOT CONCRETE MIX 4000HP, 4000 PSI



SECTION "A-A"



SECTION "B-B"

CHARGER EQUIPMENT PAD SECTION

SCALE: NONE

3

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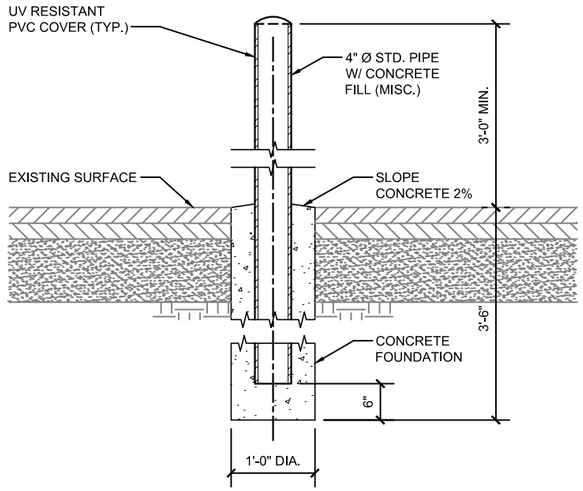
C-7
SITE DETAILS

NOTE:
ALL BOLLARDS ARE TO BE PRIMED AND COVERED WITH 1/4" IDEAL SHIELD PVC COVER, OR APPROVED EQUAL. COLOR TO BE COORDINATED WITH OWNER.



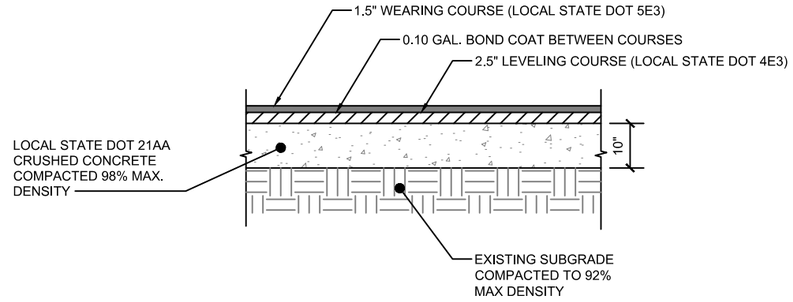
CAST-IN-PLACE (C.I.P.) BOLLARD DETAIL

SCALE: NONE

1

NOTES:

1. ASPHALT SHALL BE SAW CUT FULL DEPTH AND REMOVED WITH A CLEAN EDGE. ALL BROKEN OR DETERIORATED ADJACENT SURFACES SHALL BE REMOVED AND REPLACED AS PART OF THIS PROJECT.
2. ALL ADJACENT EDGED SHALL BE HOT ROLLED OVERLAPPED JOINTS WITH LIKE IN KIND CONCRETE WEAR COURSE. ALL SURFACES SHALL BE CLEANED, DRY, AND FREE OF DEBRIS BEFORE APPLYING BOND COMPOUND COAT.

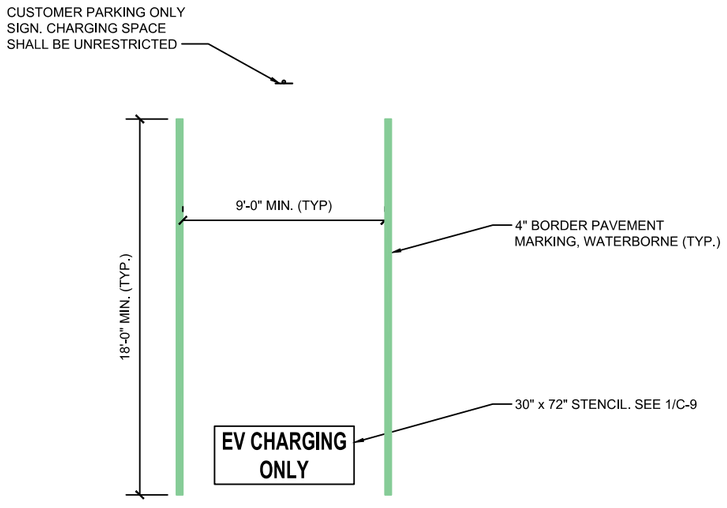


NOTE:
ALTERNATE PATCH - TO BE USED AT OWNER'S DISCRETION.

ASPHALT PAVEMENT DETAIL

SCALE: NONE

2



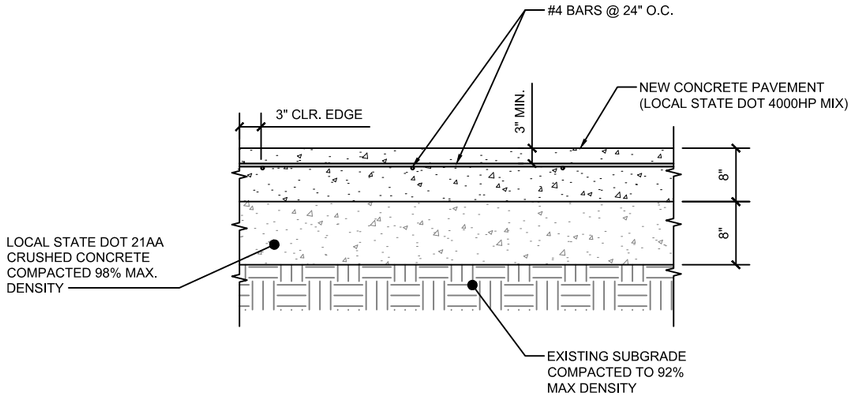
NOTE:
ALL NEW PAVEMENT MARKINGS TO BE GREEN OR AS APPROVED BY OWNER.

NOTE:
ONLY FOR USE ON CONCRETE AND ASPHALT PAVEMENT WHEN APPLICABLE.

PARKING SPACE PAVEMENT MARKINGS

SCALE: NONE

3



CONCRETE PAVEMENT DETAIL

SCALE: NONE

4

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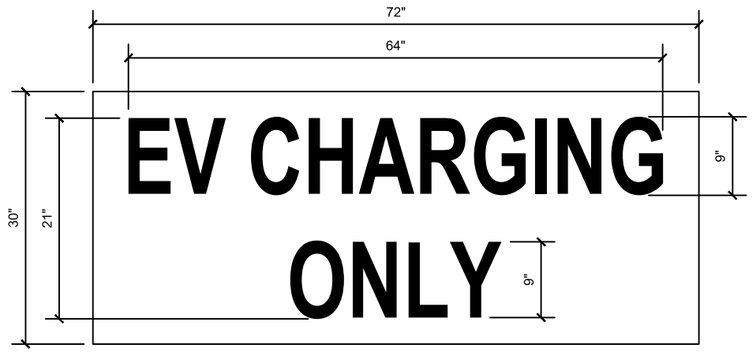
DRAWN: JTB
JOB: T2600207

C-8
SITE DETAILS



NOTE:
CHARGE-X USA TO PROVIDE SIGNS IN CHARGER SHIPPING CRATES.

EV STENCIL DETAIL

SCALE: NONE

1

NOT USED

SCALE: NONE

2

NOT USED

SCALE: NONE

3

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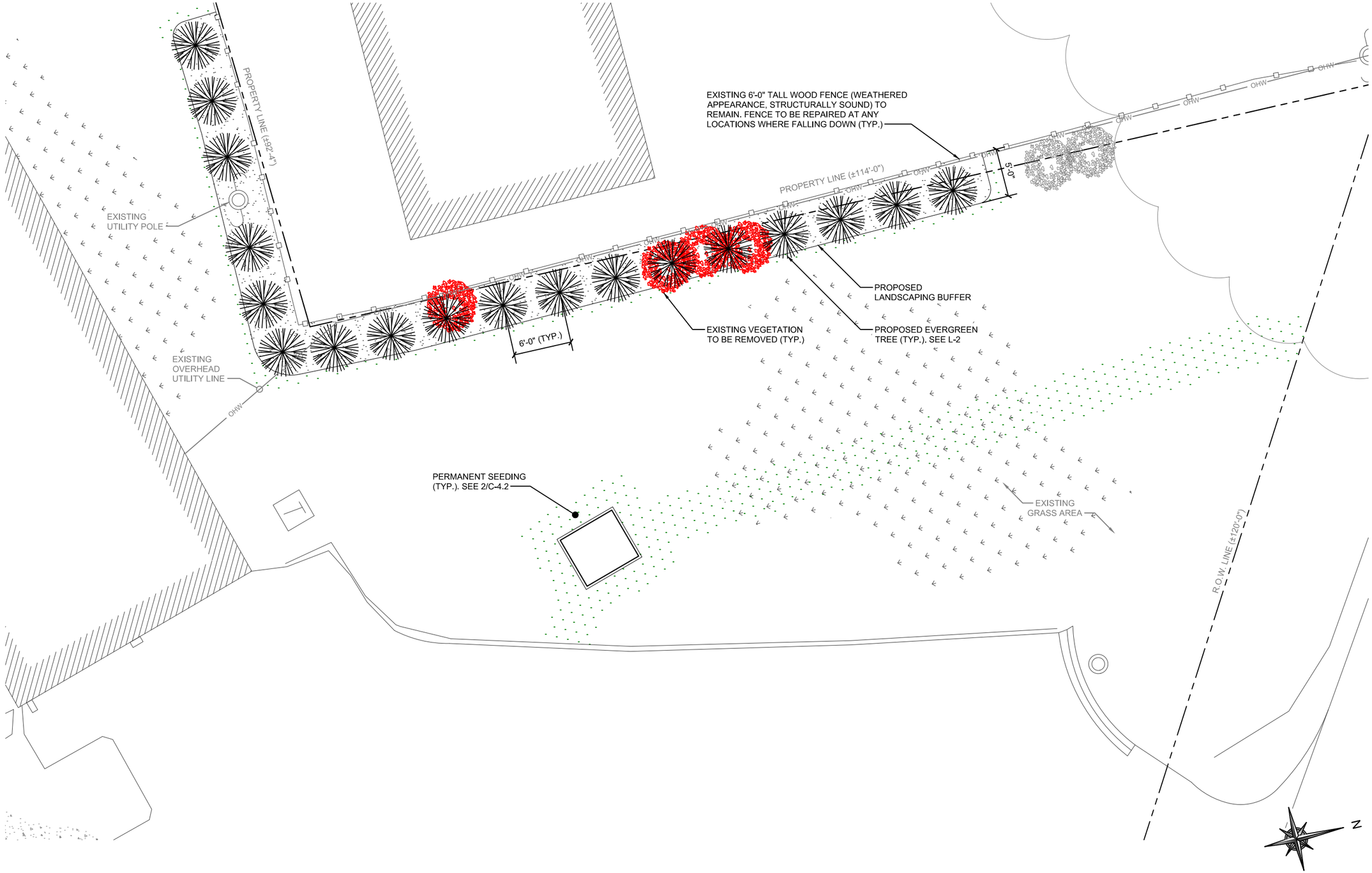
CHECK: JKR
DRAWN: JTB
JOB: T2600207

C-9
SITE DETAILS

LANDSCAPE CHART

QTY.	COMMON NAME	SCIENTIFIC NAME	HT. AT INSTALL	SPACING	ROOTBALL	OVERALL PROJECTED HEIGHT
18	MISSION ARBORVITAE	thuja occidentalis 'mission'	6'-0"	6'-0" O.C. MAX	B/B	10'-0"

NOTE:
LAND OWNER WILL BE RESPONSIBLE FOR MAINTAINING AND WATERING ALL LANDSCAPING ON SITE.



0' 10' 20' 30'

SCALE: 1" = 10'-0"

LANDSCAPING PLAN

SCALE: 1" = 10'-0"

1

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No. 6201057995
LICENSED PROFESSIONAL ENGINEER

EXPIRES: 03/02/28 SIGNED: 09/02/26

REVISIONS

REV.	ISSUED FOR	DATE	BY
A	FOR CLIENT REVIEW	03/18/26	JTB
0	REVISION	03/23/26	JTB
1	REVISION	05/20/26	JTB
2	REVISION	06/12/26	JTB
3	REVISION	07/16/26	JTB
4	REVISION	09/02/26	JTB

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CIVIL \ TELECOMMUNICATION \ MECHANICAL
PLUMBING \ ELECTRICAL \ LAND SURVEYING
ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK: JKR
DRAWN: JTB
JOB: T2600207

L-1
LANDSCAPING PLAN

ALL PLACEMENT OF LANDSCAPING SHALL MEET THE FOLLOWING CONDITIONS:

1. ALL PLANT MATERIAL SHALL BE PLANTED IN A MANNER WHICH IS NOT TO INTERFERE WITH OVERHEAD WIRES OR BE INTRUSIVE TO UTILITIES OR PAVEMENT.
2. NO TREES OR OTHER LANDSCAPING SHALL BE LOCATED CLOSER THAN 10 FEET TO A FIRE HYDRANT OR OTHER ABOVE GROUND UTILITIES.
3. NO LANDSCAPING SHALL INTERFERE WITH SITE REQUIREMENTS FOR SAFE INGRESS AND EGRESS.

INSTALLATION STANDARDS:

1. PLANT MATERIAL SHALL CONFORM WITH THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN FOR THAT TYPE OF TREE OR SHRUB AT THE TIME OF INSTALLATION.
2. ALL TREES SHALL BE GROWN IN A NURSERY LOCATED IN THE STATE OF MICHIGAN.
3. ALL PLANT MATERIAL SHALL BE INSTALLED FREE OF DISEASE AND IN A MANNER THAT ENSURES THE AVAILABILITY OF SUFFICIENT SOIL AND WATER TO SUSTAIN HEALTHY GROWTH.
4. ALL TAGS, WIRES, PLASTIC TIES AND ROPE SHALL BE CUT FROM EACH TREE TO PREVENT GIRDLING OF THE TREE. THE BURLAP SHALL BE PULLED BACK FROM THE UPPER THIRD OF THE ROOTBALL. IF A PLASTIC 'BURLAP' IS USED, IT SHALL BE REMOVED IN ITS ENTIRETY FROM THE ROOTBALL.
5. ALL PLANT MATERIAL SHALL BE PLANTED WITH A MINIMUM OF DEPTH OF THREE (3) INCHES OF MULCHED MATERIAL AND A DIAMETER OF THREE (3) FEET AROUND THE BASE OF THE TREE.
6. TREES SHALL BE STAKED WITH POSTS AND NOT STAKES IN AREAS OF HIGH WIND FOR ONE TO THREE YEARS TO ALLOW THE GROWTH OF PROPOSED ROOTS TO STABILIZE. ALL ROPES SHALL BE COVERED TO PREVENT CUTTING INTO THE BARK.
7. ANY EXCESS SOIL, CLAY, OR CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PLANTING SITE, PRIOR TO PLANTING OF INDIVIDUAL TREES AT FINAL GRADE.
8. THE JURISDICTION, AT ITS DISCRETION, HAS THE RIGHT TO RETAIN A PROFESSIONAL LANDSCAPE ARCHITECT OR ARBORIST TO REVIEW SUBMITTED LANDSCAPE PLAN AND THE PROFESSIONAL LANDSCAPE ARCHITECT OR ARBORIST WILL SUBMIT A WRITTEN REPORT TO THE PLANNING AND ZONING COMMISSION. ALL EXPENSES INCURRED BY THE JURISDICTION FOR THE USE OF THE LANDSCAPE ARCHITECT OR ARBORIST SHALL BE REIMBURSED BY THE DEVELOPER.

PLANTING SEASONS:

1. PLANTS MUST BE PLANTED DURING THE FOLLOWING DATES: APRIL 1ST TO MAY 15TH AND SEPTEMBER 1ST TO OCTOBER 1ST.
2. THE PLANTING PERIODS INDICATED MAY BE EXTENDED DUE TO WEATHER CONDITIONS OR OTHER FACTORS, WHICH MUST BE APPROVED BY THE LANDSCAPE ARCHITECT/ENGINEER.
3. THE CONTRACTOR WILL BE RELIEVED FOR HIS GUARANTEE RESPONSIBILITY SHOULD THE OWNER REQUIRE PLANT MATERIAL INSTALLATIONS TO BE COMPLETED DURING OTHER TIMES THAN THE PLANTING PERIODS INDICATED.

PLANTING:

1. ALL SHADE TREES, ORNAMENTAL TREES, EVERGREEN TREES AND SHRUBS SHALL BE PLANTED IN HOLES EXCAVATED AT LEAST 3x THE WIDTH OF THE DIAMETER OF THE BALL OR CONTAINER AND DEEP ENOUGH SO THAT THE TOP OF THE BALL OR SOIL IN THE CONTAINER IS AT OR JUST ABOVE EXISTING GRADE.
2. ALL TWINE OR ROPE MUST BE CUT AND REMOVED AND THE BURLAP FOLDED AWAY FROM THE TOP OF THE BALL. THE EXCAVATION MUST BE BACKFILLED WITH THE PLANTING MIXTURE AND WATERED. ANY SETTLEMENT WILL BE FILLED WITH PLANTING MIXTURE.
3. A 4" DEEP SAUCER, SIMILAR TO THE DIAMETER OF THE PLANTING HOLE SHALL BE CREATED USING PLANTING MIX.
4. PLANTING MIX TO CONSIST OF 1/3 TOP SOIL, 1/3 SOIL FROM EXCAVATION, AND 1/3 MUSHROOM COMPOST (OR 1/3 PEAT MOSS).

CLEAN UP:

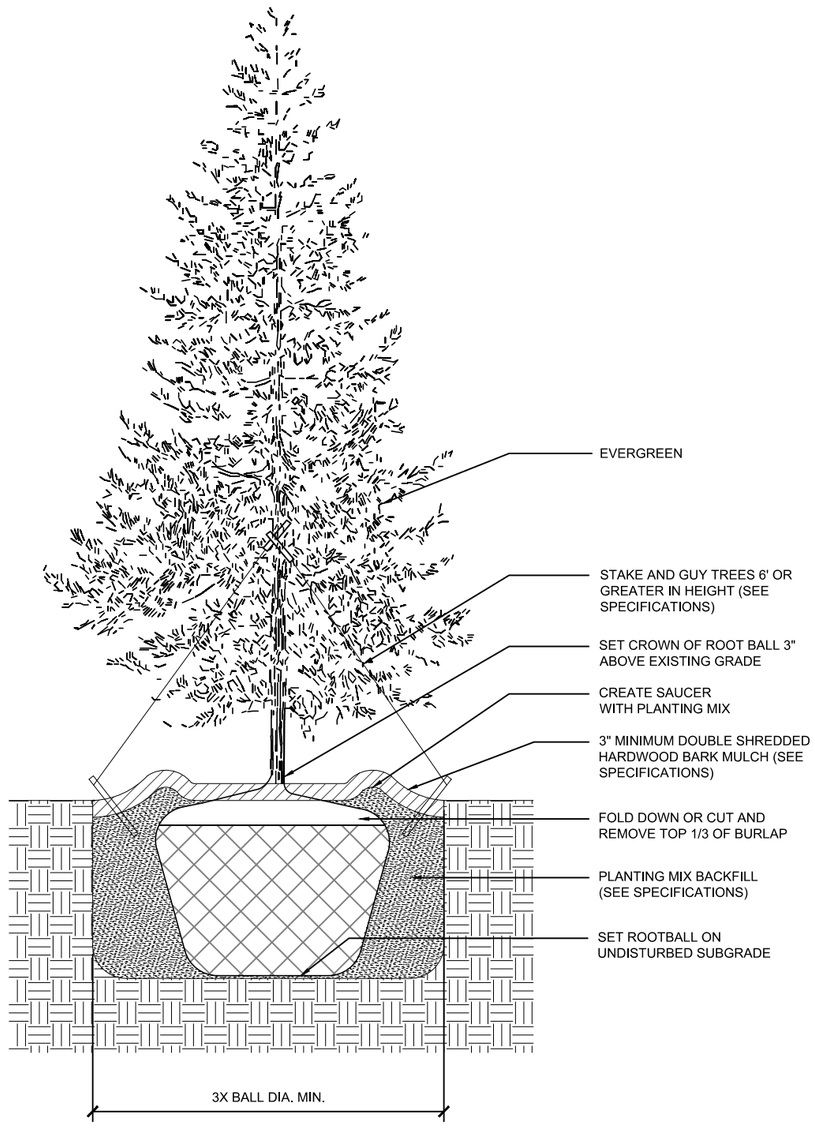
1. ALL DEBRIS GENERATED DURING THE INSTALLATION OF PLANT MATERIALS MUST BE REMOVED FROM THE SITE.
2. ALL PAVEMENTS AND WALKS MUST BE SWEPT AFTER EACH DAYS WORK. UPON COMPLETION OF THE WORK, ALL PAVEMENTS MUST BE WASHED TO REMOVE ALL MUD OR DIRT.

NOTES

SCALE: NONE

1

NOTE:
ALL MATERIALS SURROUNDING THE TREE ROOT BALL, INCLUDING WIRING, ARE TO BE REMOVED PRIOR TO PLANTING OF TREES.



LANDSCAPING DETAIL

SCALE: NONE

2

CHARGE-X

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WHITE LAKE TOWNSHIP, MI 48386

STATE OF MICHIGAN
LICENSED
MARK
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ENGINEER
No.
6201057985
PROFESSIONAL ENGINEER

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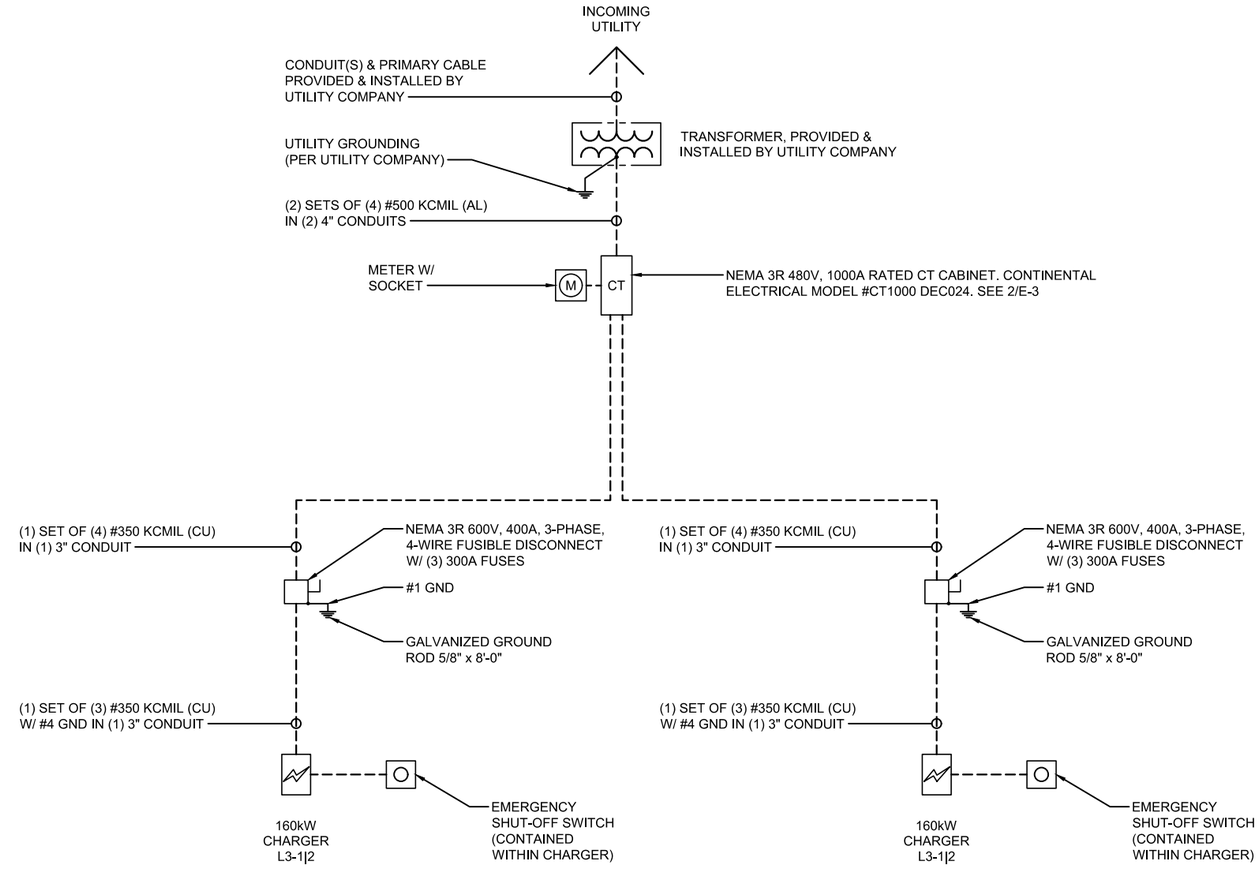
JOB: T2600207

L-2
LANDSCAPING DETAIL & NOTES

PENDING UTILITY COORDINATION

GENERAL NOTES:

1. 1000VDC AND 600VAC CONDUCTORS ARE BASED ON 75°C COLUMN OF NEC TABLE 310.15B(16).
2. METER LOCATION SHALL BE ACCESSIBLE FOR READING AND SERVICING. UTILITY COORDINATION IS ONGOING.
3. UTILITY COORDINATION IS ONGOING. RESPONSIBILITY OF PRIMARY AND SECONDARY TERMINATIONS SHALL BE COMPLETED BY THE UTILITY COMPANY. CONTRACTOR SHALL SUPPLY CONDUIT ONLY ON PRIMARY SIDE AS SPECIFIED BY THE UTILITY COMPANY. TRANSFORMER SIZED AND PROVIDED BY THE UTILITY COMPANY. CONTRACTOR TO INSTALL PER UTILITY COMPANY GUIDELINES.
4. #4 SOLID AWG CU GROUNDING ELECTRODE CONDUCTOR PER 250.66(A) TO ROD.
5. GROUNDING ELECTRODE 5/8" x 8'-0" GALVANIZED GROUND ROD INSTALLATION PER NEC 250.52(A)(5), 250.53(A) AND 250.56. THERE SHALL BE TWO GROUND RODS SEPARATED BY SIX FEET OR MORE, OR PROVIDE A CERTIFIED TEST SHOWING THAT THE RESISTANCE TO GROUND IS 25 OHMs OR LESS.
6. PROVIDE NAMEPLATES IDENTIFYING ALL NEW PANELBOARDS, DISCONNECTS, AND BRANCH CIRCUITS PER NEC 230.2(E) AND 225.37. AT EACH DISCONNECTING LOCATION, A PERMANENT PLAQUE DIRECTORY SHALL BE PROVIDED DENOTING ALL SERVICE FEEDERS SUPPLYING/PASSING THROUGH THE BUILDING FOR AREA SERVED BY EACH.
7. CONTRACTOR SHALL PROVIDE A NAMEPLATE FOR ALL EMERGENCY STOP SWITCHES OR SAFETY DISCONNECTS THAT READS, "EV CHARGING EQUIPMENT EMERGENCY SHUTDOWN" AT EACH LOCATION.
8. ALL EQUIPMENT SHALL HAVE THE ABILITY TO BE LOCKABLE IN THE OPEN.



CONDUIT NOTE:

ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ABOVE-GRADE CONDUIT (INCLUDING CONDUIT ASSOCIATED WITH FREE-STANDING OR WALL-MOUNTED SERVICE EQUIPMENT) SHALL BE SCHEDULE 40 PVC, UNLESS THE ABOVE-GRADE RUN LENGTH IS GREATER THAN OR EQUAL TO (5) FEET, IN WHICH CASE SCHEDULE 80 PVC SHALL BE UTILIZED.

TRENCHING NOTE:

PROPOSED TRENCHING ROUTE IS SCHEMATIC AND SUBJECT TO MODIFICATION BASED ON FIELD CONDITIONS AND/OR IDENTIFICATION OF A MORE EFFICIENT ROUTING METHOD. ALL TRENCHING SHALL AVOID EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL COORDINATE UTILITY LOCATING THROUGH MISS DIG PRIOR TO EXCAVATION.

NOTE:
- CONTRACTOR TO PLAN FOR MULTIPLE LUGS FOR PARALLEL RUNS

ONE-LINE DIAGRAM

SCALE: NONE

1

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E-1
ONE-LINE DIAGRAM

LEGEND

TRENCHING ROUTE

PENDING UTILITY COORDINATION

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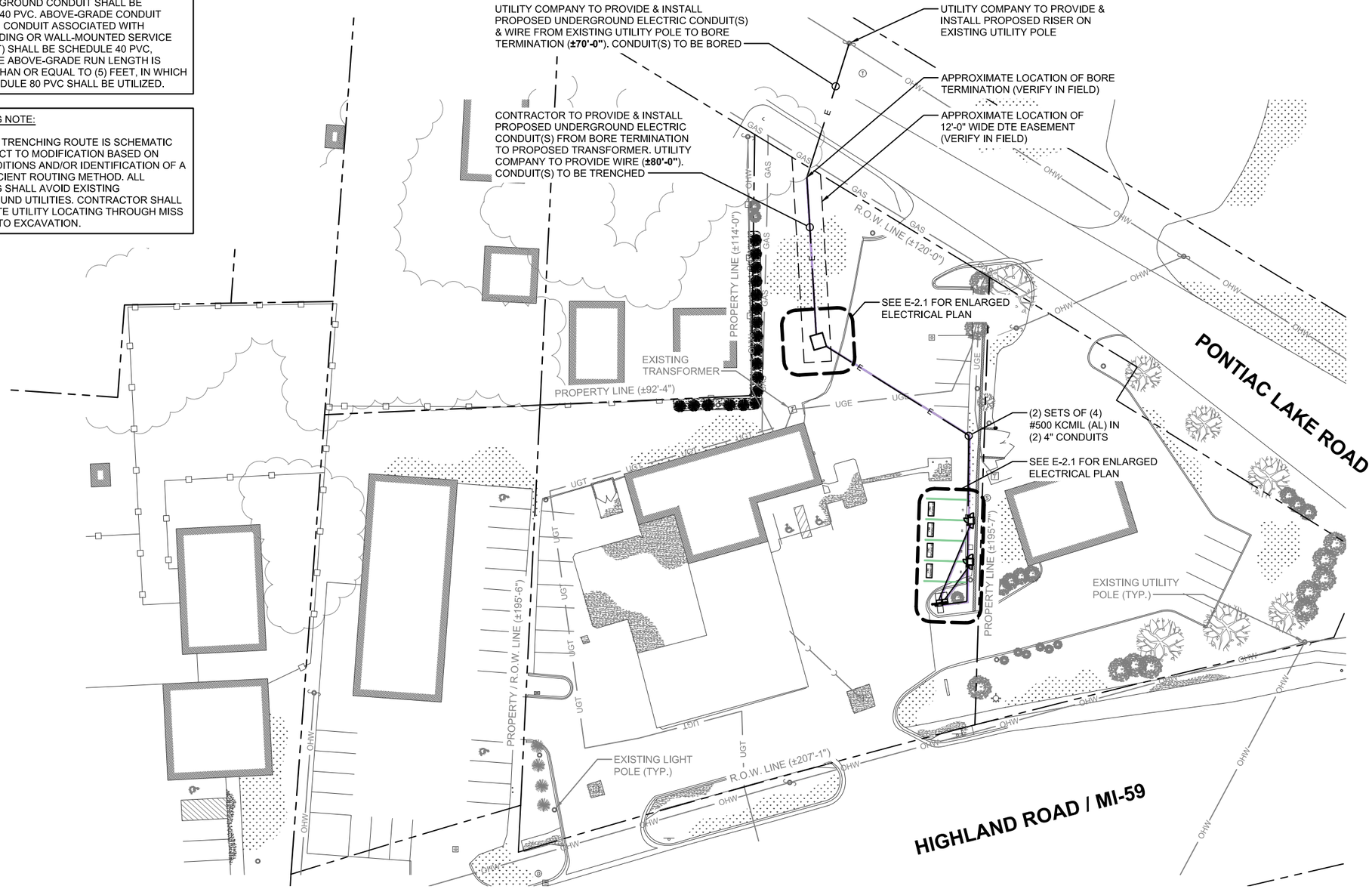
LEGEND

- GAS — GAS LINE
- OHW — OVERHEAD UTILITY LINE
- STORM SEWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- UGT — UNDERGROUND TELCO LINE



N

0' 50' 100' 150'

SCALE: 1" = 50'-0"

OVERALL ELECTRICAL PLAN

SCALE: 1" = 50'-0"

1

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E-2
OVERALL ELECTRICAL PLAN

LEGEND

TRENCHING ROUTE

PENDING UTILITY COORDINATION

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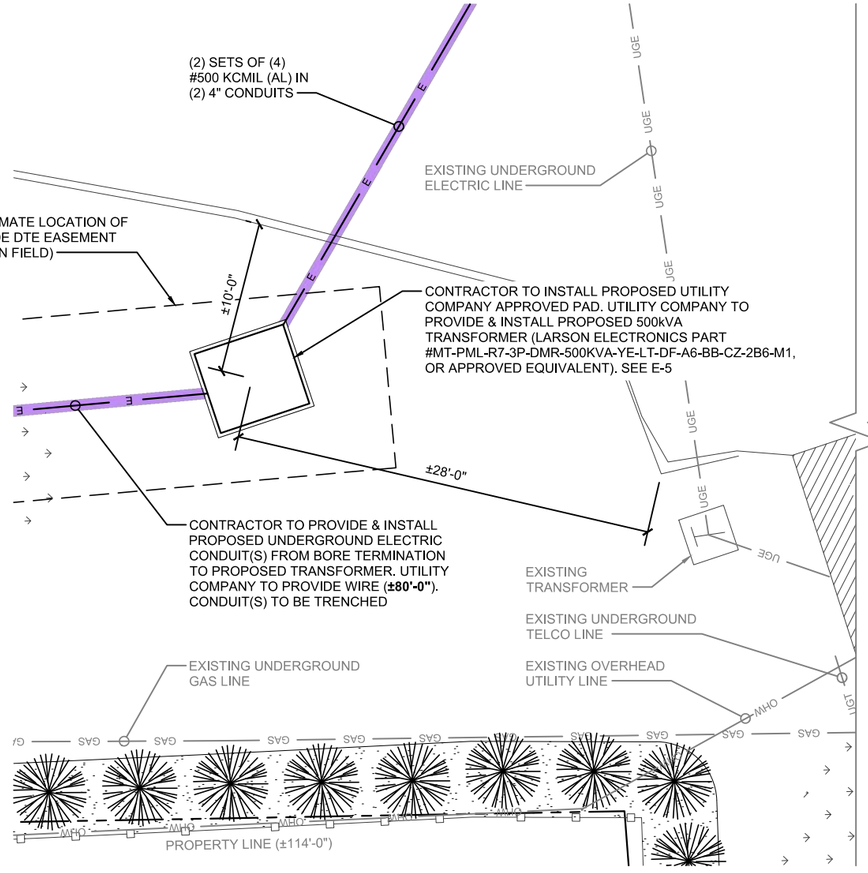

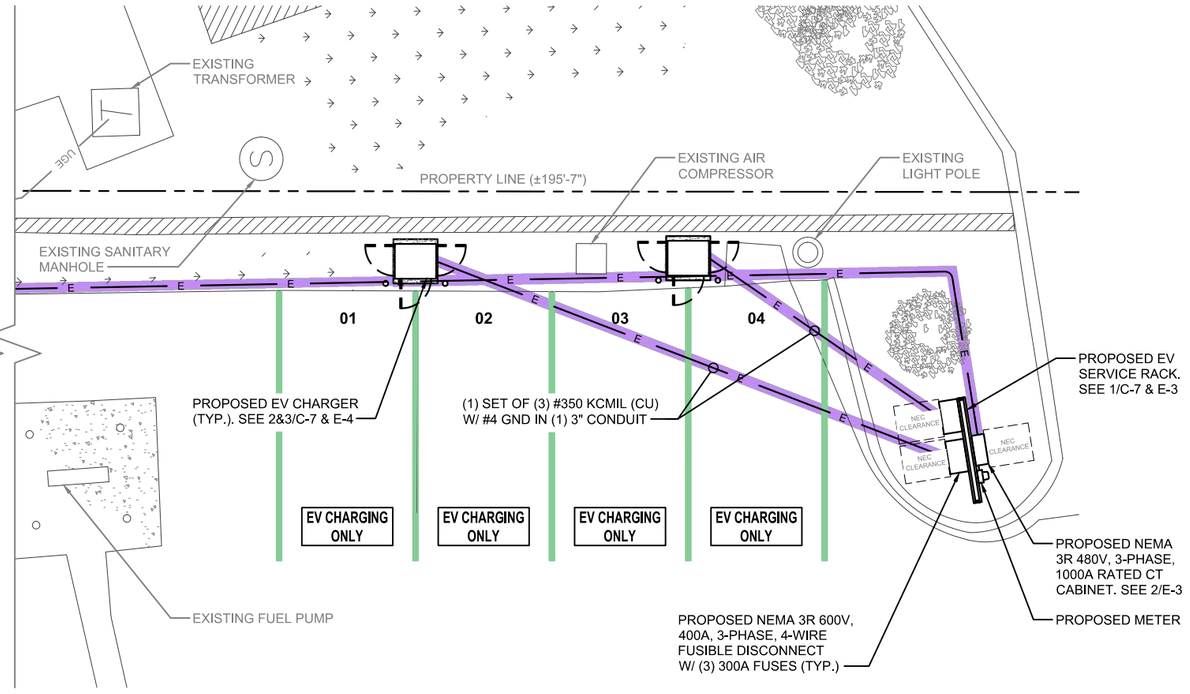

N

0' 10' 20' 30'

SCALE: 1" = 10'-0"

ENLARGED ELECTRICAL PLAN

SCALE: 1" = 10'-0"

1

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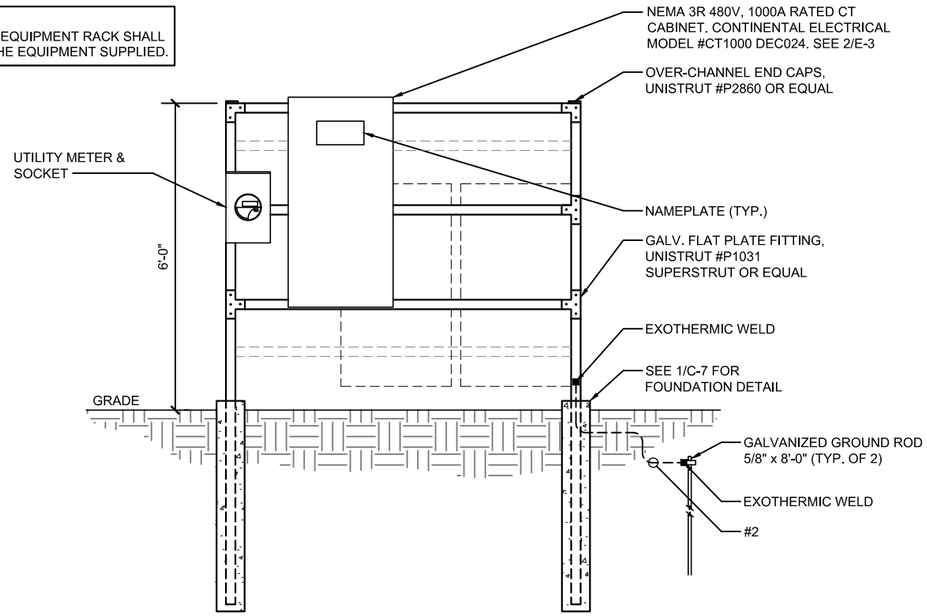
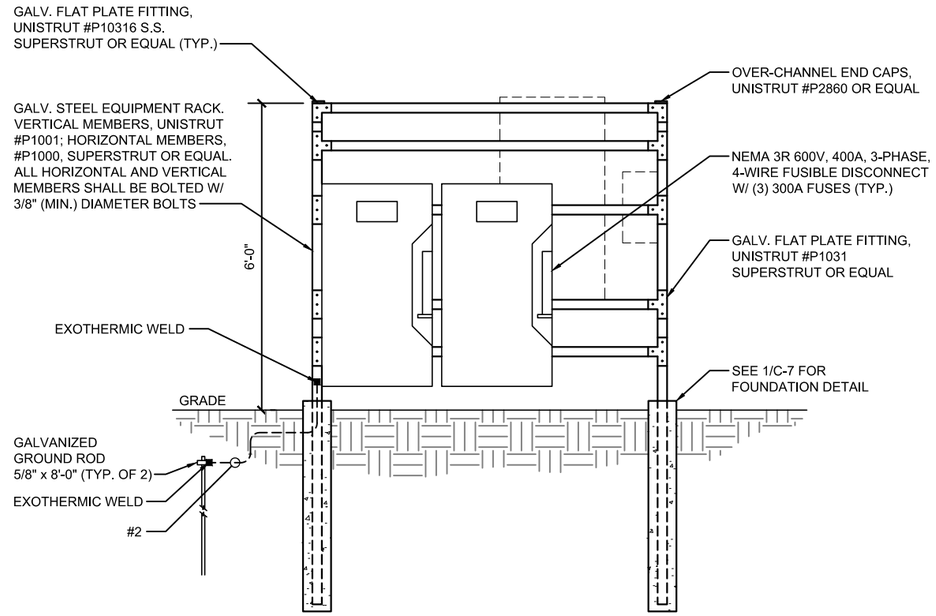
E-2.1
ENLARGED ELECTRICAL PLAN

NOTE:
EXACT WIDTH OF THE EQUIPMENT RACK SHALL BE DETERMINED BY THE EQUIPMENT SUPPLIED.



FRONT VIEW



REAR VIEW

EQUIPMENT RACK DETAIL

SCALE: NONE

1

CONTINENTAL®

WWW.CONTINENTALELECTRICALPRODUCTS.COM

MODEL #CT1000 DEC024

CURRENT TRANSFORMER CABINET

STANDARD DIMENSIONS
24" X 48" X 10"

RATINGS:
1000 AMPS
600 VAC
42K AIC SYM

UL LISTED

- EDISON APPROVED
- POWDER COAT FINISH
- STAINLESS STEEL HINGES
- 3R CONSTRUCTION
- LIFT-OFF DOOR
- AVAILABLE WITH OUR U.L. LISTED BUS RISERS
- PADLOCK & SEAL PROVISIONS
- EXPANDED 36" WIDE UNITS AVAILABLE - (SPECIFY EXPANDED LEFT OR RIGHT SIDE GUTTER)

CONTACT YOUR ELECTRICAL SUPPLY HOUSE FOR MORE INFORMATION ON OUR QUALITY PRODUCTS.

SWITCHGEAR, BUS DUCT, BUS PLUGS, ENCLOSURES, GROUND BARS, CUSTOM BUSSING, AND MUCH MORE.

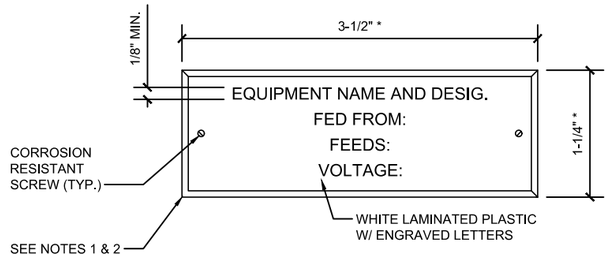
Made in Michigan

JANUARY 2010

CT CABINET SPECIFICATIONS

SCALE: NONE

2



* SMALLER SIZES MAY BE USED AS INDICATED; SEE SPECIFICATIONS

NOTES:

1. NAMEPLATES SHALL BE PROVIDED FOR ALL NEW BRANCH CIRCUITS IN NEW DISTRIBUTION PANELS AND RECEPTACLE PANELS.
2. NAMEPLATES SHALL BE PROVIDED FOR NEW BRANCH CIRCUITS AND/OR MODIFICATIONS TO EXISTING SWITCHGEARS, DISTRIBUTION PANELS, AND RECEPTACLE PANELS.

NAMEPLATE DETAIL

SCALE: NONE

3

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E-3
ELECTRICAL DETAILS

AUTEL

MAXICHARGER™ DC FAST 60KW-240KW WITH 20KW INCREMENTS SPECIFICATIONS

- FLEXIBLE POWER MODULE DESIGN
- MULTIPLE CABLE & CHARGING CONNECTOR OPTIONS
- 27-INCH TOUCHSCREEN DISPLAY
- SMART CLOUD PORTAL WITH REMOTE DIAGNOSTICS
- DYNAMIC LOAD BALANCING
- ISO 15118 PLUG & CHARGE

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AUTEL

SPECIFICATIONS MAXICHARGER DC FAST 60KW-240KW WITH 20KW INCREMENTS

	DCFC 60KW-120KW	DCFC 140KW-240KW
PART NUMBERS	60kW: UF060xxxxxx; 80kW: UF080xxxxxx; 100kW: UF100xxxxxx; 120kW: UF120xxxxxx	140kW: UF140xxxxxx; 160kW: UF160xxxxxx; 180kW: UF180xxxxxx; 200kW: UF200xxxxxx; 220kW: UF220xxxxxx; 240kW: UF240xxxxxx
	The "xxxxxx" portion of the product part number represents the various product configurations.	
ELECTRICAL		
CONNECTOR OPTION*	Dual CCS1, or CCS1 + CHAdeMO	Dual CCS1/CCS1 Boost, or CCS1 + CHAdeMO
MAX. INPUT AC CURRENT	60kW: 81A; 80kW: 122A; 100kW: 152A; 120kW: 182A	140kW: 213A; 160kW: 245A; 180kW: 272A; 200kW: 309A; 220kW: 335A; 240kW: 365A
NOMINAL INPUT AC CURRENT	60kW: 85A; 80kW: 114A; 100kW: 142A; 120kW: 169A	140kW: 185A; 160kW: 227A; 180kW: 255A; 200kW: 285A; 220kW: 313A; 240kW: 342A
INPUT VOLTAGE RANGE	480 V AC - 15 % to +10 % @ 60 Hz	
DC OUTPUT VOLTAGE	CCS1: 150 to 950 V DC; CHAdeMO: 150 to 500 V DC	
NETWORK TYPE	TN-C, TN-C-S, & TT (External RCD** Required)	
AC INPUT CONNECTION	3P + PE (No Neutral)	
PROTECTION	Over-Current, Over-Voltage, Under-Voltage, Ground-Fault, Over-Temperature, Short-Circuit, Insulation Monitor (IMD), & Surge Protection	
OVERVOLTAGE CATEGORY	AC Side (Input) OVC III	
POWER FACTOR (> 50 % LOAD)	≥ 0.99	
THDi (> 50 % LOAD)	≤ 5 %	
PEAK EFFICIENCY	≥ 96 %	
STANDBY POWER	60 W	
SHORT CIRCUIT CURRENT RATING	≥ 65 kA	
ENERGY METERING	Class A	
USER INTERFACE & COMMUNICATION		
CONNECTIVITY	Internet Access Via 4G / Wi-Fi / Ethernet (RJ-45)	
USER AUTHENTICATION	QR Code, RFID, Credit Card (Optional)	
ISO 15118 PLUG & CHARGE	Yes	
DIN 70121	Yes	
INTERFACE	27" LCD High-Contrast Touchscreen (10.5" Optional)	
ACCESSIBLE FOR WHEELCHAIR USERS	Yes	
COMMUNICATIONS PROTOCOLS	OCPP 1.6 JSON, OCPP 2.0.1 (Can Be Upgraded Later)	
RFID READER	ISO 14443 A+B to Part 4 & ISO/IEC 18092, Mifare, NFC, Calypso, Ultralight, PayPass, HID & More	
EMERGENCY BUTTON	Yes	
SOFTWARE UPDATE	OTA Update Via Web Portal	
CONTROL AND CONFIGURATION	Web Portal, On-Board Service Portal	
GENERAL CHARACTERISTICS		
PROTECTION RATINGS	NEMA 3R Outdoor Use & IK-10	
ENCLOSURE TYPE	Stainless Steel 430	
OPERATION ALTITUDE	6561 Ft. (6561 to 9843 Ft. with Power Derating)	
OPERATING TEMPERATURE	-22 °F to +131 °F (+122 °F to +131 °F with Linear Power Derating)	
STORAGE TEMPERATURE	-40 °F to +239 °F	
HUMIDITY	<95 % RH, Non-Condensing	
NOISE LEVEL	< 60 dB @1 m/39 "/Full Load/800 VDC	
MOUNTING	Free-Standing Cabinet	
CABLE LENGTH	18 ft (Optional: 20 or 25 ft)	
DIMENSIONS (H X W X D)	75.0"x32.3"x23.6" (1910 x 820 x 600 mm)	75.6"x 32.3"x 27.6" (1950 x 820 x 700 mm)
CERTIFICATIONS & STANDARDS		
COMPLIANCE & SAFETY	UL 2202, UL 2231-1, UL 2231-2, NEC Article 625, CSA C22.2 No. 107.1-16	
EMC COMPLIANCE	FCC Part 15 Class A, Class B (Optional)	
WARRANTY	24 Months with Warranty Extensions Available	

* CCS1: Max 200A, CCS1 Boost: 300A (Max: 400A) ** RCD: Residual Current Detector For Ground Fault Protection.

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AUTEL

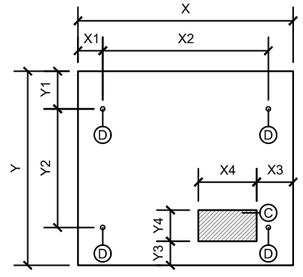
CHARGER SPECIFICATIONS

SCALE: NONE

1

PARAMETER	SPECIFICATIONS			
	MAXICHARGER DC FAST 120		MAXICHARGER DC FAST 160	
	in.	mm	in.	mm
X	32.3	820	32.3	820
Y	25.2	640	29.1	740
X1	3.7	95	3.7	95
X2	24.8	630	24.8	630
X3	5.5	140	5.5	140
X4	8.7	220	8.7	220
Y1	3.7	94.3	5.7	144.3
Y2	17.7	450	17.7	450
Y3	5.2	131	3.6	91.5
Y4	4.7	120	4.7	120

6. PLACE THE DRILLING TEMPLATE ON THE CONCRETE SURFACE, ALIGNING THE MARKED AREA (C). MARK THE FOUR MOUNTING HOLES (D) AND REMOVE THE DRILLING TEMPLATE. DRILL HOLES WITH DEPTH OVER 4.3 INCHES (110 mm) AND 4/5 INCH (20 m) IN DIAMETER. CLEAN ANY DEBRIS.



NOTE:
CHARGER BASES ARE THE SAME FOR 160kW THRU 240kW CHARGERS.

CHARGER BASE

SCALE: NONE

2

4.1.1 LOCATION REQUIREMENTS

- THE MAXICHARGER REQUIRES AN INSTALLATION SPACE OF 95.3 x 80.8 INCHES (2420 x 1950 mm, FOR MAXICHARGER DF 120) OR 103.2 x 80.7 INCHES (2620 x 2050 mm, FOR MAXICHARGER DF 160) IN ORDER TO ENSURE THE NORMAL OPERATION AND AIRFLOW AROUND THE MAXICHARGER. THE SPACE IS CALCULATED AS FOLLOWS:

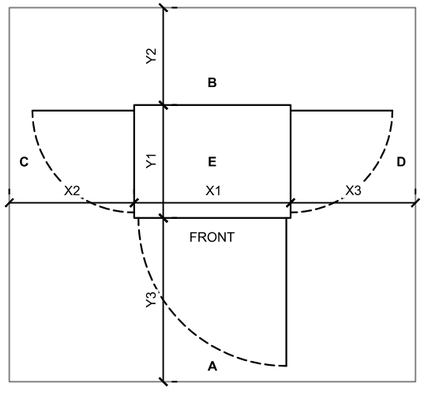


FIGURE 4-1 LOCATION REQUIREMENTS

A. FRONT SIDE OF THE MAXICHARGER
B. REAR SIDE OF THE MAXICHARGER
C. LEFT SIDE OF THE MAXICHARGER
D. RIGHT SIDE OF THE MAXICHARGER
E. CABINET

TABLE 4-1 SPACE REQUIREMENTS FOR MAXICHARGER DF 120

PARAMETER	SPECIFICATION	
	in.	mm
X1	32.3	820
X2	31.5	800
X3	31.5	800
Y1	23.6	600
Y2	19.7	500
Y3	33.5	850

TABLE 4-2 SPACE REQUIREMENTS FOR MAXICHARGER DF 160

PARAMETER	SPECIFICATION	
	in.	mm
X1	32.3	820
X2	35.4	900
X3	35.4	900
Y1	27.6	700
Y2	19.7	500
Y3	33.5	850

CHARGER CLEARANCES

SCALE: NONE

3

CHARGE-X

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MARK VENTRELLI
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No. 6201057995
LICENSED PROFESSIONAL ENGINEER

EXPIRES: 03/02/28 SIGNED: 09/02/26

REVISIONS

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A	FOR CLIENT REVIEW	03/18/26	JTB
0	REVISION	03/23/26	JTB
1	REVISION	05/20/26	JTB
2	REVISION	06/12/26	JTB
3	REVISION	07/16/26	JTB
4	REVISION	09/02/26	JTB

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CHECK: JKR
DRAWN: JTB
JOB: T2600207

E-4
ELECTRICAL EQUIPMENT SPECIFICATIONS

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MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B6-M1

500 KVA Pad Mount Transformer - 12470V Delta Primary, 480Y/277 Wye-n Secondary - Copper, KNAN/Bell Green

Product ID: 182805

Please see last page for supporting documentation for this product(certificates, CAD files & drawings, IES files, wiring diagrams, etc).

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B6-M1 3PH Pad Mount Transformer	Ratings
Transformer Type: Pad Mounted, Compartmental-Type	Meets/Exceeds DOE 2016 Efficiency Ratings
Transformer Configuration: Liquid Filled Pad Mounted	Meets/Exceeds CSA Efficiency Ratings
Transformer Feed Type: Loop Feed	Complies with ANSI / IEEE C57.12.00
Operation: Step-Down Operation (Not Approved for Step-Up)	Complies with ANSI / IEEE C57.12.28
Phase: Three Phase	Complies with ANSI / IEEE C57.12.29
Capacity: 500 KVA	Complies with ANSI / IEEE C57.12.34
Vector Group: DYN1	Complies with ANSI / IEEE C57.12.35
Primary Voltage: 12470V	Complies with ANSI / IEEE C57.12.70
Primary Voltage Switch: N/A	Complies with ANSI / IEEE C57.12.110
Primary Voltage Class: 15 kV Class	Complies with ANSI / IEEE C57.12.131
Primary Phaseo: Delta	Complies with ANSI / IEEE C62.11
Primary BIL: 95 KV	Complies with ANSI / IEEE C62.22
Secondary Voltage: 480Y/277	Complies with ANSI / IEEE 386
Secondary Voltage Class: 1.2 kV Class	Complies with ANSI / IEEE C2
Secondary Phaseo: Wye-N	Complies with ANSI / IEEE C37.47
Secondary BIL: 30 KV	Complies with ANSI Z535.4
Frequency: 60 Hz	Complies with ASTM D3487
Temperature Rise: 65°C	Complies with ASTM D6871
Insulation Rating: Class E Insulation - 120°C, 248°F	Complies with NEMA 260-1996
Cooling Class: KNAN; Bell-Cooled	Complies with 10 CFR Part 431
Forced Air (Fans): None	Complies with CSA C2.1-06
Tap Changer: 5-position Tap Changer	Complies with CSA C50
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps	Complies with CSA C68
Tap %: 2.5%	Complies with CSA C88.1

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Tap Changer Switch Rating: 300-Amp, 15 kV
Tap Changer Switch Location: High Voltage (HV) [Left Side] Front Compartment
Impedance: 1.5-7.0% Typical, Target 4.35-5.75%
Primary Connection Type: Dead Front
Primary Termination Arrangement: V Terminal Arrangement
Primary Termination: Externally Clamped Integral Bushings w/ Removable Studs, 200A Loadd Break Elbows
Primary Connection Qty: (6) Primary Connections for use w/ Elbow Connectors
Primary Parking Stand Qty: (6) Welded Brackets for Installing Accessory Parking Stand Bushings
Primary Bushing Rating: 15 kV Class, 95 kV BIL, 200A, Load Break
Primary Neutral Connection: N/A
Primary Surge Arresters: (3) High Voltage Elbow Surge Arrestors, Included
Primary Surge Arrestor Voltage Rating: 18 kV Class Elbow Arrestor
Primary Surge Arrestor MCOV Rating: 15.3 kVrms
Primary Over Current Protection (OCP): Bayonet Expulsion Fuse in series w/ Partial-Range Current-Limiting Fuse
Primary Over Current Protection Method: Fused, Oil-Immersed
Primary Over Current Protection Holder: Bayonet Fuse Holder w/ Flapper Valve and External Drip Shield
Primary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in HV Cabinet
Secondary Connection Type: Live Front
Secondary Termination Arrangement: Staggered Terminal Arrangement
Secondary Connections: NEMA Spade Terminals, 4-Hole Spade, Externally Clamped, Accepts up to (4) Double Lug connections with (2) cables per side of Spade connector
Secondary Connection Qty: (4) Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs
Secondary Connection Supports: N/A
Secondary Over Current Protection (OCP): N/A
Secondary Neutral Connection: N/A
Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs in LV Cabinet
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel : N/A
Load Break Switch: Three (3)-Position Load Break Switches
Load Break Switch Qty: (1)
Load Break Switch Rating: 300-Amp, 15 kV
Load Break Switch Location: High Voltage (HV) Front Compartment
Efficiency Standard(s): Meets DOE 2016 Standards, Meets CSA Standards Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: Biodegradable Natural Vegetable Oil Ester Insulating Fluid - Non-PCB Fluid
Fluid (Oil) Capacity": 167 Gallons
Fluid (Oil) Weight": 1,281 lb
Liquid Level Indicator: Analog Dial Gauge
Temperature Indicator: Analog Dial Gauge
Pressure/Vacuum Indicator: Analog Dial Gauge
Pressure Relief Device: Included, Automatic Action
Fault Indicator: N/A
Gas Sampler Valve: Included, Schrader Valve
Fill Valve: 1" NPT Port w/ Removable Bolt Plug
Fill Valve Location: Front Compartment
Drain Valve: 1" NPT Port w/ 5/8" NPT Sampler Valve
Drain Valve Location: Front Compartment
Winding Material: Copper
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -40°C to +40°C (-50°F to +104°F)
Sound Level: 56 dBA
Elevation (Altitude): 33000ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: Coated Steel
Cabinet Material: Coated Steel
Base Platform Material: Coated Steel
Portability: Lifting lugs, provisions for jacking under base, w/ base construction suitable for using rollers or skidding
Housing Type: Compartmental Air-Filled Cabinet w/ Locking Doors, HV Compartment Left, LV Compartment Right, Steel Barrier Separation, HV Door Spring-Loaded Release Pin in

Complies with CSA C88-16
Complies with CSA C227.4
Complies with CSA C227.5
Complies with CSA C802.3
Complies with CSA C802.1

Features

Pentahead Bolt Entry Assembly

High-Fire Point Insulating Fluid
Non-PCB Insulating Fluid
Tamper Proof Housing
Hinged Front Compartment Doors, Pad Lockable
NEMA 3R Wiring Compartment

Hot Stick Included, HV Door Mount

Efficiency %: 99.36%

Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.

No Load Loss (in watts): +/- 700W

Full Load Loss (in watts) at 100%: +/- 5,000W

Total Load Loss (in watts) at 100%: +/- 5,700W

Total Losses at 65°C LL Temp.& 20°C NL Temp.

Total Load Loss (in watts) at 50%: +/- 1,899W

Note: Losses offered are typical only, not guaranteed

Labeling:
Externally Stenciled (Painted) KVA Rating
Externally Stenciled (Painted) Voltage Rating
External Non-PCB Label
External Warning & Danger Label

External Barcode Label

Internal Bussing & Accessory Labelling
Stainless Steel Riveted Nameplate

Factory Tests:
Winding Resistance Test
Insulation Resistance Test
Voltage Ratio Error Test
Short-circuit Impedance Test
No-load Loss (Wattage) Test
Load Loss (Wattage) Test
Induced Voltage Withstand Test
Separate Source Voltage Withstand Test
Pressure Integrity Test Test

Shipping:
Shipped on pallet on open flatbed
Palletized on Wooden Pallet w/ Skid Pockets
Pallet Skid Facing Outward Sides of Truck
Note: Crated shipping in lieu of palletizing can be done upon request for an additional fee

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LV Compartment
Enclosure Ratings: NEMA 3R Weatherproof Wiring Cabinet, Sealed Tank
Seismic Rating: Yes
Paint Types Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: Peterson Brown
Mounting: Pad Mounted
Conduit Opening: Bottom Feed Underground Entry/Exit
HV Compartment Base Wireway Dimensions": 20"-W x 5"-D
LV Compartment Base Wireway Dimensions": 16"-W x 5"-D
MV/LV Compartment Cabinet Depth": 24"-D
Tank Cover Access Handhole: N/A
Dimensions": 62"-W x 61"-D x 71"-H
Dry Weight (w/o Oil): 2,292 lb
Total Weight (Liquid Filled)": 4,802 lb
*Please note that numbers are approximate and subject to change

Special Orders - Special Requirements
Contact us for special requirements

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The MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B4-M1 Industrial Pad Mount Transformer from Larson Electronics offers powerful, reliable and efficient power distribution in indoor, outdoor and public locations. The low operating costs, low heat emissions and low cost of ownership makes this transformer ideal for a wide range of applications and businesses. An enclosed design caters to installations on concrete pads without protective fencing.
PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS*
Transformer Features: With a transformer rating of 500 KVA, the industrial transformer features a primary voltage of three-phase 12470V Delta and a secondary voltage of three-phase 480Y/277 Wye-n. The unit has a primary loop feed for single installations and dead-front primary connections. We also offer systems with loop feed and live front primary connections. This transformer features a 5-position tap changer with two, +/- 2.5% taps above and two, +/- 2.5% taps below to allow small changes for voltage. There are no rapid rise relays present on the system.
The system features copper windings for high strength and thermal/electrical conductivity. This transformer consists of rectangular coil and five-legged wound core design with three coils and four core loops (this is for three-phase transformers only; single-phase units have one coil and two core loops).
The MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B4-M1 is air cooled and does not have fans or mounting provision for fans.
Enclosure Design: This pad mounted transformer is a compartmental design. The tank and housing are fabricated from steel. The front electrical enclosure carries a NEMA 3R rating. The high voltage and low voltage compartments are located in front of the transformer tank, with the high voltage compartment on the left side and low voltage compartment on the right side. The HV and LV compartments are air filled and separated by a full length steel barrier between the compartments. A removable steel plate at the base of the HV and LV compartments prevents rodents and other intrusions from entering the enclosure once installed. This steel plate allows for underground conduit entry into the enclosure compartments. Two hinged exterior doors allow for access into the compartments. A single pad lockable handle on the low voltage compartment door allows for securing the transformer. A spring loaded pin within the low voltage compartment prevents the high voltage door from being opened without pulling the safety pin. A hot stick is included in the high voltage compartment, mounted to the HV door.
Temperature Rise: This unit features 65°C temperature rise for reduced heat waste, increased reliability and longer life. At 65°C temperature rise, the transformer offers 500 KVA. The transformer meets standard efficiency requirements. The combination of low temperature rise and high efficiency makes this unit suitable for use in electrical rooms, air conditioned spaces in buildings, underground vaults and similar locations, in addition to outdoor areas.

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Insulation Fluid: The MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B4-M1 features biodegradable cooling fluid (KNAN) with a capacity of 167 gallons. We offer transformers with PR-3 oil fluid, if needed.
Biodegradable Fluid: Biodegradable cooling fluid (vegetable oil) has a higher heat capacity compared to mineral oil, making the liquid safer to use and more reliable during operations. Vegetable oil has a higher flash point and fire point than mineral oil, hydrocarbon oil, silicone oil and synthetic ester. This cooling fluid is also non-toxic and can tolerate higher breakdown voltages than mineral oil. When operating at high temperatures, biodegradable cooling liquid sustains up to 120% loan conditions, which helps preserve the transformer's lifespan and performance.
Gauges: The following gauges are included with the system: liquid level, temperature and pressure/vacuum gauges. Standard liquid level, temperature and pressure/vacuum gauges are analog, manual reading types. These gauges do not have auxiliary contacts.
Fault Pressure Devices: This transformer features an automatic action fault pressure device. Fault pressure devices are used to detect high rates of pressure rise within the tank.
Rapid Rise Relay: There are no rapid rise relays on the unit. This safety component is designed for protection when a rapid increase in tank pressure occurs. The relay is suitable for detecting sudden pressure fluctuations above predetermined safe limits.
Surge arresters: This system comes with high elbow surge arresters on the primary side. Designed for over-voltage and transient voltage protection, the components prevent damage caused by lightning, internal switching or voltage surges. We can offer models without high elbow surge arresters that have mounting provisions for customer-provided surge arresters.
Load Break Switch: The transformer is equipped with three 2-position load break switches.
Valves: The MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B4-M1 is equipped with a pressure relief valve, fill valve and drain valve with sampler port.
Protection Fuses: This transformer contains bayonet protection fuses on the primary side. For units without protection fuses, up stream protection is provided. We recommend provisions for protection fuses when possible, as blown fuses may require more frequent oil changes.
Mount: The heavy-duty enclosure makes the unit suitable for both indoor and outdoor applications. This power distribution system can be pad mounted on concrete pads.
Benefits: The MT-PML-R7-3P-DMR-500KVA-YE-LT-DF-A6-BB-CZ-2B4-M1 pad mount transformer offers many benefits to consumers. This transformer provides owners with significant energy savings, as well as offering environmental benefits. Higher efficiency not only extends the life of the transformer, but also turns into cost savings for owners in the form of lower energy bills and decreased cost of ownership.
Applications: General purposes, industrial sites, electrical rooms, underground vaults, manufacturing facilities, steel plants, offshore, commercial, military, processing plants, electric power distribution, utilities, public locations and more. Larson Electronics is a manufacturer and as such can build stationary and portable transformer systems to your specifications. Although we carry several models of power distribution transformer systems, we can deliver custom ordered units almost as quickly as our prebuilt units. If this model does not meet your needs, please contact us at 1-800-369-6671 or sales@larsonelectronics.com to discuss your specific requirements.

TRANSFORMER SPECIFICATIONS	1
SCALE: NONE	

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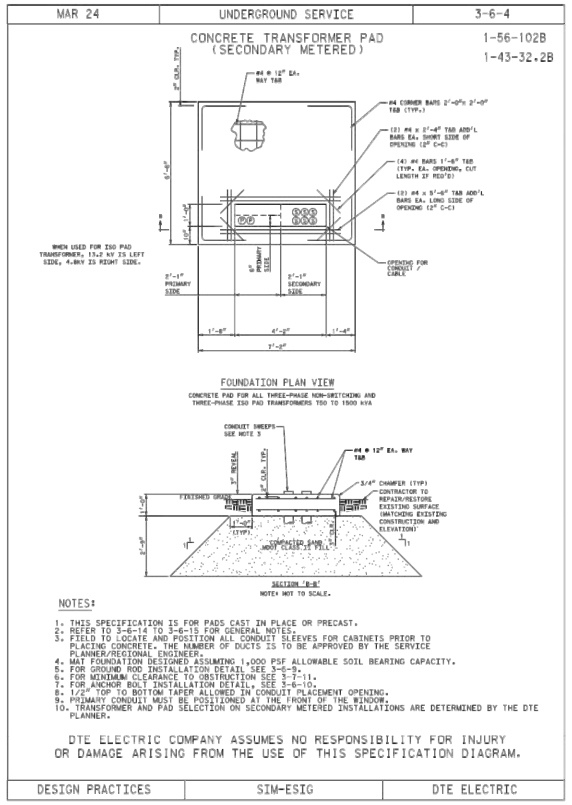
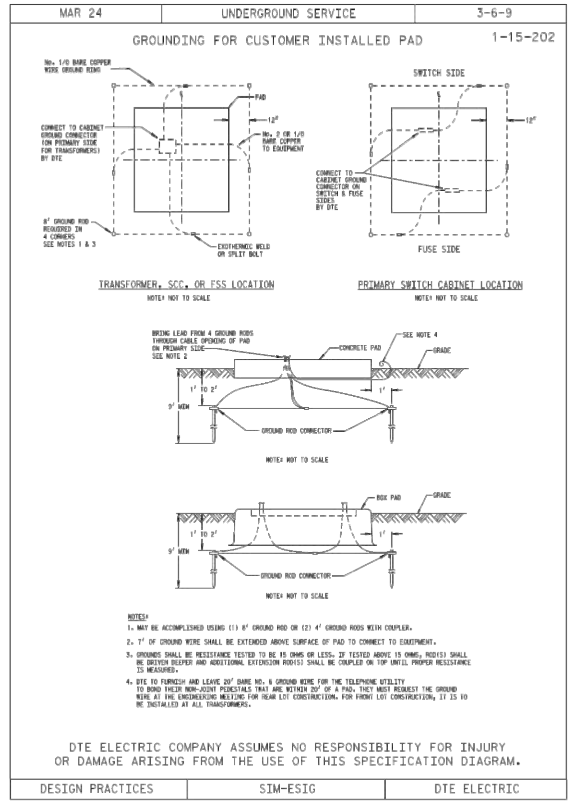
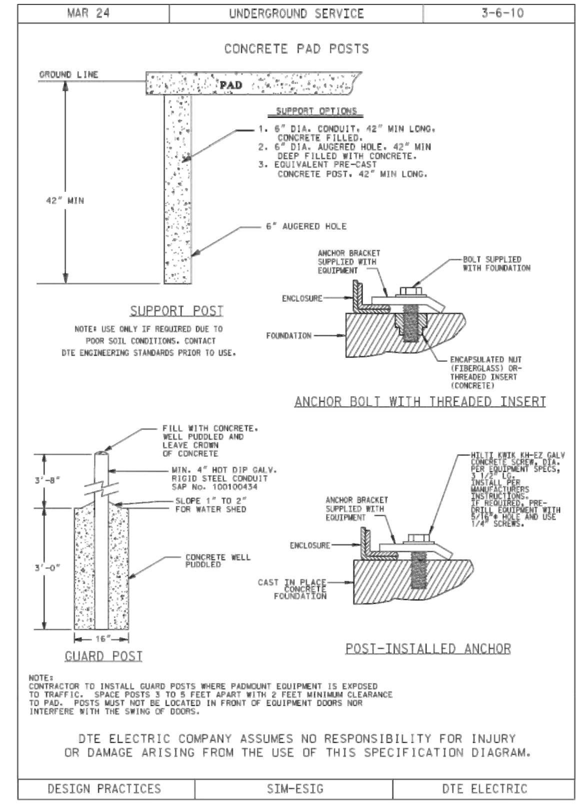
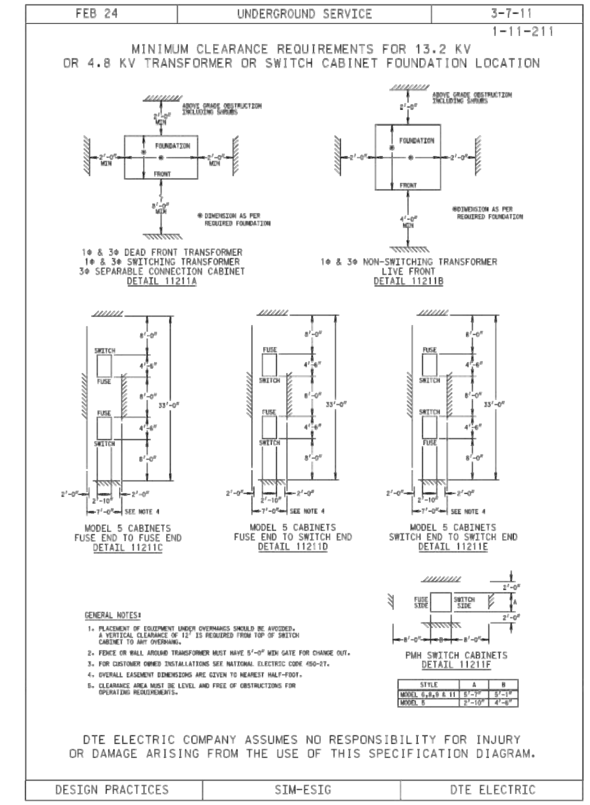
E-5
ELECTRICAL EQUIPMENT SPECIFICATIONS









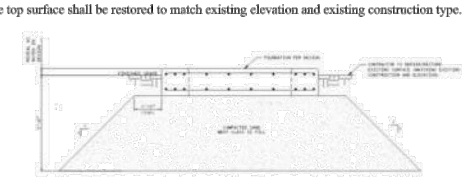
Foundation Installation – Excavation, Compacted Fill, Backfilling

These requirements apply to all underground line equipment foundation construction, including box pad, cast in place, and pre-cast foundations.

A. Excavation Requirements
(i) Excavation shall be to a depth that will permit preparation of a foundation as specified or installation of the box pad at prescribed depth, but at a minimum, shall be 3'-6" below finished grade. The width and length of the excavated hole shall be sufficient to permit the foundation and compacted fill installation, as specified below.
(ii) All excavations shall be kept free of standing water, frost, snow, ice, and foreign debris. No foundations shall be set against water, frost, snow, or ice.

B. Compacted Fill Requirements
(i) All foundations, including box pad, cast in place, and pre-cast, shall be laid on compacted sand (MDOT Class II fill). Fill shall extend to 3'-6" below finished grade. At the base of the foundation, fill shall extend 1'-0" beyond the plan dimensions of the foundation, on all sides. Fill shall be distributed to 3'-6" below finished grade at a 1:1 ratio. See sketch below.
(ii) Minimum soil bearing capacity is assumed to be 1000 psf. In cases where adequacy of the base may be doubtful, DTE may require bearing capacity tests results from a qualified testing laboratory.
(iii) When conditions such as unstable soil, frozen backfill, or rock are encountered, special action must be taken to provide a sound soil base for the entire foundation. The decision for correction of an overall poor condition such as swampy land or general regrading should be made by the division engineer.

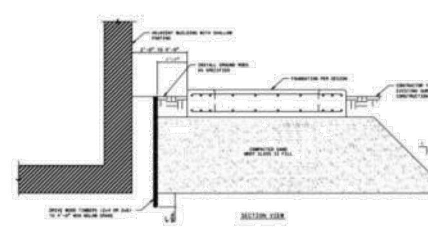
C. Backfilling Requirements
(i) All foundation excavations shall be backfilled with suitable material and compacted to the final grade as specified. Suitable material shall be lean grout fill (see 3-6-15), MDOT Class II fill (compacted sand), or mineral soil reasonably free of foreign materials, rubbish, debris, etc. Backfill shall be free of frozen clumps, oversized stone, rock or concrete, bituminous chunks or other unsuitable materials that may damage the foundations.
(ii) Backfill in 9" maximum lifts and compact well. Compaction of backfill materials placed within the foundation openings can be accomplished with portable or hand equipment methods.
(iii) The top surface shall be restored to match existing elevation and existing construction type.



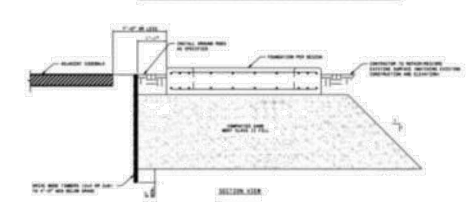
Foundation Installation – Excavation, Compacted Fill, Backfilling (Continued)

D. Installations near existing buildings, structures, or sidewalks:
i. If the edge of a foundation pad is within 4'-0" of an existing building or structure or within 7'-0" of an existing sidewalk edge, follow this procedure to install base fill near the adjacent foundation/sidewalk.
ii. Maintain all minimum clearances as noted in Section 11.
iii. Along the edge adjacent to the building or structure, drive 2x4 or 2x6 wood timbers approximately 1'-1" from the edge of the future foundation pad.
iv. Timber driving and excavation may be done in stages. It is recommended to maintain the base of wood timbers at least 6" below the base of excavation at all times.
   a. For example, drive timber down 1'-0" below grade. Excavate 6" of soil. Drive timber another 1'-0". Excavate another 1'-0" of soil. Continue until final depth of excavation is reached.
v. Base of timbers shall be 4'-0" below finished grade, minimum.
vi. Compacted base fill shall be installed as directed. On edges which are not adjacent to existing building or structures, base fill shall be installed as normally specified.
vii. Install foundation as specified.
viii. Install grounding rods as specified. Ground rods should be between the wood timbers and the foundation on edges near to existing buildings or structures.
ix. Wood timbers may be removed prior to final backfill and surrounding grade restoration. Wood timbers may also be left in place, provided they are flush with surrounding grade and do not present a tripping hazard.

Foundation Installation – Excavation, Compacted Fill, Backfilling (Continued)



INSTALLATION NEAR EXISTING BUILDING OR STRUCTURE



INSTALLATION NEAR EXISTING SIDEWALK

Foundation Installation – Concrete Work

These guidelines are intended to be applicable to all cast in place underground line equipment foundation construction.

A. Concrete Mix Requirements
(i) Minimum compressive strength of concrete at 28 days: 4500 psi (unless noted otherwise).
(ii) Use only type I, II, III or IL cement (unless noted otherwise). Contact the DTE civil engineer if types II or III is selected.
(iii) Provide 5½% +/- 1% entrained air, water cement ratio: 0.45 and a slump of 4" to 6" (unless noted otherwise). Add water reducing admixtures as required to achieve required slump.

B. Placing and Finishing Concrete
(i) Provide a float finish on all horizontal surfaces (unless noted otherwise).
(ii) Provide a 3/4" chamfer on all exposed edges of mats.
(iii) Place concrete directly against sides of augered excavations. Use sonotube or other approved forms for top 24" of pier (at minimum).
(iv) Provide top surface elevations of piers and mats 3" above finished grade (unless noted otherwise).
(v) Cold weather concrete placement - conform to ACI 306R (latest revision) requirements.
(vi) Hot weather concrete placement - conform to ACI 305R (latest revision) requirements.
(vii) Place all embedded items (such as anchor bolts, pipe sleeves, etc) accurately and secure prior to concrete placement.
(viii) Consolidate concrete during placement by use of an adequate number of internal type vibrators.

C. Curing Concrete
(i) Cure all concrete per ACI 308R for a minimum period of (7) seven days.
(ii) Keep concrete moist while forms are in place.
(iii) Once forms are removed use an approved ASTM C309 Type 2 Class A liquid membrane curing compound at approximately 1 gallon per 150 sq ft of coverage or as specified by manufacturer.

D. Reinforcing Steel
(i) Reinforcing bars, stirrups, and ties shall be ASTM A615 Grade 60 deformed bars.
(ii) Provide splices only where shown on drawings with minimum lap length as specified (not less than 12"). If no lap length is given, provide minimum ACI standard lap lengths.
(iii) Use black annealed tie-wire,18 ga or heavier wire for fastening. No welding or torch cutting of rebar Is permitted.
(iv) Maintain minimum 1½" clearance between reinforcing steel and form ties, inserts, embedments, etc. Maintain 3" steel to soil clearance, and 2" steel to form clearance where not exposed to soil.

E. Lean Grout Fill
Lean grout fill mixes shall consist of the following (unless noted otherwise):
(i) 3550lbs of MDOT 2NS (Sect 902.08) fine aggregate per cubic yd.
(ii) 190 lbs of cement per cubic yd.
(iii) 250lbs +/- of water per cubic yd. Adjust water depending on fill application.

DETAILS FROM DTE ENERGY

UTILITY DETAILS AND SPECIFICATIONS

SCALE: NONE

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EXPIRES: 03/02/28 SIGNED: 09/02/26

REVISIONS

REV.	ISSUED FOR	DATE	BY
A	FOR CLIENT REVIEW	03/18/26	JTB
0	REVISION	03/23/26	JTB
1	REVISION	05/20/26	JTB
2	REVISION	06/12/26	JTB
3	REVISION	07/16/26	JTB
4	REVISION	09/02/26	JTB

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CHECK: JKR
DRAWN: JTB
JOB: T2600207

E-5
UTILITY DETAILS AND SPECIFICATIONS