



SUPERCHARGING STATION

LINCOLN

NE001_LINCOLN
5020 N 27TH STREET
LINCOLN, NE 68521



3500 DEER CREEK RD
PALO ALTO, CA 94304
(650) 681-5000



BLACK & VEATCH

6800 W 115th St, Suite 2292
OVERLAND PARK, KS 66211
(913) 458-2000

PROJECT NO: 179056
DRAWN BY: AKJ
CHECKED BY: MBG

SITE INFORMATION	APPLICABLE CODES	PROJECT DESCRIPTION	ZONING INFORMATION	DRAWING INDEX		
<p>PROPOSED TESLA EV SITE ADDRESS: TBD</p> <p>EXISTING SITE ADDRESS: 5020 N 27TH STREET LINCOLN, NE 68521</p> <p>PROPERTY OWNER: JOHN BREHM 5820 WESTOWN PARKWAY WEST DES MONIES, IA 50266</p> <p>EQUIPMENT SUPPLIER: TESLA MOTORS, INC. 3500 DEER CREEK RD PALO ALTO, CA 94304 (650) 681-5000</p> <p>POWER COMPANY: LINCOLN ELECTRIC SERVICES CONTACT: MIKE SAXTON (402) 467-7633 MSAXTON@LES.COM</p> <p>COUNTY: LANCASTER</p> <p>LATITUDE (NAD83): 40° 51' 38.819" N 40.860783°</p> <p>LONGITUDE (NAD83): 96° 40' 47.327" W -96.679813°</p> <p>CONTACT ENGINEER: RUSSELL POLLOM (913) 458-6274 POLLOMRE@BV.COM</p>	<p>ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:</p> <p>2012 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS 2012 UNIFORM PLUMBING CODE 2012 INTERNATIONAL MECHANICAL CODE 2014 NATIONAL ELECTRICAL CODE 2009 INTERNATIONAL ENERGY CONSERVATION CODE</p> <p>IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL</p>	<ul style="list-style-type: none">• INSTALL (4) TESLA SUPERCHARGER CABINETS• INSTALL (8) TESLA CHARGING STATIONS• INSTALL (1) QED SWITCHGEAR ASSEMBLY• INSTALL (1) UTILITY TRANSFORMER	PERMITTING JURISDICTION: CITY OF LINCOLN ZONING CLASS: B-5	SHEET NO:	SHEET TITLE	REV NO:
			DO NOT SCALE DRAWINGS	T-1	TITLE SHEET & PROJECT DATA	C
				GN-1	GENERAL NOTES 1	C
CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.	GN-2	GENERAL NOTES 2	C			
	GN-3	GENERAL NOTES 3	C			
	A-1	OVERALL SITE PLAN	C			
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	A-4	PROPOSED SITE PLAN	C			
	A-5	ENLARGED PROPOSED EQUIPMENT LAYOUT	C			
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	A-8	EQUIPMENT DETAILS	C			
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	A-10	FENCE DETAILS	C			
	E-1	ELECTRICAL PLAN	C			
	E-2	ELECTRICAL DETAILS	C			
	E-3	ELECTRICAL DETAILS	C			
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	E-5	ELECTRICAL DETAILS	C			
	E-6	ELECTRICAL DETAILS	C			
	E-7	OVERALL UTILITY PLAN	C			
	G-1	GROUNDING DETAILS	C			
	G-2	GROUNDING DETAILS	C			
	S-1	STRUCTURAL DETAILS	C			
	PS-1	PROPERTY SURVEY	C			
				ENGINEER OF RECORD		
				ROBLEY A. EVANS PE # E-13497 BLACK & VEATCH CORPORATION		
				CALL BEFORE YOU DIG		
				<div><div></div><div>UNDERGROUND SERVICE ALERT UTILITY NOTIFICATION CENTER OF NEBRASKA 811 OR 1-800-551-8344 3 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION</div></div>		

REV	DATE	DESCRIPTION
C	07/06/16	ISSUED FOR 100% REVIEW
B	06/14/16	ISSUED FOR 90% REVIEW
A	06/06/16	ISSUED FOR 50% REVIEW

NOT TO BE USED
FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

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SHEET TITLE
TITLE SHEET &
PROJECT DATA

SHEET NUMBER
T-1

GENERAL CONSTRUCTION NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY
GENERAL CONTRACTOR: OVERLAND CONTRACTING INC. (BLACK & VEATCH)
CONTRACTOR: (CONSTRUCTION)
OWNER: TESLA
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS.
3. THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
13. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEViate FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
14. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
15. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
16. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
17. THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
18. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
19. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
20. THE CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
21. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.

GENERAL CONSTRUCTION NOTES CONT.

22. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
23. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
24. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
25. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
26. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
27. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
28. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
29. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
30. THE CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
31. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
32. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
33. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
34. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
35. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

ELECTRICAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE W/DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
2. THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. THE CONDITION OF EXISTING ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTAL OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:

A. UL - UNDERWRITERS LABORATORIES
B. NEC - NATIONAL ELECTRICAL CODE
C. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
D. OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT
E. SBC - STANDARD BUILDING CODE
F. NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
4. DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, BUT CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.
5. EXISTING SERVICES: THE CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
6. THE CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. THE CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING THE EQUIPMENT.
7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.

ELECTRICAL NOTES CONT.

8. THE CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
9. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER OR ALUMINUM WITH TYPE (THWN-2) INSULATION, 600 VOLT, COLOR CODED UNLESS SPECIFIED DIFFERENTLY ON DRAWINGS.
10. ALL (THWN-2) WIRING INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
11. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
12. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. CONTRACTOR IS TO PROVIDE ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE DIRECTED.
13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIONAL AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY CONSTRUCTION MANAGER.
14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
16. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
18. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
19. TRENCHING AND BACKFILL: THE CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO GENERAL SITE WORK NOTES.
20. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IEEE.
21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURES CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
22. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.
23. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES.
24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
25. ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NOALOX" BY IDEAL INDUSTRIAL INC. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED ALUMINUM & COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
26. ALL EXTERIOR AND INTERIOR ABOVE GROUND CONDUIT SHALL BE RIGID UNLESS SPECIFIED OTHERWISE. ALL BURIED CONDUITS SHALL BE SCH 40 PVC UNLESS SPECIFIED OTHERWISE.
27. RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC MEETING OR EXCEEDING NEMA TC2 - 1990. THE CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 3 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD GALV'.
28. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
29. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
30. THE CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC".
31. WHEN DIRECTIONAL BORING IS REQUIRED, CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
32. ALL BOLTS SHALL BE STAINLESS STEEL.
33. ALL MATERIALS AND EQUIPMENT SUPPLIED AND INSTALLED BY THE CONTRACTOR SHOULD BE NEW AND UNUSED.



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REINFORCED CONCRETE NOTES

1. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED; CONTINUOUS INSPECTION IS NOT REQUIRED.
SLUMP: 4" MIN./6" MAX.
AIR ENTRAINMENT: 4 1/2% - 7% BY VOLUME
2. REINFORCEMENT SHALL BE A NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615 GRADE 60. MAXIMUM COARSE AGGREGATE SIZE SHALL BE 3/4".
3. REINFORCEMENT SHALL COMPLY WITH THE LATEST EDITION OF ACI-318 FOR MINIMUM CLEARANCES.
4. ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.
5. MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE BETWEEN 50 DEGREES AND 90 DEGREES FAHRENHEIT.
6. DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOB SITE.
7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
8. EXCEPT AS DETAILED OR AUTHORIZED. MAKE BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES MADE BY CONTACT LAPS SHALL BE CLASS "B" TENSION LAPS UNLESS NOTED OTHERWISE.
9. DETAIL BARS IN ACCORDANCE WITH "ACI DETAILING MANUAL - 2004, PUBLICATION SP-66" AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318-08.
10. PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING.

GENERAL SITE WORK NOTES

PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

1.1 REFERENCES:

- A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION).
- B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
- C. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION).

1.2 INSPECTION AND TESTING:

- A. GENERAL CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. PERFORM INSPECTIONS BEFORE CONCEALING WORK WITH FOLLOW-ON ACTIVITIES (BACKFILL, CONCRETE POUR, ETC).

1.3 SITE MAINTENANCE AND PROTECTION:

- A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE CONTRACT.
- B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- C. KEEP SITE FREE OF ALL PONDING WATER.
- D. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT, LOCAL PERMITTING AGENCY AND EPA REQUIREMENTS.
- E. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE CONSTRUCTION MANAGER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
- G. PROVIDE A MINIMUM 48-HOUR NOTICE TO THE CONSTRUCTION MANAGER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.
- H. SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS, AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.

GENERAL SITE WORK NOTES CONT.

PART 2 - PRODUCTS

2.1 GRANULAR BACKFILL: SHALL MEET THE FOLLOWING GRADATION:

SIEVE SIZE	TOTAL PERCENT PASSING
1 1/2 INCH (37.5 MM)	100
1 INCH (25.0 MM)	75 TO 100
3/4 INCH (19.0 MM)	80 TO 100
3/8 INCH (9.5 MM)	35 TO 75
NO. 4 (4.75 MM)	30 TO 60
NO. 30 (0.600 MM)	7 TO 30
NO 200 (0.075 MM)	3 TO 15

- 2.2 GRANULAR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-SM).
- 2.3 COARSE AGGREGATE FOR ACCESS ROAD SUBBASE COURSE SHALL CONFORM TO ASTM D2940.
- 2.4 UNSUITABLE MATERIAL: HIGH AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45). MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.

PART 3 - EXECUTION

3.1 GENERAL:

- A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ALL TIMES.
- B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
- C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
- D. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
- E. REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
- F. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL.
- G. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
- H. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- I. SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
- J. DURING EXCAVATION, THE CONTRACTOR SHALL PROVIDE SHORING, SHEETING, AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF EXCAVATION.

3.2 BACKFILL:

- A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
- B. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.
- C. DO NOT PLACE FROZEN MATERIAL IN AS BACKFILL.

GENERAL SITE WORK NOTES CONT.

- D. BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.
- E. WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE CONSTRUCTION MANAGER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS.
- F. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.3 TRENCH EXCAVATION:

- A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.
- B. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
- C. WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, EXCAVATE THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION, THEN BACKFILL WITH 12" OF GRANULAR BEDDING MATERIAL.

3.4 TRENCH BACKFILL:

- A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
- B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.
- C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
- D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.
- E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.
- F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
- G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.5 FINISH GRADING:

- A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
- B. UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
- C. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

3.6 ASPHALT PAVING ROAD:

NEBRASKA STANDARD SPECIFICATIONS

DIVISION 500 - NDOR ASPHALT

- A. CONTRACTOR RESPONSIBLE FOR RE-STRIPING AND APPLYING SEALCOATING, UNLESS OTHERWISE SPECIFIED.



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SHEET NUMBER
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STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL SHAPES, PLATES, AND BARS SHALL CONFORM TO ASTM A992. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B.
2. HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325: ONE HIGH-STRENGTH BOLT ASSEMBLY SHALL CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY NUT, A HARDENED WASHER CONFORMING TO ASTM F436. THE HARDENED WASHER SHALL BE INSTALLED AGAINST ELEMENT TURNED IN TIGHTENING. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS.
3. WELDING ELECTRODES SHALL COMPLY WITH AWS D1.1 USING A5.1 OR A5.5 E70XX AND SHALL BE COMPATIBLE WITH THE WELDING PROCESS SELECTED. WELDERS SHALL BE QUALIFIED AS PRESCRIBED IN AWS D1.1.
4. UNLESS NOTED OTHERWISE ON THE DRAWING, ALL ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 WITH HEAVY HEXAGONAL NUT.
5. FABRICATE ITEMS OF STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION.
6. ALL EXPOSED STRUCTURAL STEEL AND BOLTS SHALL BE HOT DIP GALVANIZED PER ASTM A123.
7. SUBMIT FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL DESIGNATIONS, AND TOP STEEL ELEVATIONS FOR APPROVAL. THE SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL CONFORMANCE TO THE CONTRACT DRAWINGS. SUCH APPROVAL SHALL NOT RELIEVE THE FABRICATOR/CONTRACTOR OF THE RESPONSIBILITY FOR EITHER THE ACCURACY OF THE DETAILED DIMENSIONS IN THE SHOP AND ERECTION DRAWINGS OR THE GENERAL FIT-UP OF PARTS THAT ARE TO BE ASSEMBLED IN THE FIELD.
8. PRIMER SHALL BE RED OXIDE-CHROMATE PRIME COMPLYING WITH STEEL STRUCTURES PAINTING COUNCIL (SSPC) PAINT SPECIFICATION NUMBER 11.

SIGN POST NOTES

1. ACCEPTABLE COLOR SUBSTITUTIONS:

PAINT COLOR SUBSTITUTIONS	
BRAND	COLOR
PANTONE	COOL GREY #7 #a3a19e
BENJAMIN MOORE	FUSION / Af-675 #a6a3a1
BEHR	EQUINOX FF31-1 #9fa29d
SHERWIN-WILLIAMS	STAMPED CONCRETE - 7655 #a2a29b
VALSPAR	STONE MASON GREY #a19c99

2. OTHER ACCEPTABLE COLORS CAN BE FOUND ON ENCYCOLORPEDIA.COM
3. CONTRACTOR SHALL COORDINATE WITH CITY WHEN SPECIAL JURISDICTIONAL/CITY REQUESTS ARE NECESSARY FOR ANY SIGN POST INSTALLATIONS, I.E. POST MATERIAL, PAINT COLORS, HARDWARE, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING CITY APPROVES ALL MATERIALS PRIOR TO INSTALLATION.

CONCRETE MASONRY NOTES

1. CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, (F'M=1,500 PSI). MEDIUM WEIGHT. (115 PCF)
2. MORTAR SHALL BE TYPE "S" ABOVE GRADE, TYPE "M" BELOW GRADE CONFORMING TO ASTM C270. (MINIMUM 1,800 PSI AT 28 DAYS)
3. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS CONFORMING TO ASTM C476.
4. ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.
5. ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS.
6. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.
7. ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.
8. PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.
9. ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
10. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
11. REINFORCING BARS - SEE NOTES UNDER "REINFORCED CONCRETE NOTES" FOR REQUIREMENTS. REINFORCEMENT SHALL BE PLACED PRIOR TO GROUTING. LAP SPLICES SHALL BE 48 BAR DIAMETERS, MINIMUM.

CONCRETE MASONRY NOTES CONT.

12. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
13. LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.
14. HIGH LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104 OF IBC.
15. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.
16. CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN WITH CELLS CONTAINING REINFORCING STEEL.
17. REFER TO DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
18. SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKALI OR ORGANIC MATERIAL.
19. ALL MORTAR FIN OBSTRUCTIONS AND DEBRIS SHALL BE CLEANED FROM INSIDE OF CELLS PRIOR TO GROUTING.

SUPERCHARGER CABINET NOTE

1. PER NEC 625.22 - THE USER INTERFACE (CHARGE POST) IS CONTROLLED BY THE ELECTRICAL EQUIPMENT (SUPERCHARGER CABINET) AND THE FOLLOWING PRECAUTIONS HAVE BEEN TAKEN TO ENSURE THE SAFETY OF CUSTOMERS AND THOSE AROUND THE EQUIPMENT. BEFORE ANY VOLTAGE OR CURRENT IS APPLIED TO THE CHARGE POST, THE CABINET MUST COMMUNICATE WITH THE TESLA VEHICLE. THERE IS A 'HANDSHAKE' BETWEEN THE CAR AND THE CABINET CONFIRMING THAT THE VEHICLE IS ACTUALLY A TESLA AND THAT THE VEHICLE CAN HANDLE THE SUPERCHARGING. VOLTAGE IS THEN APPLIED TO THE POWER SOCKETS IN THE CHARGE POST AND ONCE THE VOLTAGE READING FROM THE CAR IS VERIFIED AS THE SAME IN THE CHARGING CABINET, THEN CURRENT BEGINS TO FLOW. IF AT ANY POINT IN THIS PROCESS A FAULT IS DETECTED, THE CHARGING WILL STOP IMMEDIATELY, WITHIN A MATTER OF MILLISECONDS. DURING THE NORMAL CHARGING CYCLE, IF ANY FAULT OR IRREGULARITY IS DETECTED, THE CHARGING WILL AGAIN STOP WITHIN MILLISECONDS OF DETECTION. BEYOND THIS LOGIC PROTECTION, THERE IS PHYSICAL PROTECTION FROM OVER-CURRENT OR OVER-VOLTAGE WITHIN EACH OF THE CHARGERS. BEYOND THAT, FAST ACTING FUSES ALSO PROTECT THE VEHICLE OUTPUTS FROM OUTPUTTING TOO HIGH OF A CURRENT.

CONCRETE SIDEWALK CONSTRUCTION REQUIREMENTS

1. PLACING AND FINISHING CONCRETE
THE CONTRACTOR SHALL PROVIDE ADEQUATE TOOLS AND EQUIPMENT TO PRODUCE QUALITY WORKMANSHIP IN PLACING AND FINISHING CONCRETE. THE SIDEWALK AND RAMPS SHALL BE FINISHED TO THE TOP OF THE FORMS AND THE SURFACE FINISHED WITH A WOOD OR STEEL FLOAT AND SURFACE TEXTURE SHALL BE A COURSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE SIDEWALK OR RAMP. NO "PLASTERING" OF THE SURFACE SHALL BE PERMITTED.
2. CONTRACTION JOINTS
THE SIDEWALK SURFACE SHALL BE MARKED OFF INTO NOMINAL SQUARES OF DIMENSIONS EQUAL TO THE WIDTH OF THE SIDEWALK WITH A MAXIMUM DISTANCE BETWEEN JOINTS OF SEVEN FEET. SAWING JOINTS, THE CONTRACTOR SHALL BEGIN AS SOON AS THE CONCRETE HARDENS SUFFICIENTLY TO PREVENT EXCESSIVE RAVELING ALONG THE SAW CUT AND SHALL FINISH BEFORE CONDITIONS INDUCE UNCONTROLLED CRACKS, REGARDLESS OF THE TIME OR WEATHER.
3. EXPANSION JOINTS
EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS WHERE THE SIDEWALK ABUTS EXISTING CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES, AND EVERY TWO HUNDRED FIFTY FEET AND AS SHOWN ON APPROVED PLANS. EXPANSION JOINTS SHALL BE FORMED WITH ONE-HALF INCH PREFABRICATED NON-EXTRUDING FILLER AND SHALL EXTEND THE FULL DEPTH OF THE SLAB.



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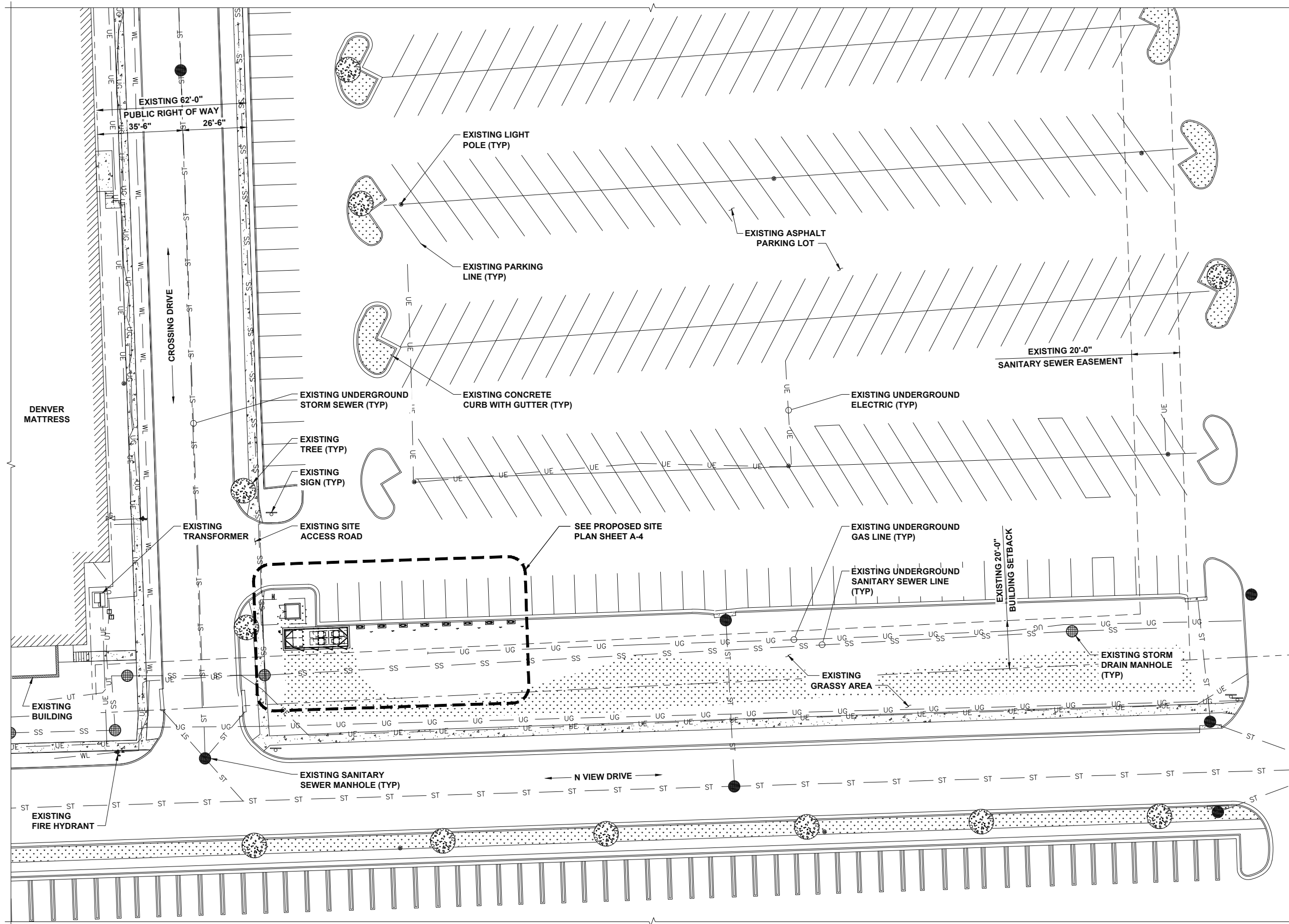
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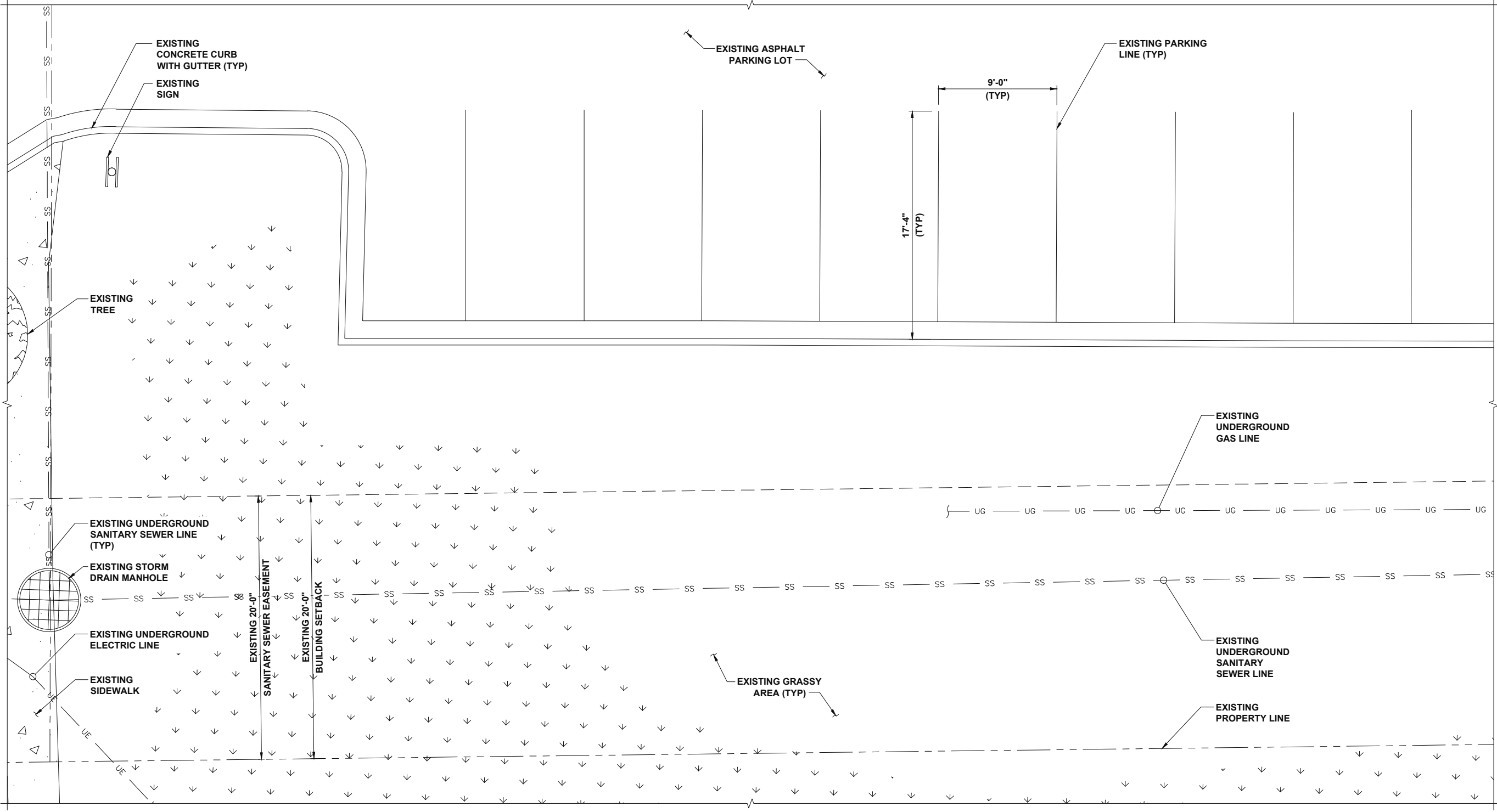
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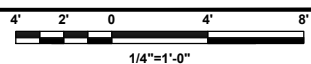
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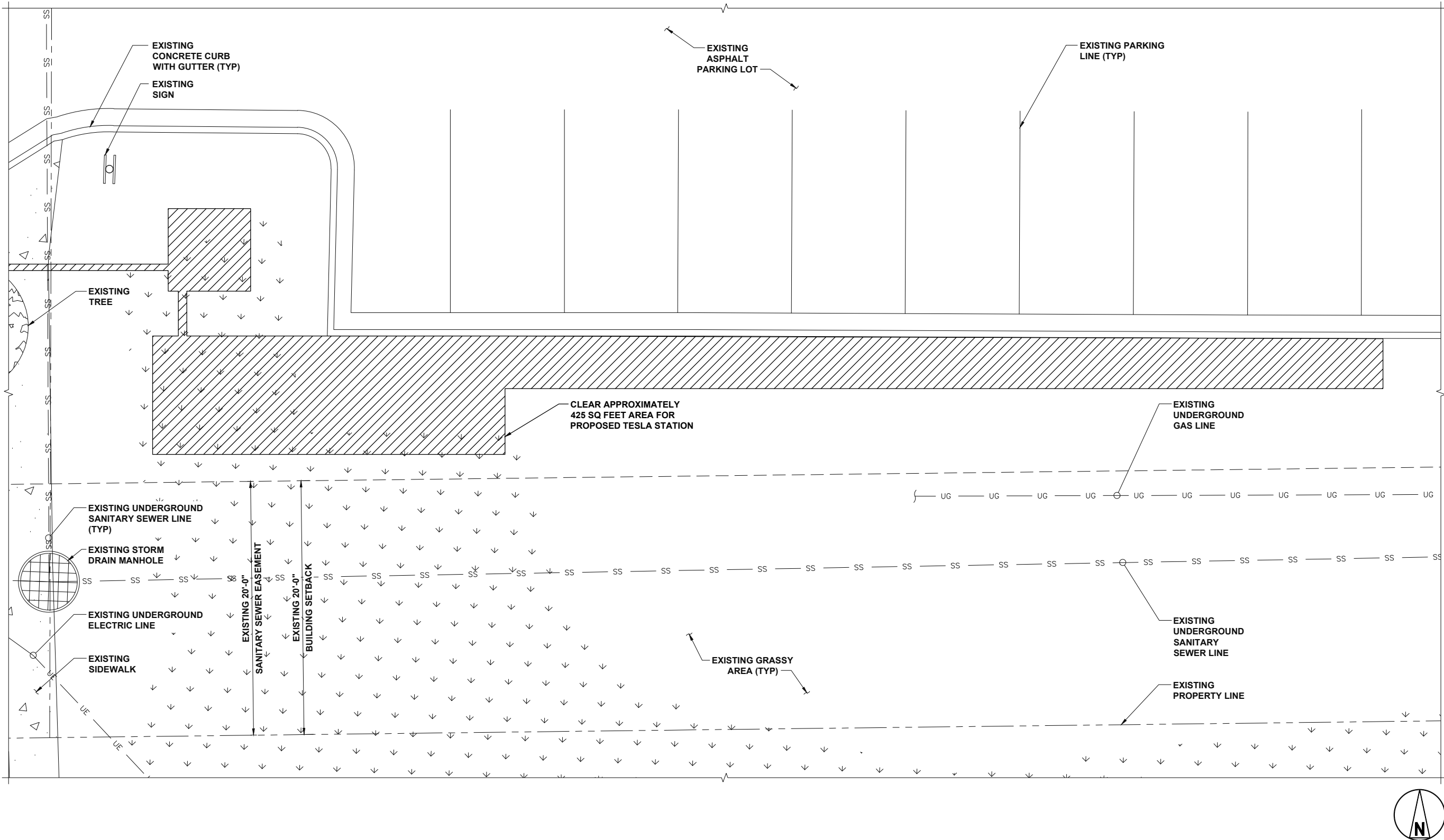
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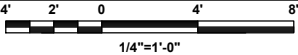


NOTE

1. ALL QUANTITIES LISTED IN DEMOLITION PLAN SHEET ARE ONLY APPROXIMATIONS. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES BEFORE BIDDING.



DEMOLITION SITE PLAN



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DEMOLITION SITE PLAN

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NOTE

1. SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS, AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.

PROJECT AREA STALL COUNT

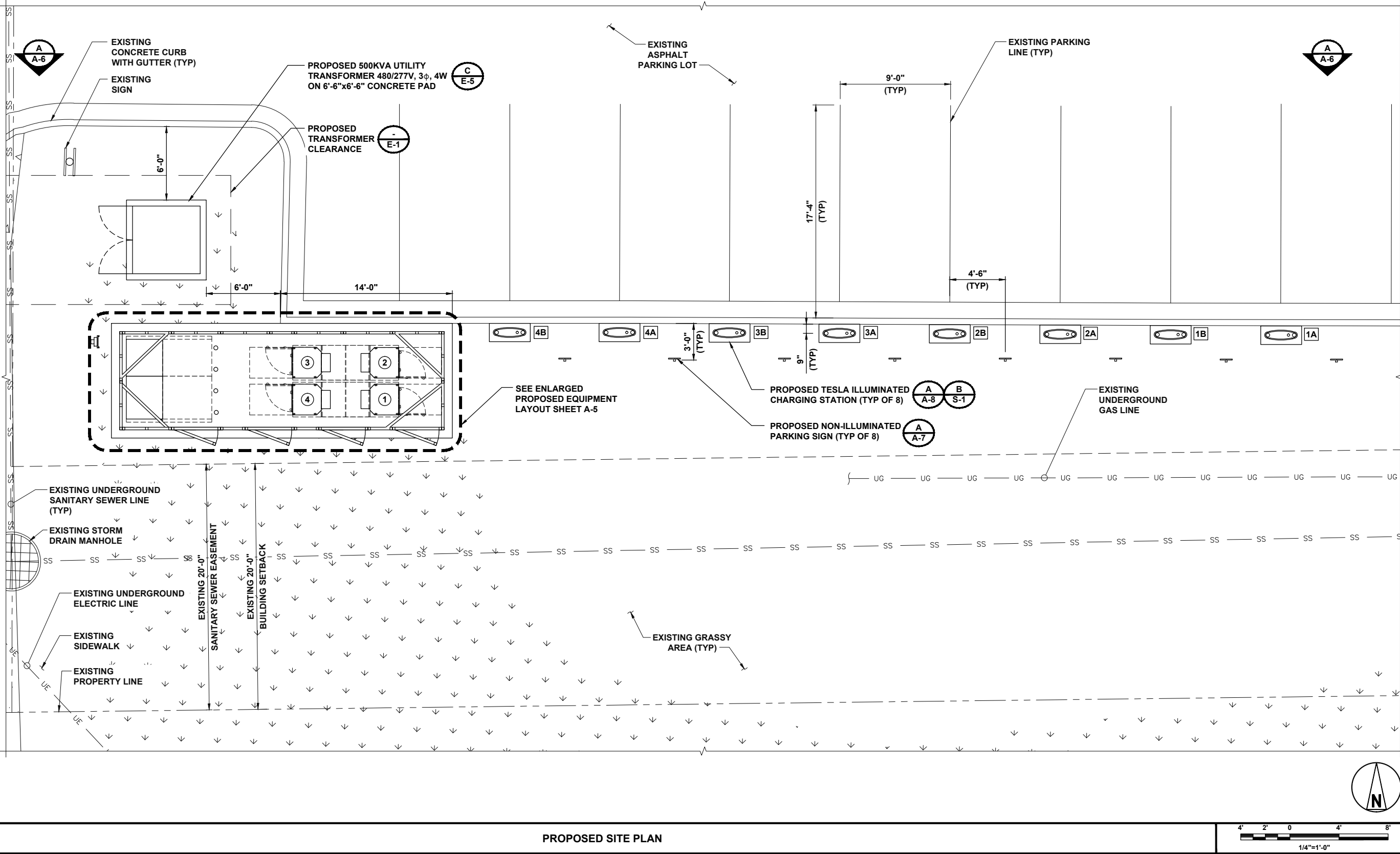
EXISTING STALL COUNT	8
PROPOSED TESLA CHARGING STALLS	8

TESLA EQUIPMENT SCHEDULE

TESLA EQUIPMENT	DESCRIPTION	PART NUMBER	QUANTITY
SUPERCHARGING CABINETS	GEN 2 L-N SUPERCHARGER	1033026-04-E	4
CHARGE POST BOLLARDS	BOLT DOWN BOLLARDS	1024070-01-D	8
CHARGE POST JUNCTION BOX	DUAL CONDUCTORS	1048082-00-A	8
CHARGE POST DOCK	NORTH AMERICA	1028384-00-C	8

CHARGING POST CIRCUIT SCHEDULE

SUPERCHARGER	CHARGE POST	DEDICATED / ENABLED
①	1A	ENABLED
	1B	ENABLED
②	2A	ENABLED
	2B	ENABLED
③	3A	DEDICATED
	3B	DEDICATED
④	4A	DEDICATED
	4B	DEDICATED



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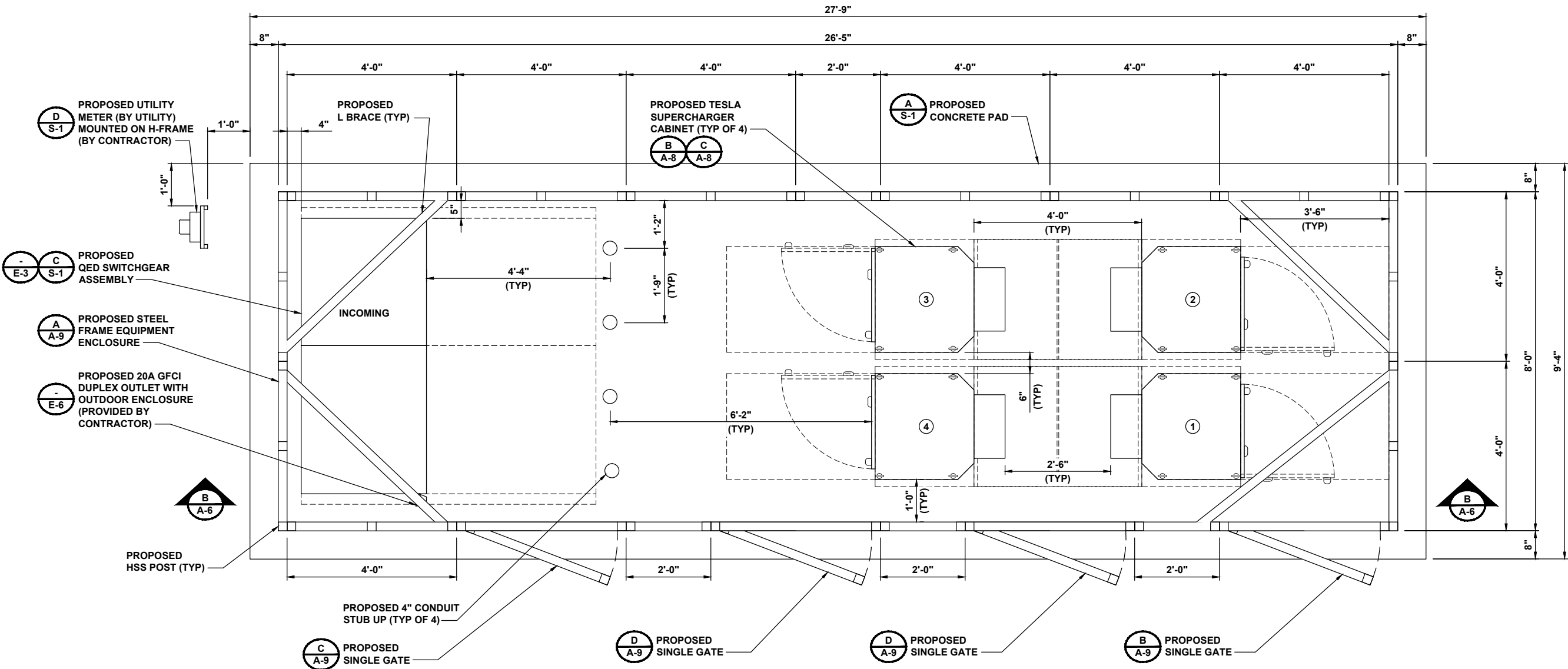
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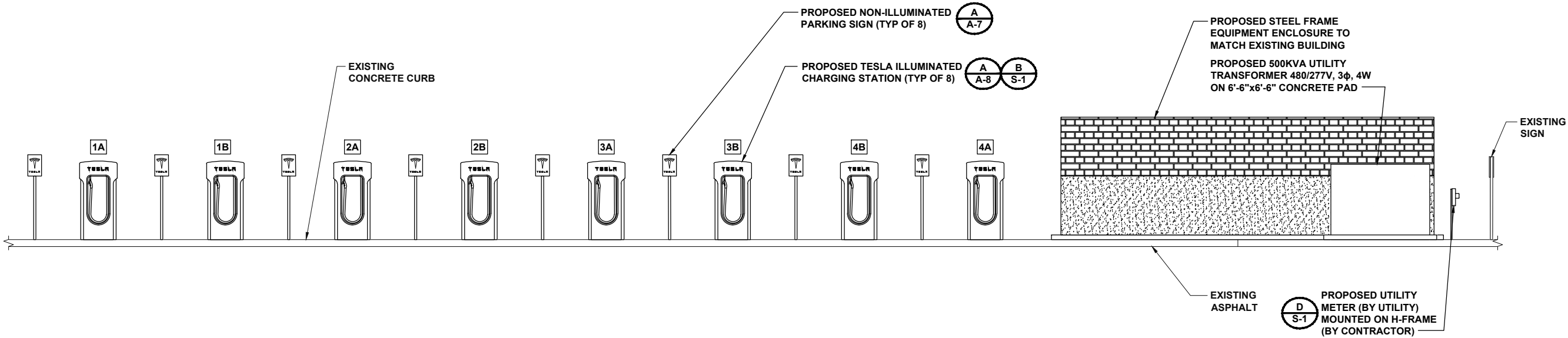
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**ENLARGED PROPOSED
EQUIPMENT LAYOUT**

SHEET NUMBER
A-5

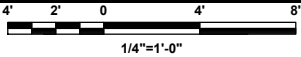


ENLARGED PROPOSED EQUIPMENT LAYOUT

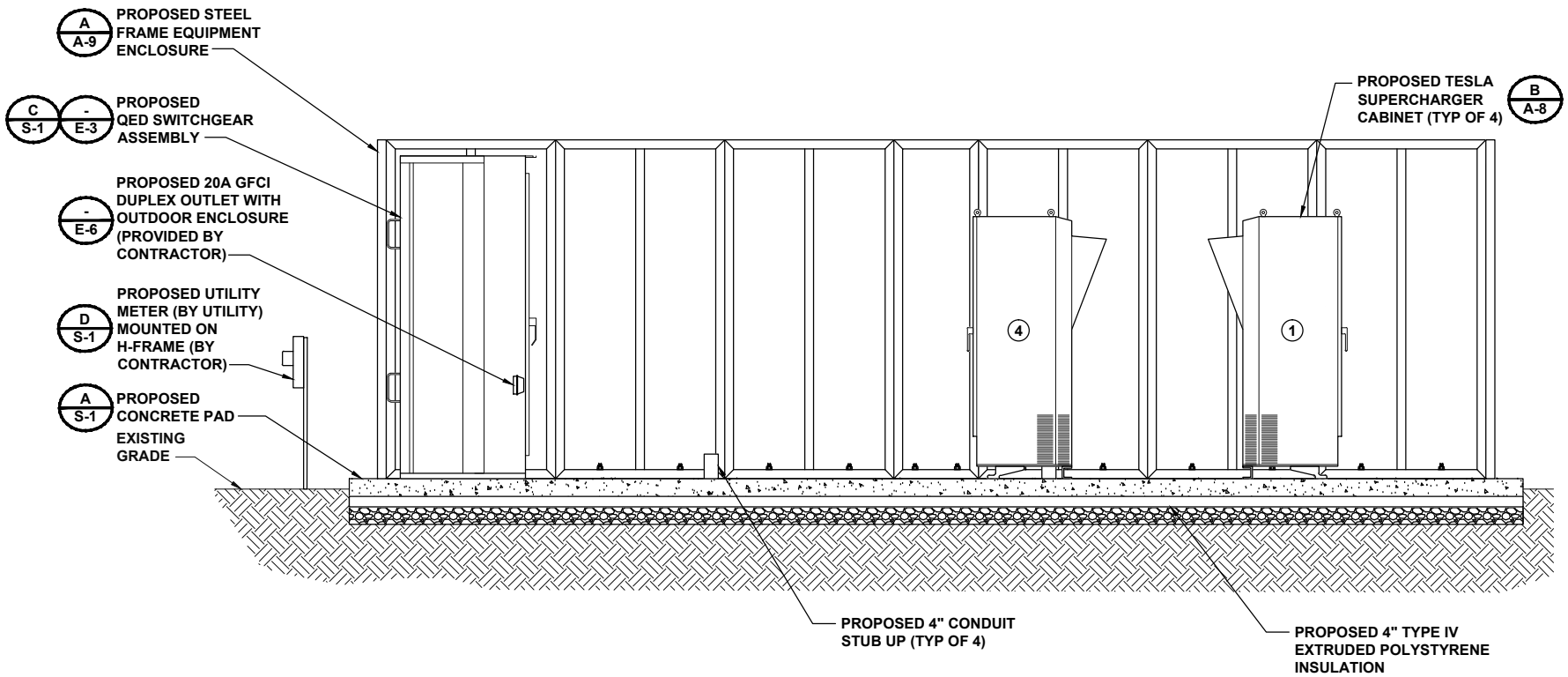
CHARGING POST CIRCUIT SCHEDULE		
SUPERCHARGER	CHARGE POST	DEDICATED / ENABLED
①	1A	ENABLED
	1B	ENABLED
②	2A	ENABLED
	2B	ENABLED
③	3A	DEDICATED
	3B	DEDICATED
④	4A	DEDICATED
	4B	DEDICATED



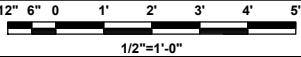
SITE ELEVATION



A



SITE ELEVATION



B



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PROJECT NO:	179056
DRAWN BY:	AKJ
CHECKED BY:	MBG

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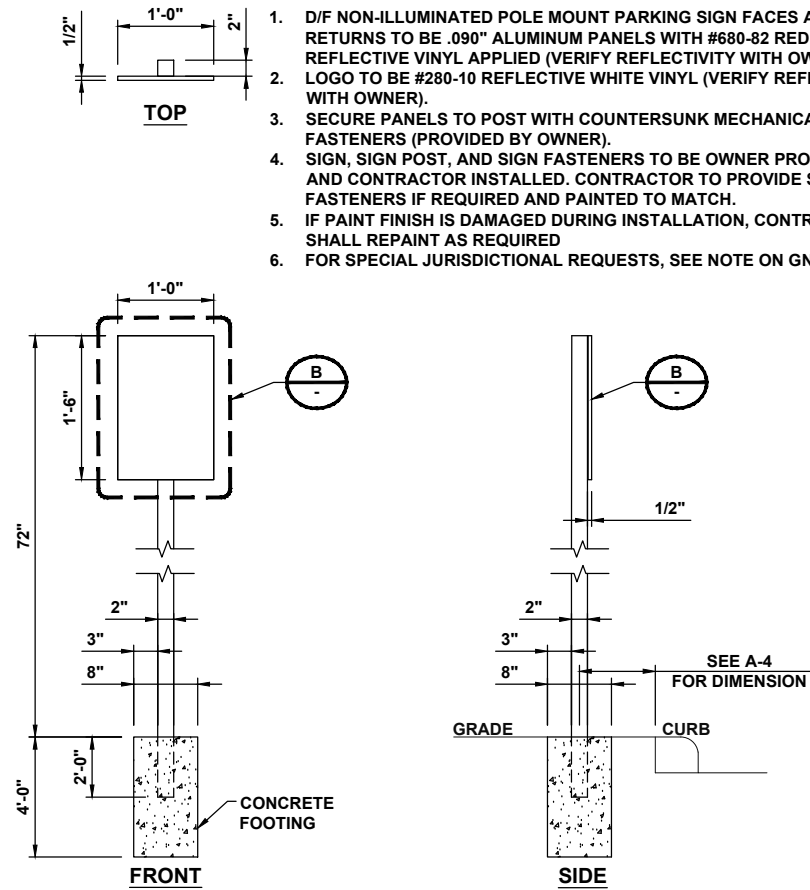
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SITE ELEVATIONS

SHEET NUMBER
A-6

1. D/F NON-ILLUMINATED POLE MOUNT PARKING SIGN FACES AND RETURNS TO BE .090" ALUMINUM PANELS WITH #680-82 RED REFLECTIVE VINYL APPLIED (VERIFY REFLECTIVITY WITH OWNER).
2. LOGO TO BE #280-10 REFLECTIVE WHITE VINYL (VERIFY REFLECTIVITY WITH OWNER).
3. SECURE PANELS TO POST WITH COUNTERSUNK MECHANICAL FASTENERS (PROVIDED BY OWNER).
4. SIGN, SIGN POST, AND SIGN FASTENERS TO BE OWNER PROVIDED AND CONTRACTOR INSTALLED. CONTRACTOR TO PROVIDE SIGN POST FASTENERS IF REQUIRED AND PAINTED TO MATCH.
5. IF PAINT FINISH IS DAMAGED DURING INSTALLATION, CONTRACTOR SHALL REPAINT AS REQUIRED
6. FOR SPECIAL JURISDICTIONAL REQUESTS, SEE NOTE ON GN-3.



1'-0"

1'-6"

TESLA

**VEHICLE
CHARGING
ONLY**

DETAIL 1

SIGN PLATE
MECHANICALLY
FASTENED TO
2"x2"x1/8"
STEEL TUBE

DETAIL 2

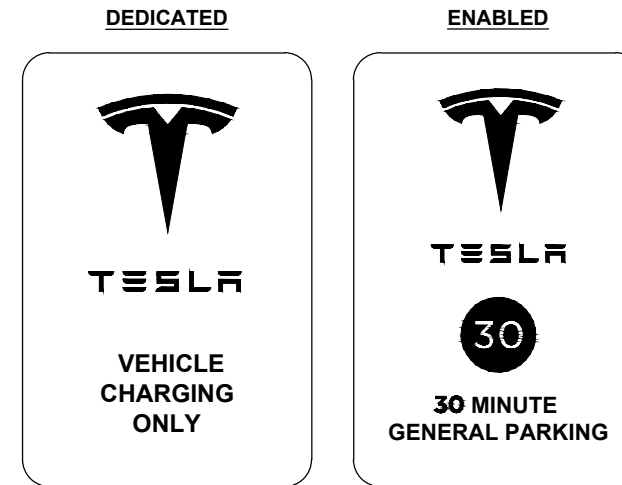
#8 FLATHEAD
SCREW

STEEL
SUPPORT
ANGLE

A

1. SEE TYPICAL TESLA PARKING SIGNAGE DETAIL FOR SIGNAGE VARIATIONS (IF APPLICABLE).
2. SEE CHARGING POST CIRCUIT SCHEDULE ON PROPOSED SITE PLAN FOR DEDICATED AND ENABLED LOCATIONS.

1. SEE CHARGING POST CIRCUIT SCHEDULE ON PROPOSED SITE PLAN FOR DEDICATED AND ENABLED LOCATIONS.



NON-ILLUMINATED SIGN & FOUNDATION DETAIL	NO SCALE	A	NON-ILLUMINATED PARKING SIGNAGE - FRONT DETAIL	NO SCALE	B	TYPICAL TESLA PARKING SIGNAGE	NO SCALE	C
DETAIL NOT USED	NO SCALE	D	DETAIL NOT USED	NO SCALE	E	DETAIL NOT USED	NO SCALE	F



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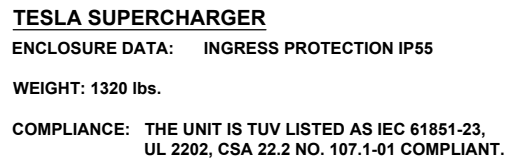
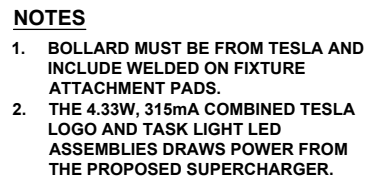
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SHEET TITLE

SIGNAGE DETAILS

SHEET NUMBER

A-7



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SHEET TITLE

EQUIPMENT DETAILS

SHEET NUMBER
A-8

TESLA ILLUMINATED CHARGING STATION DETAIL

NO SCALE

A

TESLA SUPERCHARGER CABINET DETAIL

NO SCALE

B

TESLA SUPERCHARGER ANCHOR BOLT PLAN

NO SCALE

C

DETAIL NOT USED

NO SCALE

D

DETAIL NOT USED

NO SCALE

E

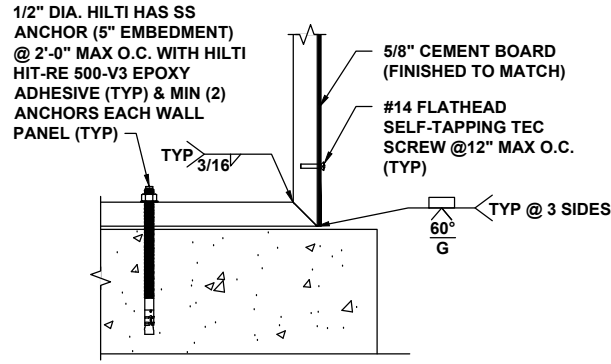
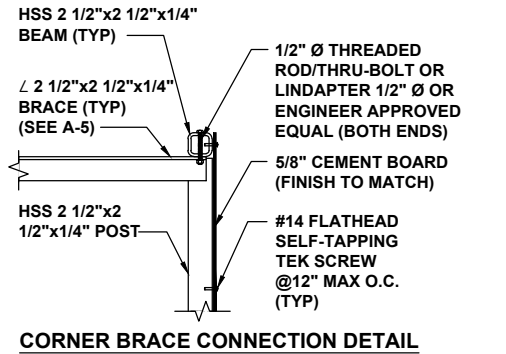
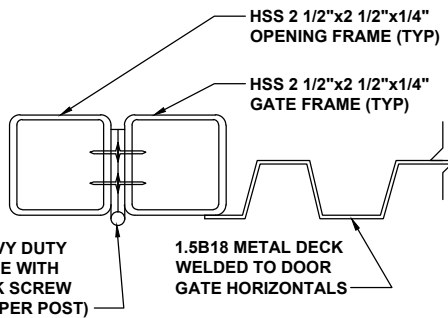
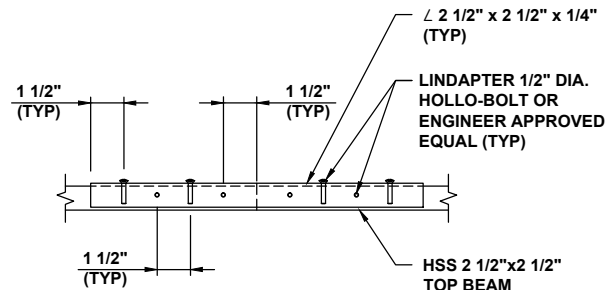
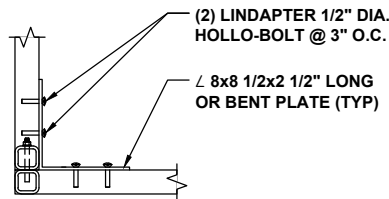
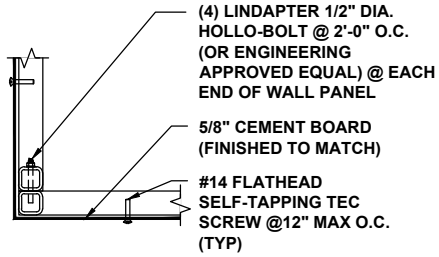
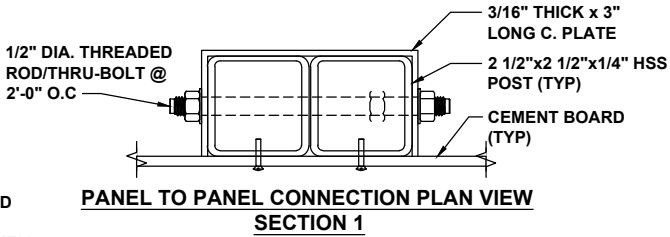
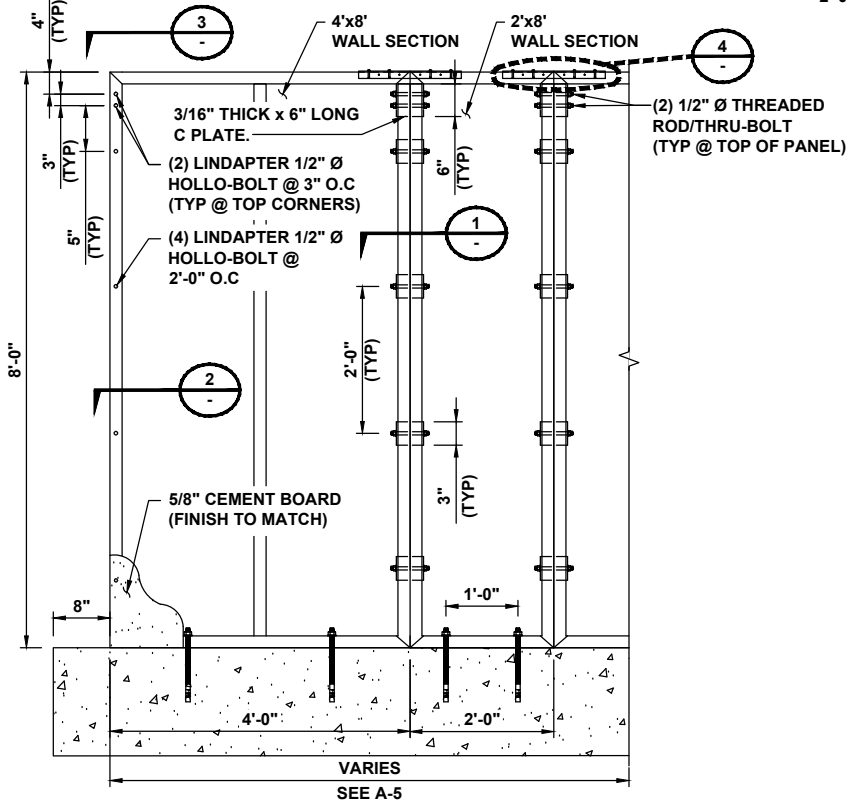
DETAIL NOT USED

NO SCALE

F

NOTES

- CEMENT BOARD FASTENED TO STEEL FRAME USING #14 FLATHEAD SELF-TAPPING TEK SCREW @12" MAX O.C.
- BOTH SIDES OF CEMENT BOARD SHALL BE COATED WITH LATEX PRIMER FOLLOWED BY A TOP QUALITY 100% ACRYLIC EXTERIOR PAINT
- STUCCO FINISH AND PAINT TO MATCH EXISTING BUILDING



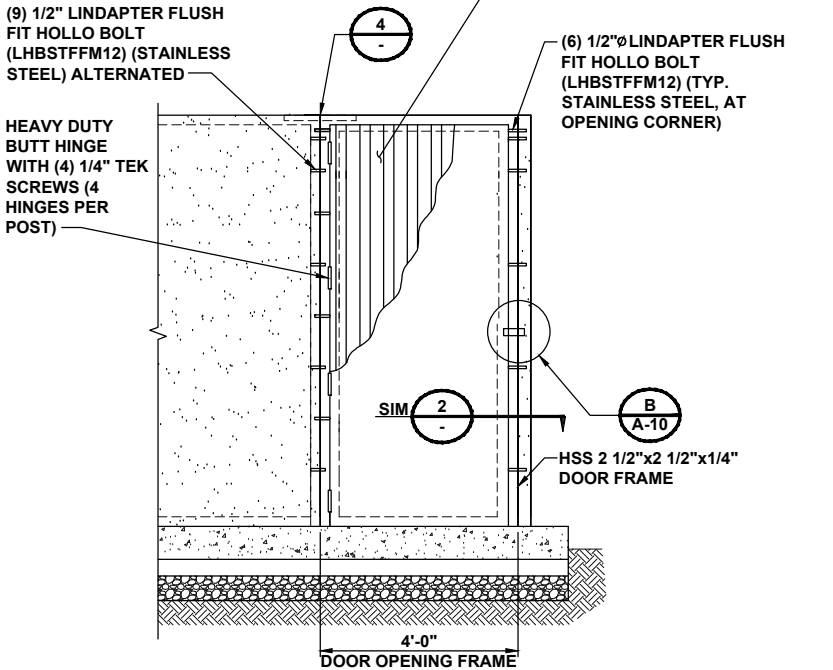
STEEL FRAME EQUIPMENT ENCLOSURE DETAIL

NO SCALE

A

NOTE

PAINT COLOR ON ENCLOSURE AND METAL GATES TO MATCH EXISTING BUILDING.

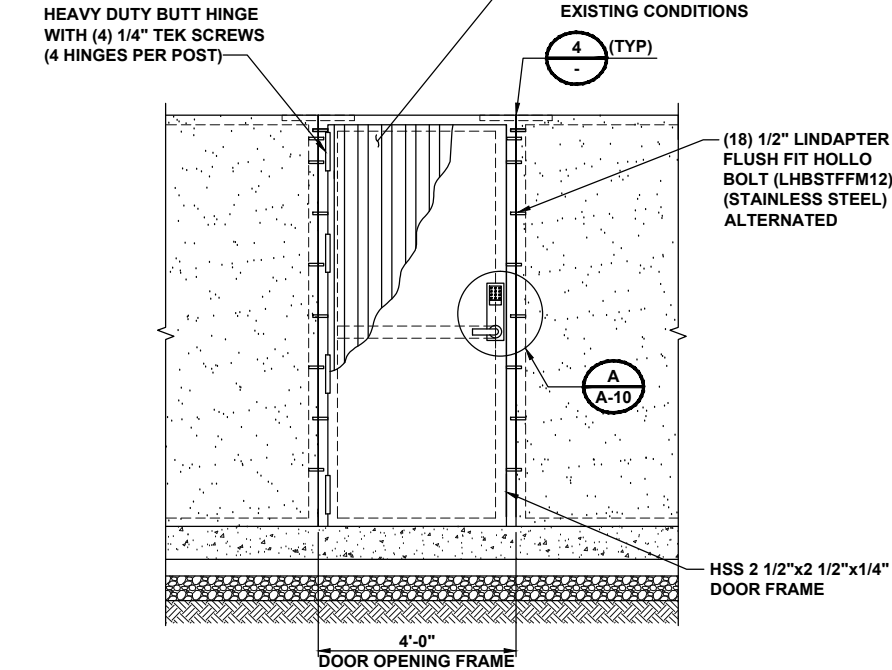


NO SCALE

B

NOTE

PAINT COLOR ON ENCLOSURE AND METAL GATES TO MATCH EXISTING BUILDING.

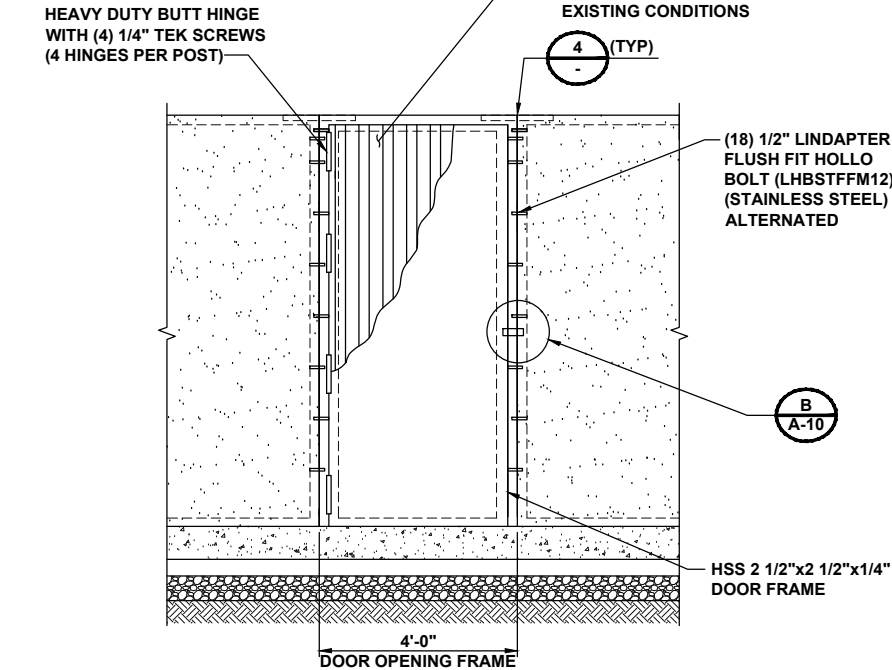


NO SCALE

C

NOTE

PAINT COLOR ON ENCLOSURE AND METAL GATES TO MATCH EXISTING BUILDING.



NO SCALE

D



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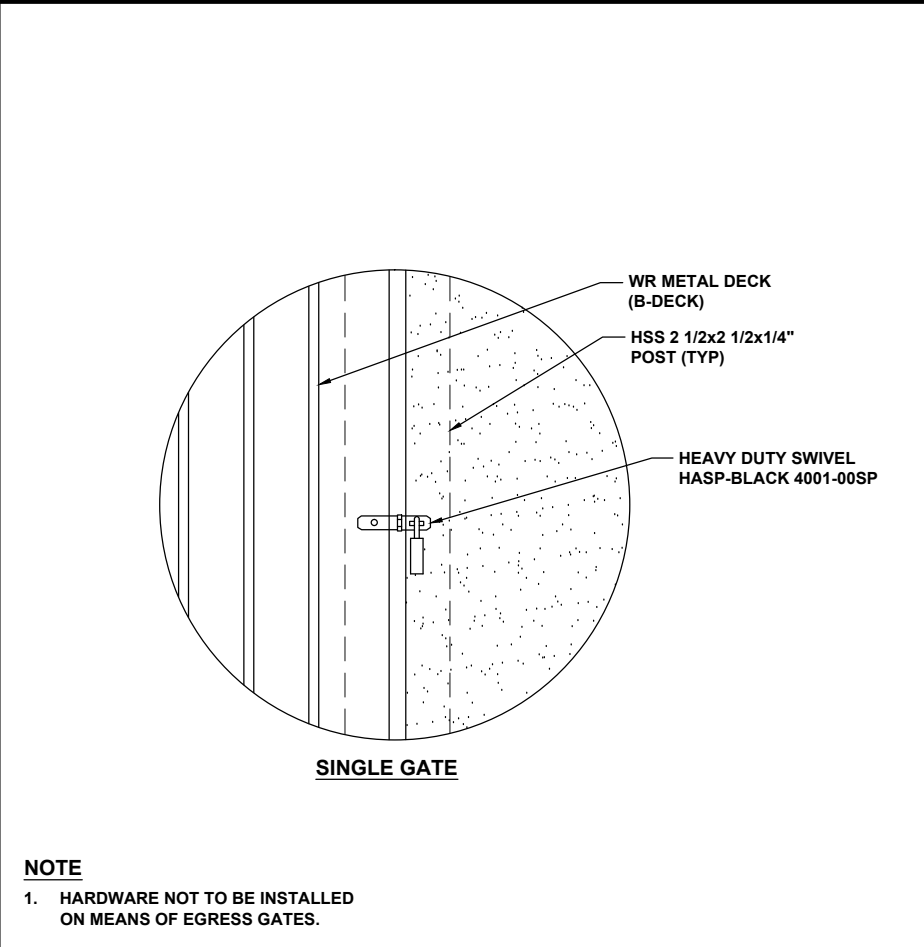
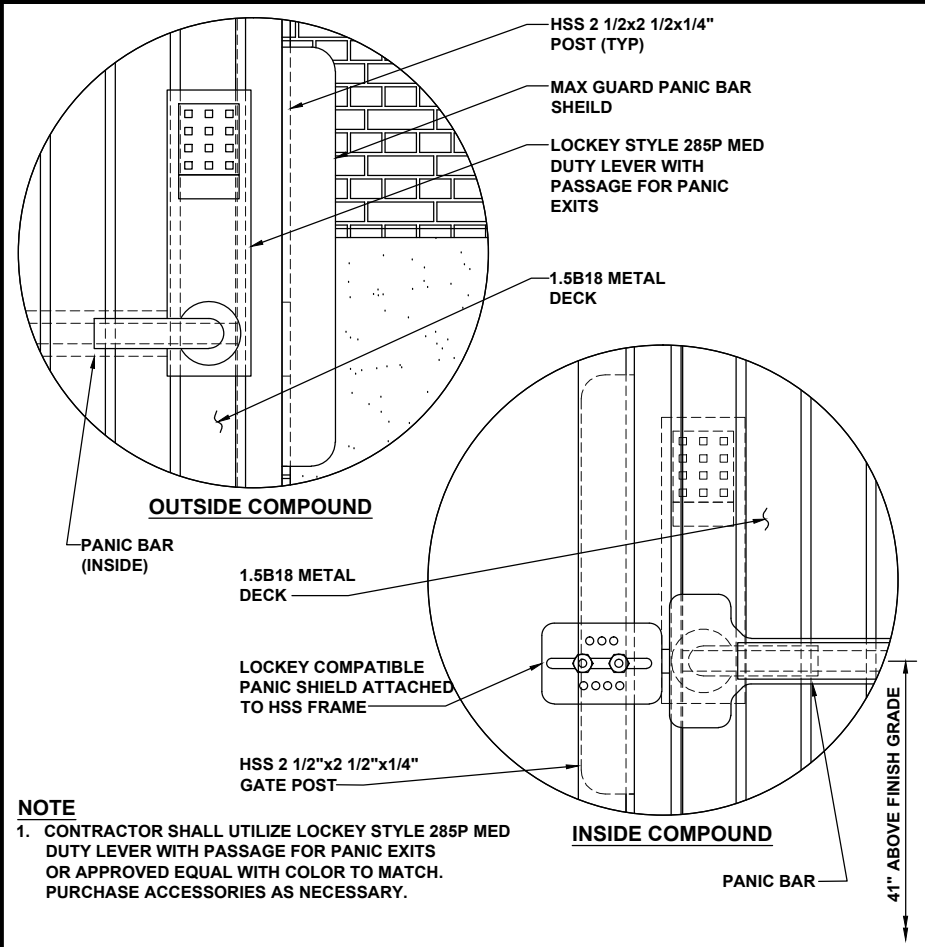
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SHEET TITLE
FENCE DETAILS

SHEET NUMBER
A-9



SINGLE GATE LOCK DETAIL W/ KEYPAD	NO SCALE	A
DETAIL NOT USED	NO SCALE	D

SINGLE GATE LOCK DETAIL	NO SCALE	B
DETAIL NOT USED	NO SCALE	E

DETAIL NOT USED	NO SCALE	C
DETAIL NOT USED	NO SCALE	F

TESLA

MOTORS, INC.

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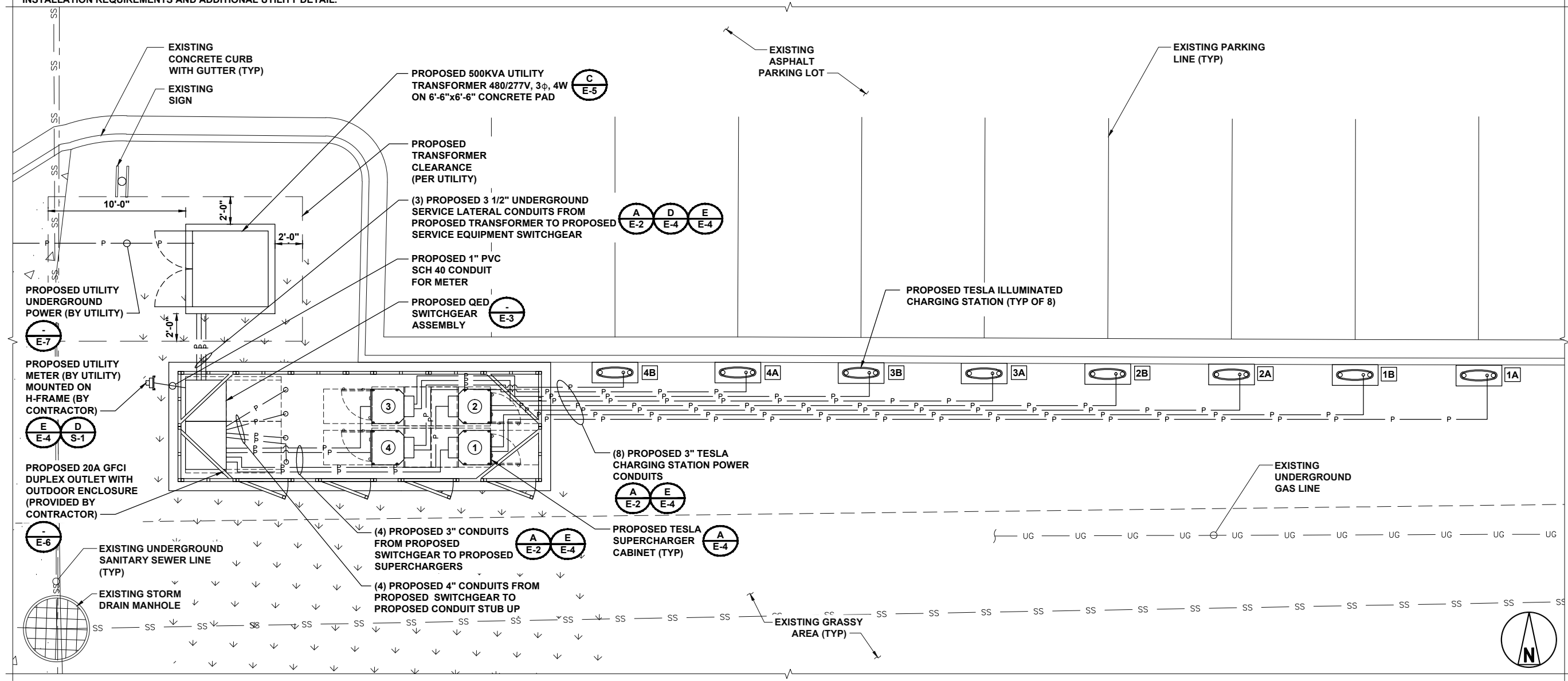
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FENCE DETAILS

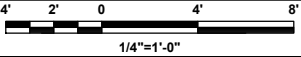
SHEET NUMBER
A-10

NOTES

- * AC UTILITY SERVICE CONDUCTORS: 22 FEET IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH.
- ** AC CONDUCTORS: 16 FEET IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH.
- *** DC CONDUCTORS: 22 FEET IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH.
1. CONDUCTOR LENGTHS ARE ESTIMATES ONLY. LENGTHS ARE BASED ON DIAGRAMMATICAL MEASUREMENTS AND APPROXIMATED BURIED DEPTHS. THE EXACT ROUTING PATH AND CONDUCTOR RUN LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS. CONTRACTOR TO ORDER CONDUCTOR BASED ON FIELD MEASUREMENTS (MUST BE APPROVED BY TESLA INSTALLATION MANAGER).
2. ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ON-SITE SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (NEC) STANDARDS BEING ENFORCED BY ALL APPLICABLE JURISDICTIONAL REQUIREMENTS AT THE TIME OF CONSTRUCTION.
3. DC RUN LENGTH MAXIMUM IS 120'-0" INCLUDING BURIED DEPTH. ANY DC RUN LENGTHS BEYOND THIS MAXIMUM SHALL BE ADDRESSED WITH THE APPROPRIATE ENGINEERING TEAMS AS SOON AS THE SITUATION ARISES.
4. UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER AT TIME OF PRECONSTRUCTION MEETING TO ENSURE ACCURACY OF INSTALLATIONS.
5. CONTRACTOR TO STUB UP 6" AND CAP OFF.
6. ALL CONDUCTORS TO RECIEVE ANTI-OXIDATIVE COATING DURING INSTALLATION.
7. REFERENCE SHEET E-7 FOR ADDITIONAL UTILITY DESIGN DETAILS.
8. CONTRACTOR TO REFERENCE THE UTILITY DESIGN SUPPLEMENTAL DOCUMENTS PROVIDED IN THE BID PACKAGE FOR TRANSFORMER PAD CONDUIT STUB UP LOCATIONS, CONDUIT INSTALLATION REQUIREMENTS AND ADDITIONAL UTILITY DETAIL.



ELECTRICAL PLAN



AC SUPERCHARGER LENGTHS			
SERVICE EQUIPMENT	SUPERCHARGER	LINEAR LENGTH (FT)	**ESTIMATED LENGTH (FT)**
CIRCUIT 1 I-LINE PANEL	①	11	27
CIRCUIT 2 I-LINE PANEL	②	14	30
CIRCUIT 3 I-LINE PANEL	③	21	37
CIRCUIT 4 I-LINE PANEL	④	18	34
TOTAL LENGTH OF AC Cu WIRE =			512
TOTAL LENGTH OF GND Cu WIRE =			128

(SEE SHEET E-2 FOR WIRE CONFIGURATION)
**TOTAL LENGTH OF AC Cu WIRE = SUM OF ESTIMATED LENGTH x 4 WIRES PER SUPERCHARGER
**TOTAL LENGTH GND Cu WIRE = SUM OF ESTIMATED LENGTHS

DC CHARGING POST LENGTHS			
SUPERCHARGER	CHARGE POST	LINEAR LENGTH (FT)	***ESTIMATED LENGTH (FT)***
①	1A	78	100
	1B	69	91
②	2A	57	79
	2B	50	72
③	3A	48	70
	3B	38	60
④	4A	30	52
	4B	21	43
TOTAL LENGTH OF DC AL WIRE =			2268
TOTAL LENGTH OF #3 AWG GND Cu & COMM CABLE WIRE=			567

(SEE SHEET E-2 FOR WIRE CONFIGURATION)
***TOTAL LENGTH OF DC AL WIRE = SUM OF ESTIMATED LENGTH x 4 WIRES PER CHARGE POST
***TOTAL LENGTH OF GND Cu AND COMM CABLE WIRE = SUM OF ESTIMATED LENGTHS



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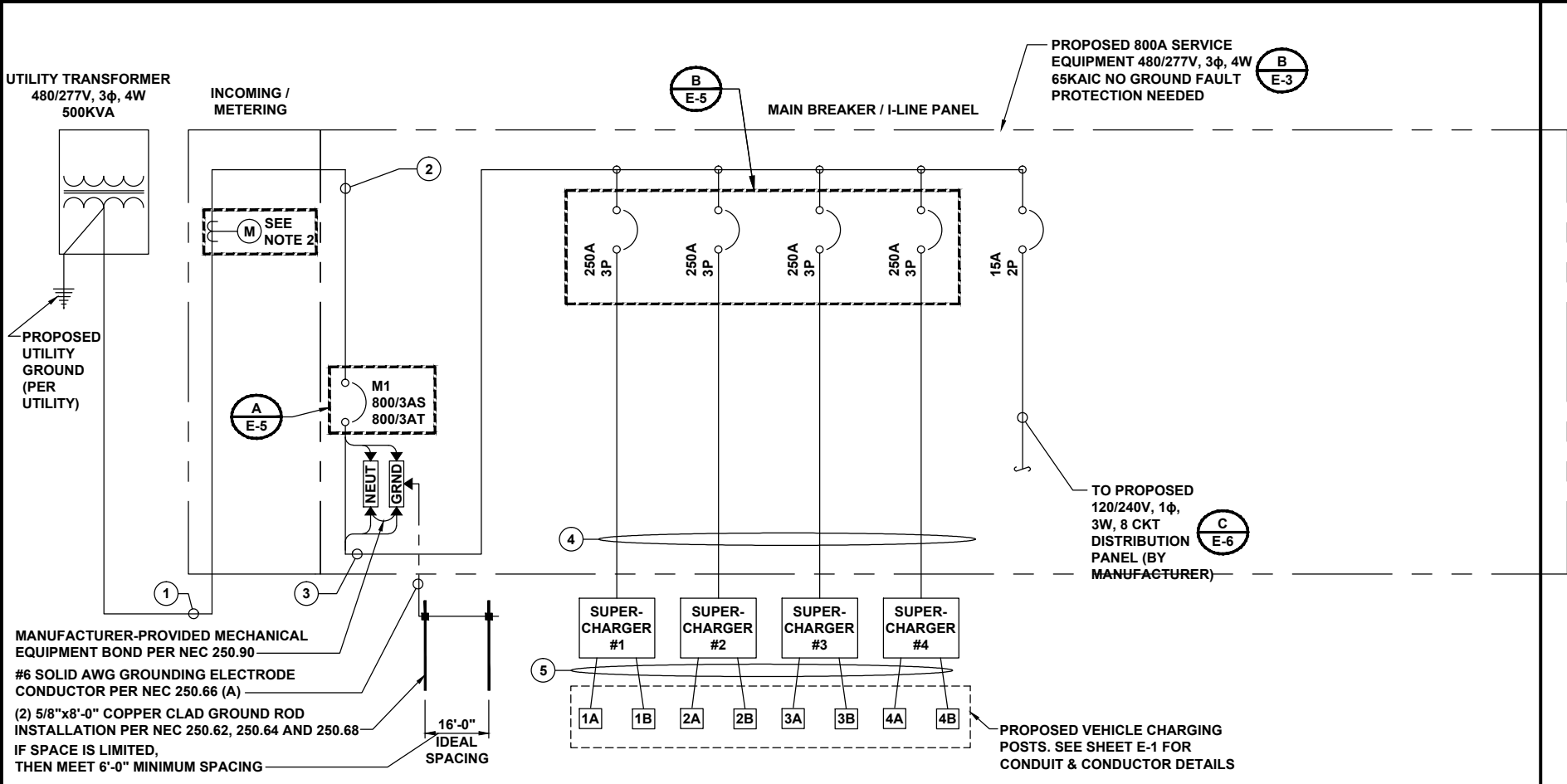
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SHEET TITLE
ELECTRICAL PLAN

SHEET NUMBER
E-1



SYSTEM ONE-LINE DIAGRAM

NO SCALE

A

NOTE

1. IF SECONDARY CONDUCTORS FROM SUPERCHARGER CABINET EXCEED 120'-0", TESLA ENGINEERING GROUP MUST APPROVE THE DESIGN PRIOR TO INSTALLATION.

SUPERCHARGER

AC CONFIGURATION TERMINALS:
L1, L2, L3, N: 600kcmil TO 4AWG OR 2x400kcmil TO 1/0
PE: 2x2/0AWG THROUGH 14AWG

FIELD INSTALLED
CONNECTIONS
WITHIN (1) 3"
UNDERGROUND
CONDUIT

FIELD INSTALLED
CONNECTIONS
WITHIN (1) 3"
UNDERGROUND
CONDUIT

FACTORY INSTALLED CONNECTIONS
SHOWN IN 480V INPUT L-N
CONFIGURATION

FIELD INSTALLED
CONNECTIONS
FROM UNDERGROUND
POWER CONDUIT

480V/277V 3PH + N + PE

+410-VDC (SEE SHEET E-1)

-410-VDC (SEE SHEET E-1)

#3 AWG GROUNDING CONDUCTOR

SIGNAL RETURN (TESLA PROVIDED)

+3P3V (TESLA PROVIDED)

TEMP RETURN (TESLA PROVIDED)

TEMP SIGNAL (TESLA PROVIDED)

PILOT (TESLA PROVIDED)

PROX (TESLA PROVIDED)

#12 AWG GROUNDING (TESLA PROVIDED)

VEHICLE
CHARGING POST

VEHICLE 1
CONNECTOR

+410-VDC (SEE SHEET E-1)

-410-VDC (SEE SHEET E-1)

#3 AWG GROUNDING CONDUCTOR

SIGNAL RETURN (TESLA PROVIDED)

+3P3V (TESLA PROVIDED)

TEMP RETURN (TESLA PROVIDED)

TEMP SIGNAL (TESLA PROVIDED)

PILOT (TESLA PROVIDED)

PROX (TESLA PROVIDED)

#12 AWG GROUNDING (TESLA PROVIDED)

VEHICLE
CHARGING POST

VEHICLE 2
CONNECTOR

110'-0"

LINEAR CABLE LENGTH (SEE NOTE 1)

SUPERCHARGER CONNECTION ONE-LINE DIAGRAM

NO SCALE

B

SERVICE ELECTRICAL CIRCUIT SCHEDULE

NO	FROM	TO	CONFIGURATION
1	UTILITY TRANSFORMER	PROPOSED SERVICE EQUIPMENT; INCOMING	(3) 350MCM AL (THWN-2) & (1) 350MCM AL (THWN-2) NEUT IN EACH OF (3) 3 1/2" CONDUITS + (1) SPARE 4" CONDUIT
2	PROPOSED SERVICE EQUIPMENT; INCOMING	PROPOSED SERVICE EQUIPMENT; 800A TRIP MAIN BREAKER	FACTORY INSTALLED 800A BUSS
3	PROPOSED SERVICE EQUIPMENT; 800A TRIP MAIN BREAKER	PROPOSED SERVICE EQUIPMENT; BRANCH CIRCUIT DISTRIBUTION I-LINE PANEL	FACTORY INSTALLED 800A BUSS
4	PROPOSED SERVICE EQUIPMENT; CIRCUIT 1 I-LINE PANEL (250 AMP)	PROPOSED TESLA SUPERCHARGER #1	(3) 300MCM Cu (THWN-2) AWG, (1) 300MCM Cu (THWN-2) AWG NEUT, (1) #4 Cu AWG GND IN 3" CONDUIT
	PROPOSED SERVICE EQUIPMENT; CIRCUIT 2 I-LINE PANEL (250 AMP)	PROPOSED TESLA SUPERCHARGER #2	(3) 300MCM Cu (THWN-2) AWG, (1) 300MCM Cu (THWN-2) AWG NEUT, (1) #4 Cu AWG GND IN 3" CONDUIT
	PROPOSED SERVICE EQUIPMENT; CIRCUIT 3 I-LINE PANEL (250 AMP)	PROPOSED TESLA SUPERCHARGER #3	(3) 300MCM Cu (THWN-2) AWG, (1) 300MCM Cu (THWN-2) AWG NEUT, (1) #4 Cu AWG GND IN 3" CONDUIT
	PROPOSED SERVICE EQUIPMENT; CIRCUIT 4 I-LINE PANEL (250 AMP)	PROPOSED TESLA SUPERCHARGER #4	(3) 300MCM Cu (THWN-2) AWG, (1) 300MCM Cu (THWN-2) AWG NEUT, (1) #4 Cu AWG GND IN 3" CONDUIT
5	PROPOSED TESLA SUPERCHARGER #1	PROPOSED TESLA CHARGING POST	1A (4) 250MCM AWG AL (THWN-2) + #3 AWG Cu GND + COMM CABLE (PER TESLA) IN 3" CONDUIT
			1B
		PROPOSED TESLA CHARGING POST	2A (4) 250MCM AWG AL (THWN-2) + #3 AWG Cu GND + COMM CABLE (PER TESLA) IN 3" CONDUIT
			2B
	PROPOSED TESLA SUPERCHARGER #3	PROPOSED TESLA CHARGING POST	3A (4) 250MCM AWG AL (THWN-2) + #3 AWG Cu GND + COMM CABLE (PER TESLA) IN 3" CONDUIT
			3B
	PROPOSED TESLA SUPERCHARGER #4	PROPOSED TESLA CHARGING POST	4A (4) 250MCM AWG AL (THWN-2) + #3 AWG Cu GND + COMM CABLE (PER TESLA) IN 3" CONDUIT
			4B

NOTES

- NEUTRAL MUST BE INCLUDED FOR PROPER OPERATION OF TESLA SUPERCHARGERS.
- PROPOSED UTILITY CTs SHALL BE LOCATED WITHIN APPROVED CT COMPARTMENTS APPROVED BY UTILITY AS SHOWN IN THIS DRAWING PACKAGE.
- ALL CONDUCTORS TO RECEIVE ANTI-OXIDATIVE COATING DURING INSTALLATION.
- CONTRACTOR TO USE 'SIMPULL THHN' ALUMINUM WIRING PER TESLA'S REQUIREMENTS WHEN ALUMINUM IS INDICATED IN THE CIRCUIT SCHEDULE ABOVE.
- CONTRACTOR TO USE 'SIMPULL THHN' ALUMINUM WIRING PER TESLA'S REQUIREMENTS WHEN ALUMINUM IS INDICATED IN THE CIRCUIT SCHEDULE ABOVE.
- AVAILABLE FAULT CURRENT AT THE TRANSFORMER IS 46,262 AMPS.



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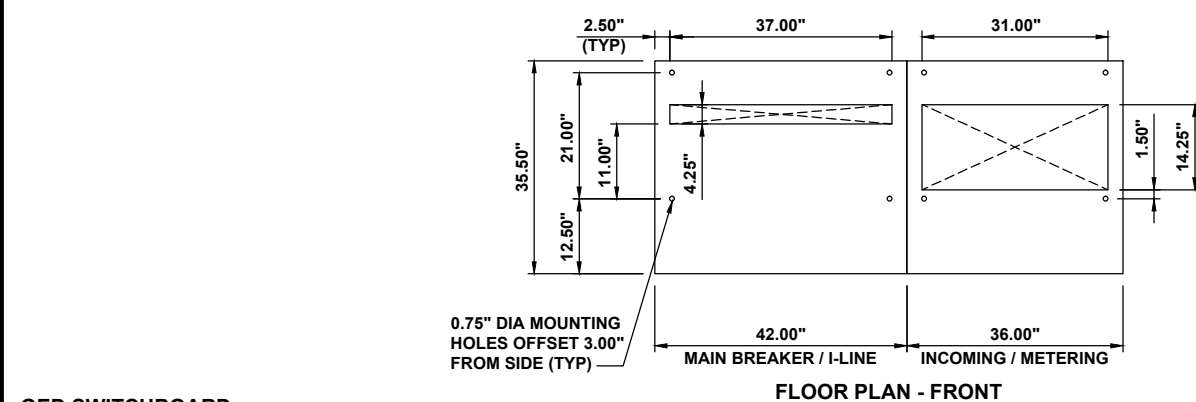
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ELECTRICAL DETAILS

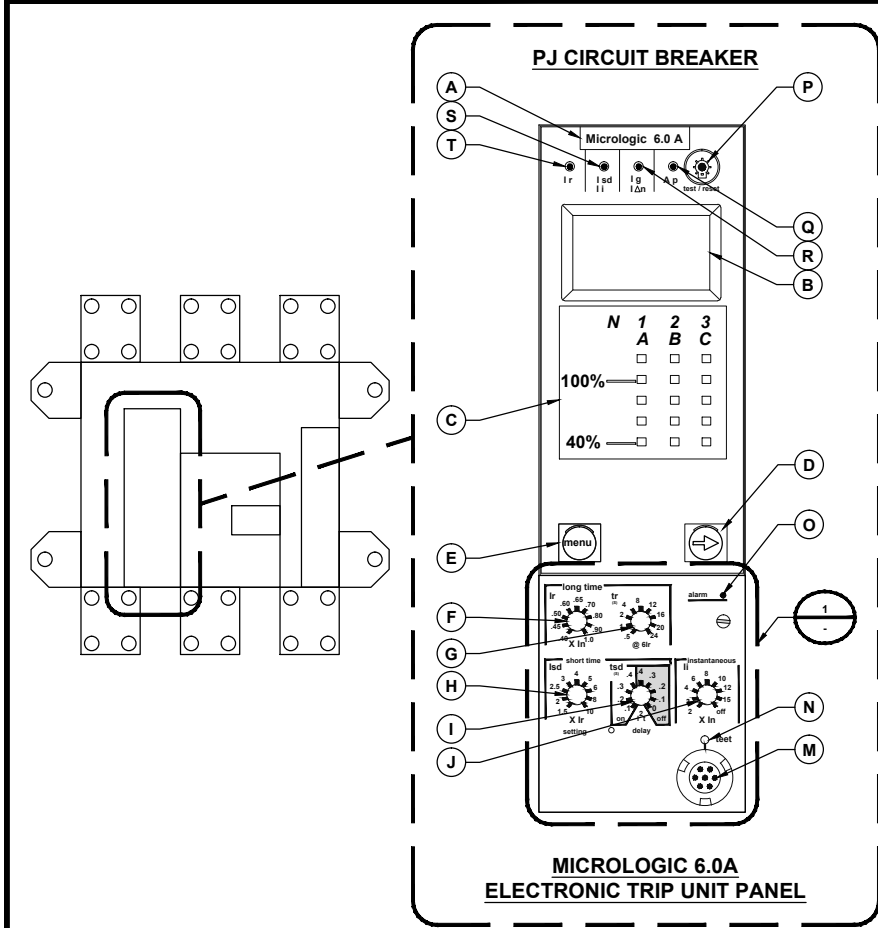
SHEET NUMBER
E-2

SERVICE ELECTRICAL CIRCUIT SCHEDULE

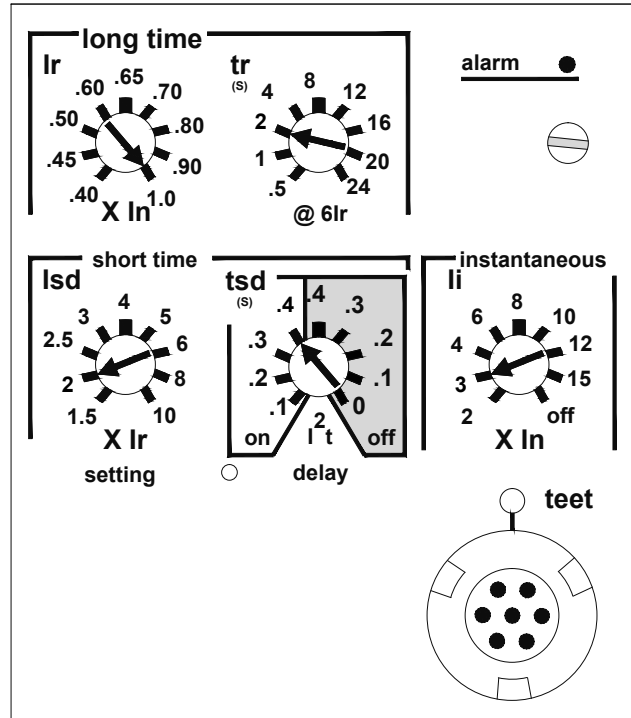


E-3

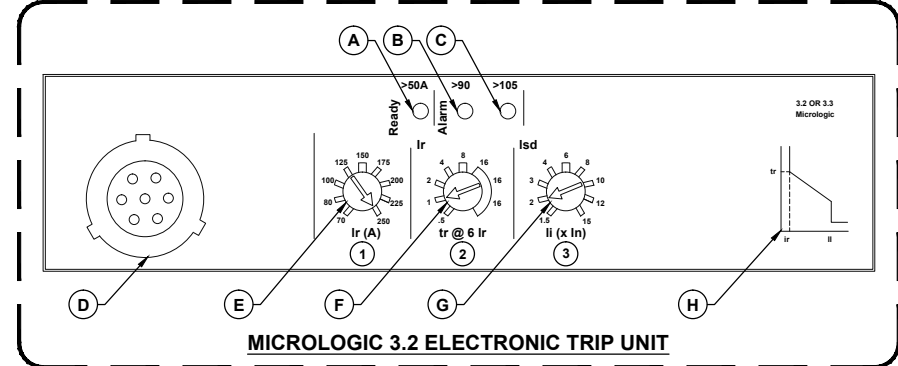
REV	DATE	DESCRIPTION
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- THE MICROLOGIC 6.0A TRIP UNIT PROVIDES SELECTIVE AND GROUND-FAULT PROTECTION FOR EQUIPMENT (≥ 1000 A) (LSIG) AND A BUILT-IN AMMETER.
- A. TRIP UNIT NAME
 - B. ALPHANUMERIC DISPLAY
 - C. THREE-PHASE BAR GRAPH
 - D. SCROLL BUTTON
 - E. MENU BUTTON
 - F. LONG-TIME PICKUP (I_r) SWITCH
 - G. LONG-TIME DELAY (t_r) SWITCH
 - H. SHORT-TIME PICKUP (I_{sd}) SWITCH
 - I. SHORT-TIME DELAY (t_{sd}) SWITCH
 - J. INSTANTANEOUS PICKUP (I_i) SWITCH
 - K. GROUND-FAULT PICKUP (I_g) SWITCH
 - L. GROUND-FAULT DELAY (t_g) SWITCH
 - M. TEST PLUG RECEPTACLE
 - N. GROUND FAULT PUSH-TO-TRIP BUTTON
 - O. OVERLOAD INDICATOR LIGHT
 - P. RESET BUTTON FOR BATTERY STATUS CHECK AND TRIP INDICATOR LED
 - Q. SELF-PROTECTOR INDICATOR LIGHT
 - R. GROUND-FAULT INDICATOR LIGHT
 - S. SHORT-TIME OR INSTANTANEOUS TRIP INDICATOR LIGHT
 - T. LONG-TIME TRIP INDICATOR LIGHT



SECTION 1

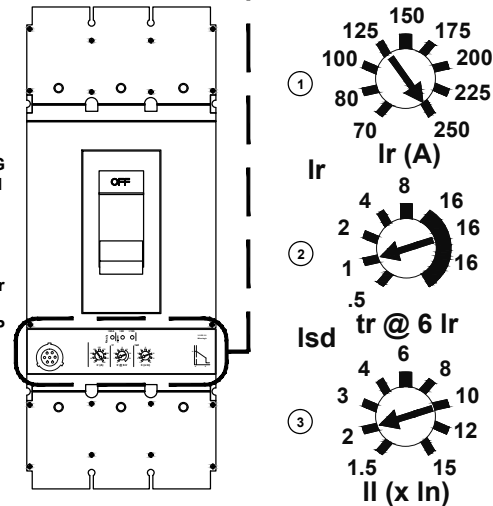


*** JJ CIRCUIT BREAKER**

480VAC L-L

- A. READY LED (GREEN)
- B. OVERLOAD PRE-ALARM LED (ORANGE)-90% I_r
- C. OVERLOAD ALARM LED (RED): 105% I_r THE TRIP UNIT'S I_n RATING CORRESPONDS TO THE MAXIMUM VALUE OF THE ADJUSTMENT RANGE
- D. TEST PORT
- E. ADJUSTMENT DIAL FOR LONG-TIME PROTECTION DELAY t_r
- F. ADJUSTMENT DIAL FOR SHORT-TIME PROTECTION PICKUP I_{sd}
- G. ADJUSTMENT DIAL FOR INSTANTANEOUS PROTECTION PICKUP I_i
- H. TRIP CURVE

*** BREAKERS ARE RATED FOR 80%**



SCHNEIDER ELECTRIC POWERPACT R-FRAME PLUG "A" 6.0A TRIP UNIT DETAIL

NO SCALE

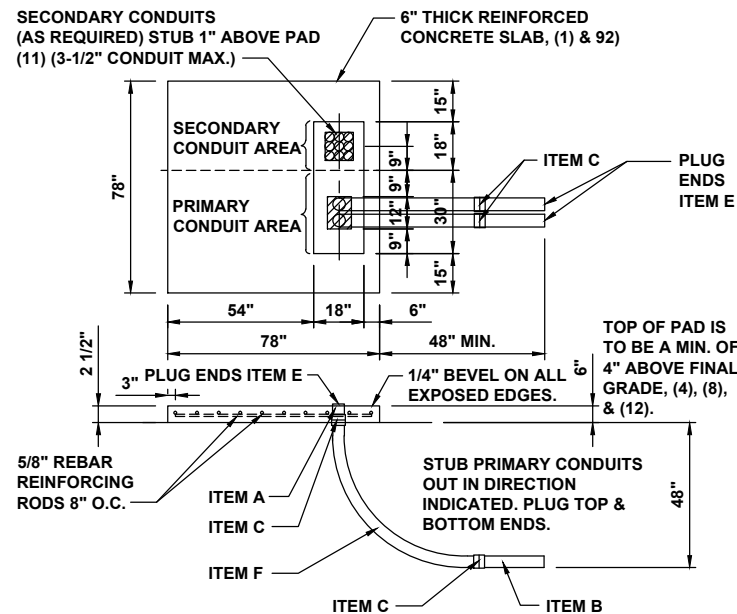
A

SCHNEIDER ELECTRIC POWERPACT L-FRAME 250A DETAIL

NO SCALE

B

REFERENCE ONLY



KVA	CONCRETE YARDS
225-500	1.00

TRANSFORMER PAD DETAIL

NO SCALE

C

NOTES

1. MINIMUM COMPACTION UNDER PAD SHALL BE 90% OF MAXIMUM DENSITY OF THE MATERIAL AS DETERMINED BY ASTM STANDARD METHOD D698-78. FROZEN BACKFILL, SAND OR GRAVEL SHALL NOT BE USED.
2. MINIMUM OF 3500 PSI, 28 DAY TEST CONCRETE.
3. REFER TO TRANSFORMER PAD NEXT TO BUILDING AND CLEARANCE FROM OBSTRUCTIONS.
4. FINAL GRADE TO SLOPE AWAY FROM TRANSFORMER PAD AND BUILDING.
5. METERING SHALL NOT BE MOUNTED ON LES EQUIPMENT.
6. IF TELEPHONE CONDUIT IS REQUIRED, STUB UP APPROX. 12" FROM SIDE OF TRANSFORMER PAD. TRANSFORMER OPENING MUST NOT BE OBSTRUCTED. VERIFY LOCATION WITH TELEPHONE COMPANY.
7. LEAVE THIS AREA OPEN FOR CABLE ENTRANCE (18"x48" PAD OPENING).
8. TOP OF FOUNDATION TO BE SMOOTH, LEVEL AND CLEARED OF ALL FRAMING MATERIAL AFTER CONCRETE HARDENS.
9. THIS PAD IS PROVIDED, OWNED & MAINTAINED BY THE OWNER OF THE PROPERTY.
10. PAD MUST BE LOCATED A MINIMUM OF 3' FROM ANY GAS METER AND MINIMUM OF 10' FROM ANY FUEL TANK.
11. INSTALL CONDUITS IN PAD OPENING AS INDICATED. PRIMARY CONDUITS TO BE CENTERED IN THE PRIMARY CONDUIT AREA. SECONDARY CONDUITS TO BE GROUPED TOGETHER AS SHOWN AND THE GROUP SHALL BE CENTERED IN THE SECONDARY CONDUIT AREA. THIS ALLOWS FOR FUTURE ADDITIONAL CONDUITS.
12. TOP OF TRANSFORMER PAD TO BE LOCATED A MINIMUM OF 1' ABOVE 100 YEAR FLOOD PLAIN AND OUTSIDE FLOODWAYS AND FLASH FLOOD AREAS (SEE SPEC. 2051 A).

DETAIL NOT USED

NO SCALE

D



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BLACK & VEATCH

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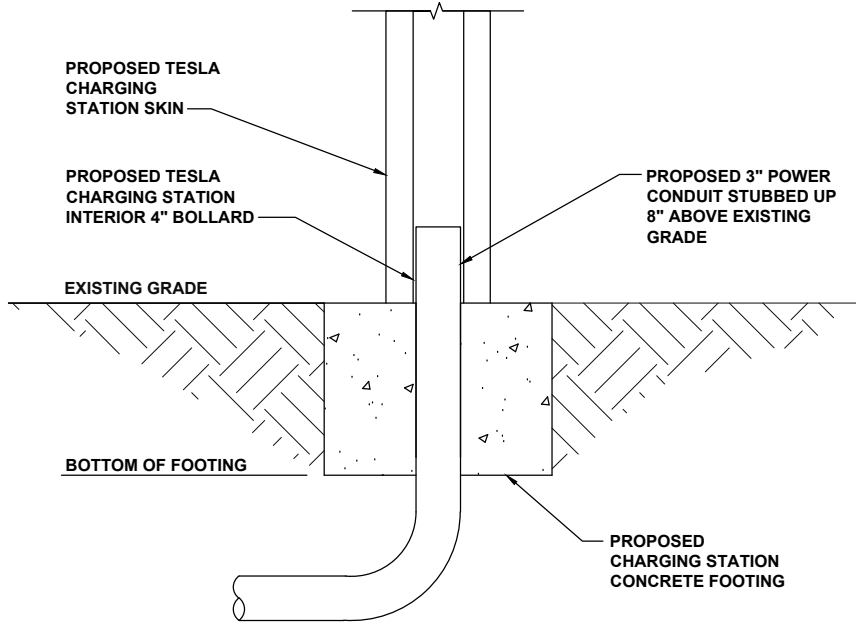
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NE001_LINCOLN
LINCOLN
5020 N 27TH STREET
LINCOLN, NE 68521

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-5



SITE ID: NE001_LINCOLN			MODEL #: QO2			WIRE: 3		
VOLTAGE: 120/240V			BUSS RATING: 100 AMP			GND BAR: YES		
PHASE: 1ø			NEU BAR: YES			N TO G BOND: NO		
PHASE A VA	PHASE B VA	SERVICE LOAD	USAGE FACTOR	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT NO.
0		0	1.00	OFF	1	10	SPARE	1
	0	0	1.00	OFF	1	10	SPARE	2
1920		1920	1.00	ON	1	20	DUPLEX OUTLET	3
	0	0	1.00	OFF	1	15	SPARE	4
0		0	1.00	OFF	2	10	SPARE	5
	0	0	1.00	OFF	2	10	SPARE	6
0		0	1.00	OFF	2	10	SPARE	7
	0	0	1.00	OFF	2	10	SPARE	8
1920		0	=		1920VA			
TOTAL kVA			=		1.92			
TOTAL AMPS			=		16			

NOTES

1. PANEL WITHIN PROPOSED SERVICE EQUIPMENT IS PROVIDED AND INSTALLED BY MANUFACTURER.
2. LOADING VALUES PROVIDED ARE SHOWN AS A MAXIMUM ALLOWABLE VA FOR EACH INDIVIDUAL CIRCUIT USED. ENGINEERING HAS DETERMINED THAT SITE CONDITIONS WILL NOT EXCEED THE RATING OF THE PROPOSED CIRCUIT BREAKER

CONDUIT STUB UP DETAIL

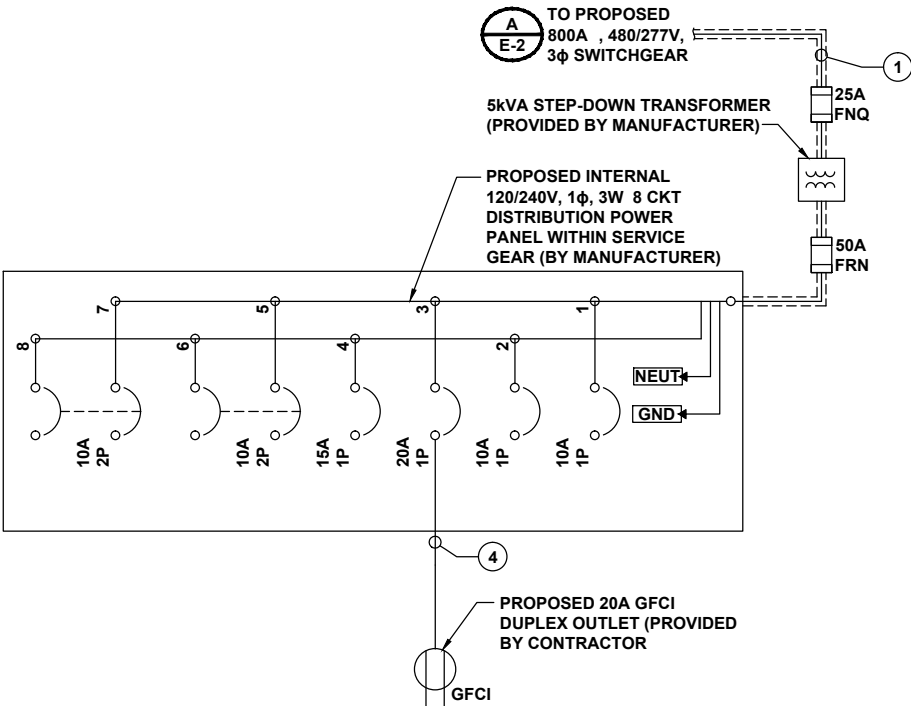
NO SCALE

A

120/240V, 1ø, 8CKT DISTRIBUTION PANEL LOAD SCHEDULE

NO SCALE

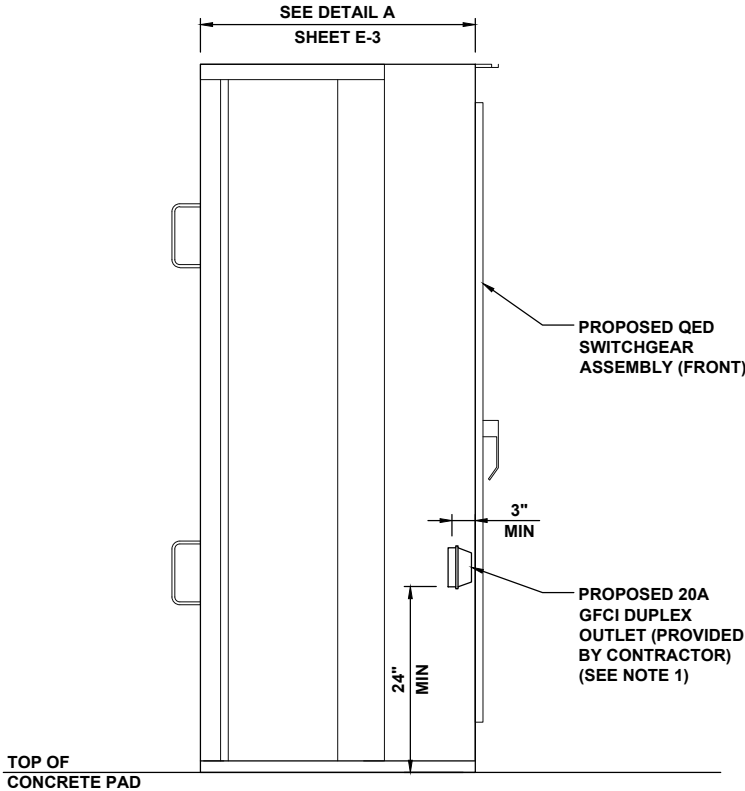
B



NOTE

1. ALL BUSHING AND WIRING INTERNALS OF PROPOSED SERVICE EQUIPMENT PROVIDED BY MANUFACTURER AND MODIFICATIONS SHALL REQUIRE ENGINEERING APPROVAL PRIOR TO ANY CHANGES BEING MADE.

SERVICE CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
1	SERVICE GEAR POWER SUPPLY (BY MANUFACTURER)	PROPOSED 8CKT, 120/240V, 1ø POWER DISTRIBUTION PANEL (BY MANUFACTURER)	FACTORY INSTALLED CABLING (BY MANUFACTURER)
2	PROPOSED 8CKT POWER DIST PANEL; CIRCUIT #1, 10A, 120V	N/A	N/A
3	PROPOSED 8CKT POWER DIST PANEL; CIRCUIT #2, 10A, 120V	N/A	N/A
4	PROPOSED 8CKT POWER DIST PANEL; CIRCUIT #3, 20A, 120V	PROPOSED 20A GFCI DUPLEX OUTLET (BY CONTRACTOR)	(1) #12 Cu (THWN-2) AWG + (1) #12 Cu (THWN-2) AWG NEUT + (1) #12 Cu AWG GND IN 3/4" CONDUIT
5	PROPOSED 8CKT POWER DIST PANEL; CIRCUIT #4, 15A, 120V	N/A	N/A
6	PROPOSED 8CKT POWER DIST PANEL; CIRCUIT #5 & #6, 10A, 240V	N/A	N/A
7	PROPOSED 8CKT POWER DIST PANEL; CIRCUIT #7 & #8, 10A, 240V	N/A	N/A



NOTES

1. 20A GFCI DUPLEX OUTLET SHALL USE TAYMAC MM420C WEATHERPROOF SINGLE OUTLET COVER OUTDOOR RECEPTACLE PROTECTOR OR ENGINEER APPROVED EQUIVALENT.
2. 20A GFCI DUPLEX OUTLET SHALL MOUNT TO EXTERIOR SIDE OF QED SWITCHGEAR ASSEMBLY I-LINE PANEL.

120/240V, 1ø, 3W 8 CIRCUIT INTERNAL SWITCHBOARD DISTRIBUTION PANEL

NO SCALE

C

20A GFCI DUPLEX OUTLET DETAIL

NO SCALE

D



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LINCOLN
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LINCOLN, NE 68521

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER

E-6

NOTES

1.

REFERENCE SHEET E-1 FOR ADDITIONAL UTILITY DETAILS.
2.

CONTRACTOR RESPONSIBILITIES INCLUDE TRANSFORMER PAD AND METERING CONDUIT AND METERING SOCKET H-FRAME INSTALLATION AND ALL SECONDARY TRENCHING/BORING, CONDUIT INSTALLATION.
3.

UTILITY RESPONSIBILITIES INCLUDE TRANSFORMER AND ALL PRIMARY SIDE TRENCHING, BORING, CONDUIT INSTALLATION AND WIRING WIRING.
4.

CONTRACTOR TO COORDINATE THE TERMINATION OF THE SERVICE CONDUCTORS WITH THE UTILITY.
5.

THE UTILITY DESIGN DETAILS SUMMARIZED ON THIS SHEET ARE FOR PROPERTY OWNER APPROVAL THE CONTRACTOR IS TO INSTALL THE UTILITY RELATED SCOPE OF WORK PER LINCOLN ELECTRIC SERVICE DESIGN AND SPECIFICATION REQUIREMENTS PER THE UTILITY DESIGN SUPPLEMENTAL DETAILS PROVIDED IN THE BID PACKAGE.
6.

TRANSFORMER BOLLARD PROTECTION TO BE INSTALLED PER UTILITY SPECIFICATION. ADDITIONAL REQUIREMENTS MAY BE REQUIRED AT THE DISCRETION OF THE UTILITY FIELD INSPECTION PERSONNEL.
7.

CONTRACTOR TO REFERENCE THE UTILITY DESIGN SUPPLEMENTAL DOCUMENTS PROVIDED IN THE BID PACKAGE FOR TRANSFORMER PAD CONDUIT STUB UP LOCATIONS, CONDUIT INSTALLATION REQUIREMENTS AND ADDITIONAL UTILITY DETAIL REQUIREMENTS.
8.

UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER AT TIME OF PRECONSTRUCTION MEETING TO ENSURE ACCURACY OF INSTALLATIONS

PENDING UTILITY DESIGN



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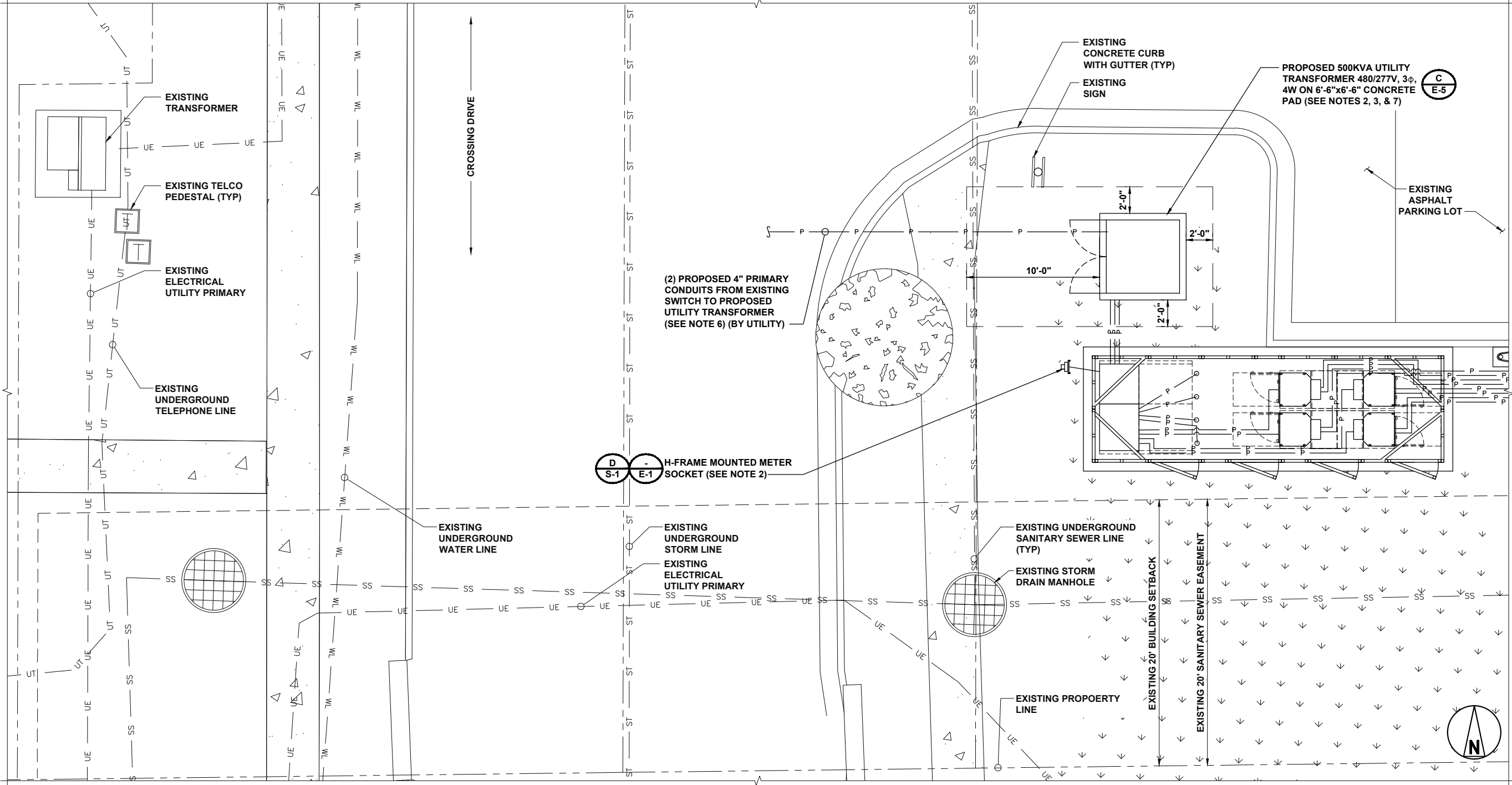
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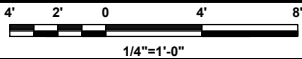
SHEET TITLE
OVERALL UTILITY PLAN

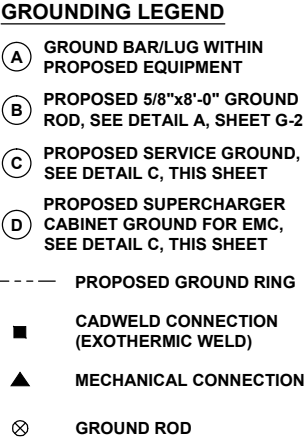
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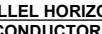
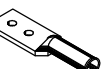

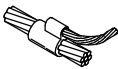




E-7



OVERALL UTILITY PLAN





<p><u>BURNDY CONNECTIONS</u> OR ENGINEER APPROVED EQUAL</p>	<p><u>CADSWELD CONNECTIONS</u> OR ENGINEER APPROVED EQUAL</p>	
 <p><u>BOND JUMPER</u> FIELD FABRICATED GREEN STRANDED INSULATED</p> <p>TYPE 2-YA-2</p>	 <p><u>HORIZONTAL SPLICE</u> SPLICE OF HORIZONTAL CABLES</p> <p>TYPE SS</p>	 <p><u>PARALLEL HORIZONTAL CONDUCTORS</u> PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES</p> <p>TYPE PT</p>
 <p><u>COPPER LUGS</u> TWO HOLE - LONG BARREL LENGTH</p> <p>TYPE YA-2</p>	 <p><u>HORIZONTAL STEEL SURFACE</u> TO FLAT STEEL SURFACE OR HORIZONTAL PIPE</p> <p>TYPE HS</p>	 <p><u>PARALLEL HORIZONTAL CONDUCTORS</u> PARALLEL DEAD END TAP OR HORIZONTAL THRU CONDUCTOR</p> <p>TYPE PC</p>
	 <p><u>VERTICAL PIPE</u> CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES</p> <p>TYPE VS</p>	 <p><u>VERTICAL STEEL SURFACE</u> CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE</p> <p>TYPE VS</p>
	 <p><u>HORIZONTAL TEE</u> TEE OF HORIZONTAL RUN AND TAP CABLES</p> <p>TYPE TA</p>	 <p><u>THROUGH CABLE TO GROUND ROD</u> THROUGH CABLE TO TOP OF GROUND ROD</p> <p>TYPE GT</p>

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LINCOLN
5020 N 27TH STREET
LINCOLN, NE 68521

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER
G-1

GROUNDING PLAN

NO SCALE

A

GROUND LUG TERMINATION DETAIL

#3 AWG COPPER EQUIPMENT GROUNDING CONDUCTOR (VEHICLE 1)

#4 AWG COPPER EQUIPMENT GROUND LUG (CONTRACTOR PROVIDED LUG)

#4 AWG AC COPPER EQUIPMENT GROUNDING CONDUCTOR

#3 AWG COPPER EQUIPMENT GROUNDING CONDUCTOR (VEHICLE 2)

#6 AWG EARTH GROUND COPPER GROUNDING ELECTRODE CONDUCTOR FOR EMC (GROUND ROD)

#3 AWG CAPABLE COPPER EQUIPMENT GROUND LUG (CONTRACTOR PROVIDED LUG)

VEHICLE CONNECTOR (TYP OF 2)

TESLA CHARGING POST (TYP)

CHASSIS MOUNT GROUND BAR (TYP)

PROPOSED TESLA SUPERCHARGER (TYP)

#12 AWG GND WITHIN TESLA PROVIDED COMM CABLE (TYP)

PROPOSED 3" UNDERGROUND CONDUITS

#3 AWG COPPER EQUIPMENT GROUNDING CONDUCTOR

#6 AWG SOLID COPPER GROUNDING ELECTRODE CONDUCTOR

PROPOSED 3" UNDERGROUND CONDUIT

PROPOSED 5/8"x8'-0" GROUND ROD (1 PER 2 SUPERCHARGER CABINETS)

IF SPACE IS LIMITED, THEN MEET 6'-0" MINIMUM SPACING

IDEAL SPACING

16'-0"

PROPOSED 5/8"x8'-0" GROUND ROD (PER UTILITY REQUIREMENT)

FACTORY INSTALLED GROUND BAR(S)

FACTORY INSTALLED MAIN BONDING JUMPER

PROPOSED SWITCHGEAR ASSEMBLY

INCOMING / METERING

MAIN BREAKER / I-LINE PANEL

NEU

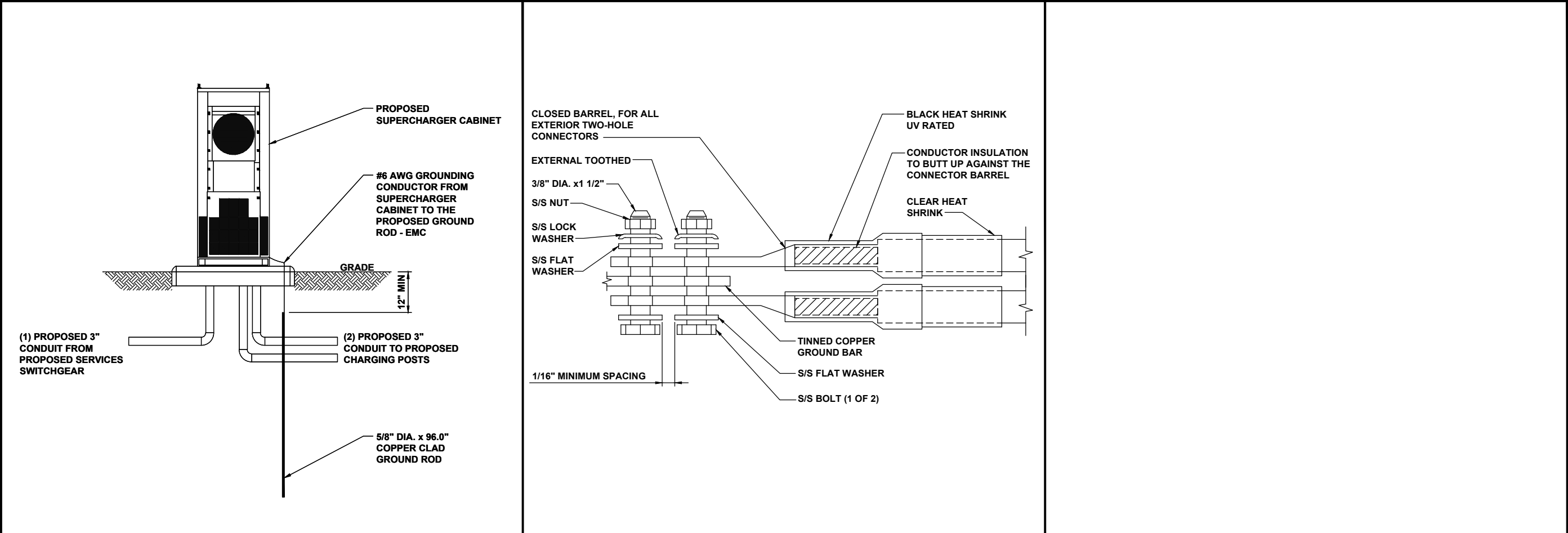
GRND

GROUNDING SCHEMATIC

NO SCALE

C

CADWELD CONNECTION DETAIL	NO SCALE	B
<p>NOTES</p> <ol style="list-style-type: none"> 1. ALL GROUND BARS SHALL HAVE STAMPED IN TO THE METAL "IF STOLEN DO NOT RECYCLE." 2. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. 3. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. 4. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUND TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION. 5. SUPPLIED AND INSTALLED BY CONTRACTOR. 6. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS). 7. TESLA CHARGERS HAVE INTERNAL HIGH IMPEDANCE GROUND FAULT PROTECTION (10MΩ). 8. EMC - ELECTROMAGNETIC COMPATIBILITY 		
GROUNDING NOTES	NO SCALE	D



SUPERCHARGER GROUNDING DETAIL	NO SCALE	A	EXTERIOR TWO HOLE LUG DETAIL	NO SCALE	B	DETAIL NOT USED	NO SCALE	C
DETAIL NOT USED	NO SCALE	D	DETAIL NOT USED	NO SCALE	E	DETAIL NOT USED	NO SCALE	F

TESLA

MOTORS, INC.



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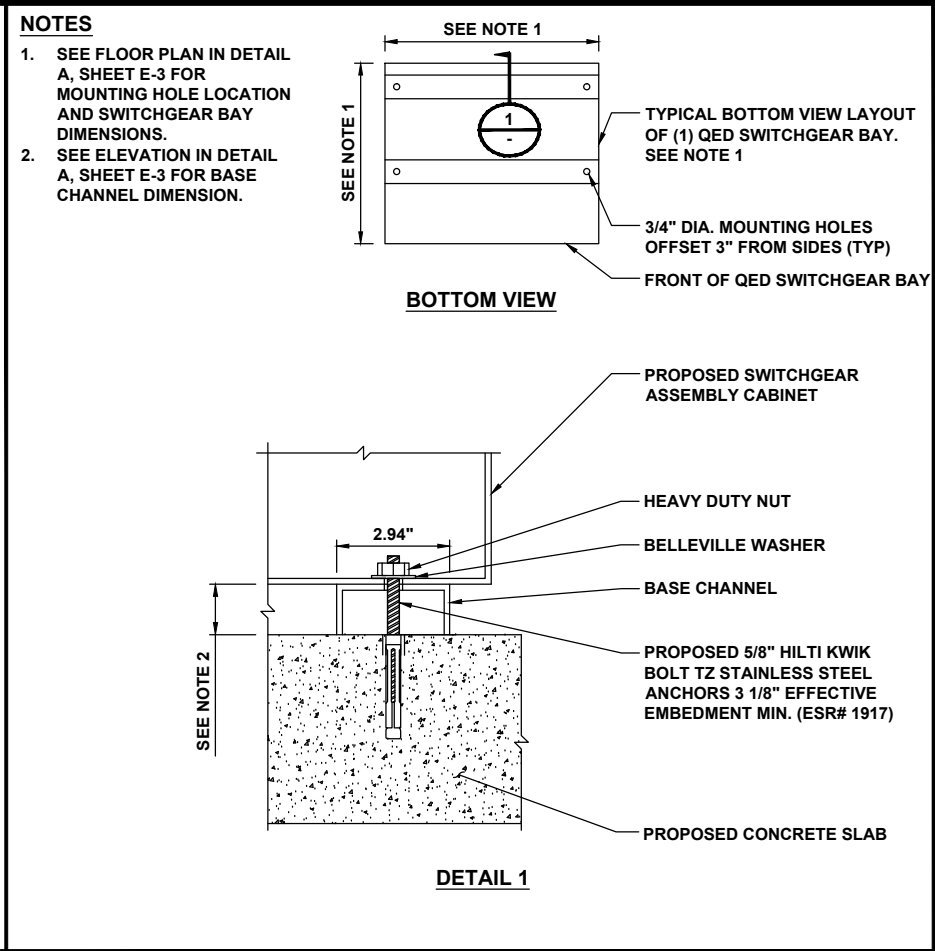
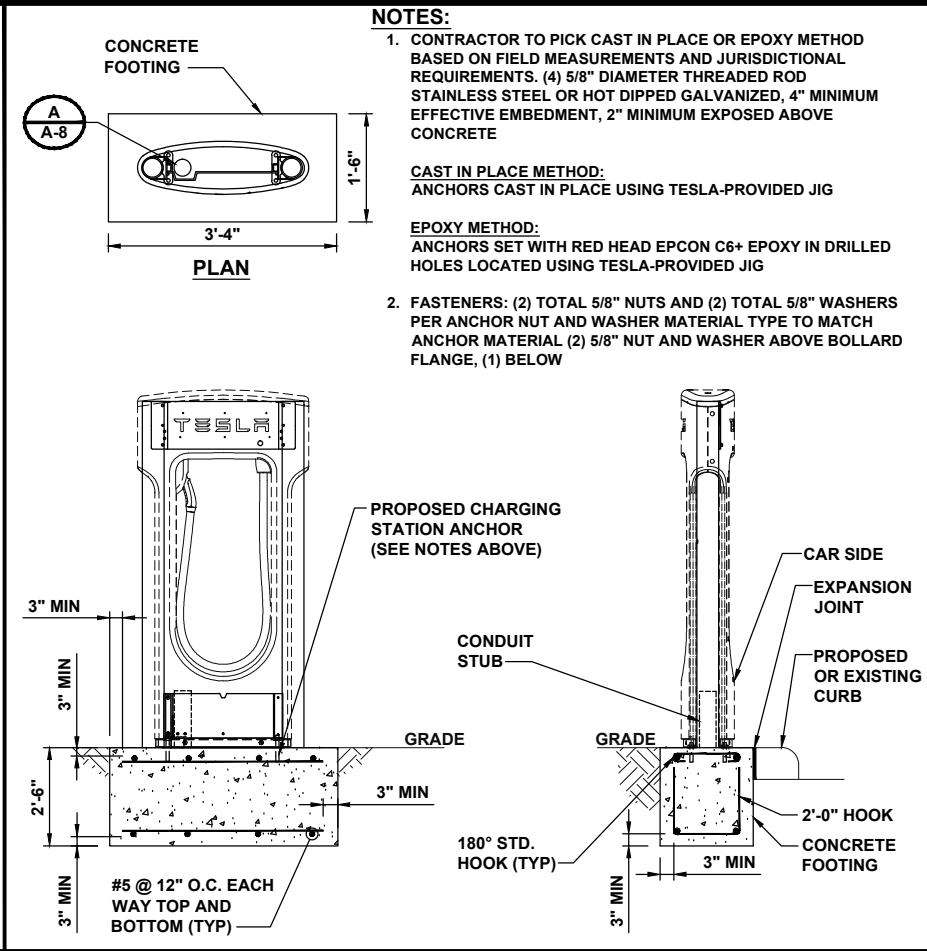
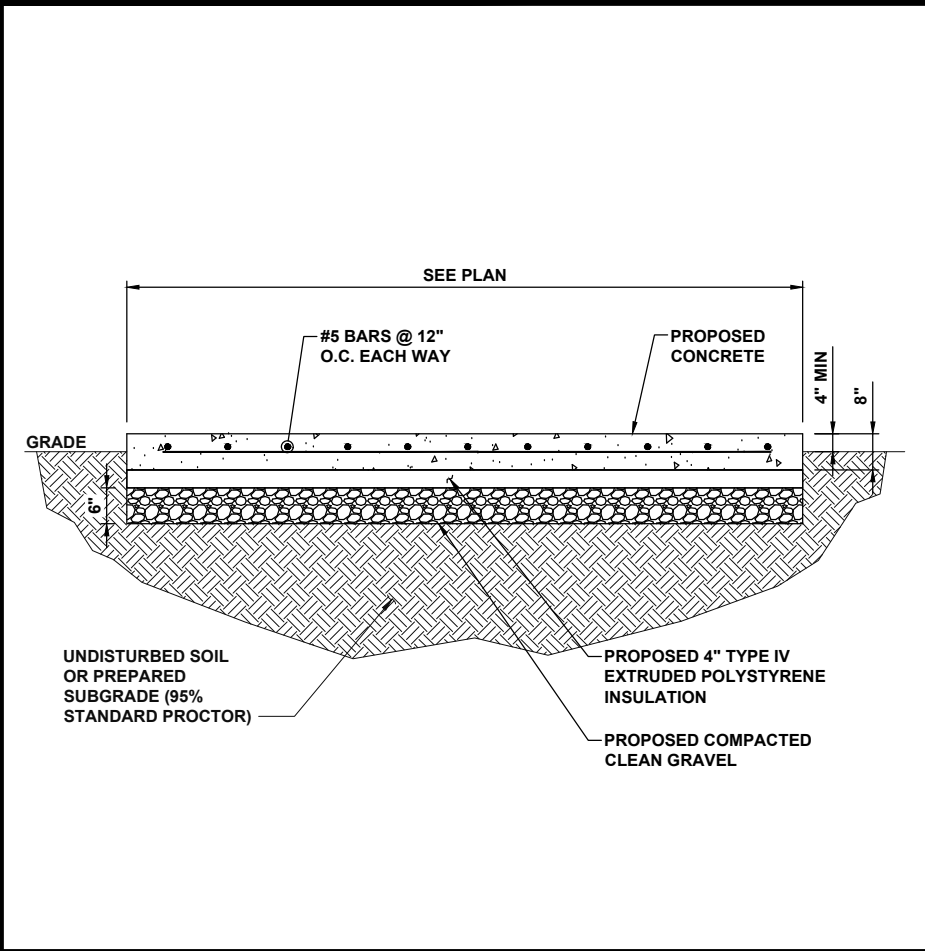
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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2



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LINCOLN
5020 N 27TH STREET
LINCOLN, NE 68521

SHEET TITLE

STRUCTURAL DETAILS

SHEET NUMBER
S-1

NOTE

1. GENERIC LOADING: $V=115$ MPH, EXP C, $K_z=0.85$, $S_s=3.73g$, SITE CLASS=D, $S_{DS}=2.64$, (2) 1-1/4" CONDUIT, METER MAX WIND AREA = 540 SQ IN.

METER CAN BASED ON UTILITY SPECIFICATIONS

UNISTRUT MUST BE ABLE TO ADJUST UP AND DOWN (TYP)

SEE CAR CHARGER CONDUIT ELEVATION DETAIL FOR CONDUIT SIZE AND COUNT

PVC CONDUIT FOR METER CAN GROUND WIRE ATTACHED TO DRIVEN GROUND ROD

P1000T UNISTRUT WITH 2 1/2" STD PIPE U-BOLT (TYP)

(3) #3 REBAR @ 2" O.C.

2 1/2" STD PIPE 2.88" O.D.

5'-8" MAX

12"

SPACED PER METER ANCHORAGE

GRADE

CONCRETE FOOTING (TYP)

(8) #5 REBAR EVENLY SPACED AROUND DIAMETER

#3 REBAR AT 12" SPACING

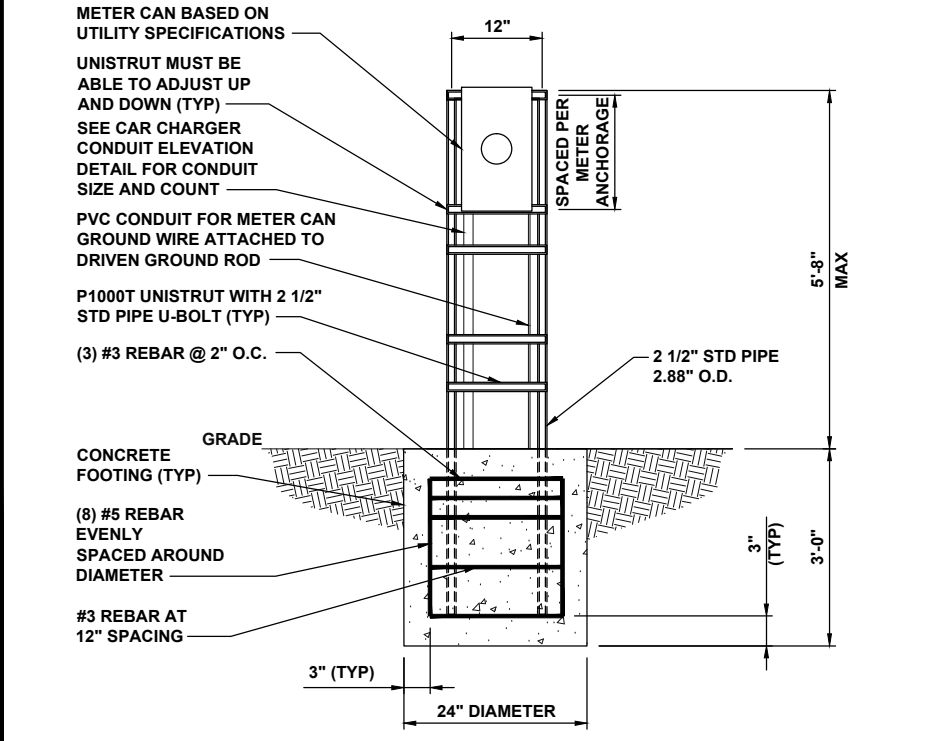
3" (TYP)

3'-0"

24" DIAMETER

NOTE

1. **GENERIC LOADING:** V=115 MPH, EXP C, $K_z=0.85$, $S_s=3.73g$, SITE CLASS=D, $S_{DS}=2.64$, (2) 1-1/4" CONDUIT, METER MAX WIND AREA = 540 SQ IN.



DETAIL NOT USED	NO SCALE	E
-----------------	----------	---

NO SCALE

DETAIL NOT USED	NO SCALE	F
-----------------	----------	---

NO SCALE

F

FOR REFERENCE ONLY