



WARRENTON, OR

SITE ADDRESS:
695 US-101
WARRENTON, OR 97146
TRT ID: 438558



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



Dewberry Engineers Inc.
 100 OCEANGATE
 SUITE 400
 LONG BEACH, CA 90802
 PHONE: 562.350.0570



EXPIRES: 06/30/2025 11/08/24

HUGO WILLIAM JUSTINIANO, P.E.
 OREGON LICENCE No. 86604PE

SITE INFORMATION

PROPOSED TESLA EV SITE ADDRESS:
 695 US-101
 WARRENTON, OR 97146

PROPERTY OWNER:
 FRED MEYER STORES INC.

PARCEL ID:
 PARCEL ID: 81022D000104

POWER COMPANY:
 PACIFIC CORP
 DISTRIBUTION ENGINEER
 CONTACT: MATT GRUBBS
 PHONE: 503-310-0071
 EMAIL: matthew.grubbs@pacificcorp.com
 WORK ORDER: TBD

COUNTY:
 CLATSOP COUNTY

LATITUDE*:
 46° 9' 41.96" N

LONGITUDE*:
 123° 54' 6.98" W
 *BASED ON GOOGLE EARTH

DEWBERRY CONTACT ENGINEER:
 HUGO JUSTINIANO
 DEWBERRY ENGINEERS INC.
 (919) 434-9742
 hjustiniano@dewberry.com

TESLA DESIGN MANAGER:
 BRIAN SLIGER
 TESLA INC.
 (206) 437-3271
 BSLIGER@TESLA.COM

TESLA CONSTRUCTION MANAGER:
 TRAVIS GUENTHER
 TESLA INC.
 (669) 308-0056
 tguenther@tesla.com

PROJECT DESCRIPTION

- INSTALL PAD MOUNTED UTILITY TRANSFORMER
- INSTALL (1) 1600A, 277/480V SWITCHBOARD
- INSTALL (3) TESLA SUPERCHARGERS
- INSTALL (12) TESLA CHARGE POSTS
- INSTALL (2) LIGHT POSTS

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:
 OREGON BUILDING & ENERGY CODES, CONSISTENT WITH THE FOLLOWING CODES:

- 2022 OREGON STRUCTURE SPECIALTY CODE (2021 IBC & IEBC W/ AMENDMENTS).
- 2021 OREGON ENERGY EFFICIENCY SPECIALTY CODE.
- 2023 OREGON ELECTRICAL SPECIALTY CODE (2023 NEC W/ AMENDMENTS).

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL.

STRUCTURAL DESIGN CRITERIA

WIND DESIGN DATA:

- ULTIMATE WIND SPEED = 125 MPH
- OCCUPANCY CATEGORY: I
- WIND IMPORTANCE FACTOR: I = 1.0
- WIND EXPOSURE CATEGORY: B

SEISMIC DESIGN DATA:

- OCCUPANCY CATEGORY: I
- SEISMIC IMPORTANCE FACTOR: I = 1.0
- SITE CLASS: D (ASSUMED)
- MAPPED SPECTRAL RESPONSE COEFFICIENTS:
 $S_s = 1.7$ $S_1 = 0.72$
- DESIGN SPECTRAL RESPONSE COEFFICIENTS:
 $S_{DS} = 1.4$ $S_{D1} = 0.72$
- SEISMIC DESIGN CATEGORY: D

ASSUMED SOIL PROPERTIES:

- ALLOWABLE BEARING PRESSURE: 1,500 PSF
- ALLOWABLE LATERAL BEARING PRESSURE: 100 PSF/FT

FROST DESIGN DATA:

- FROST DEPTH: 12"

JURISDICTION INFORMATION

PERMITTING JURISDICTION: CITY OF WARRENTON AND CLATSOP COUNTY

APN: 81022D000104

DRAWING INDEX

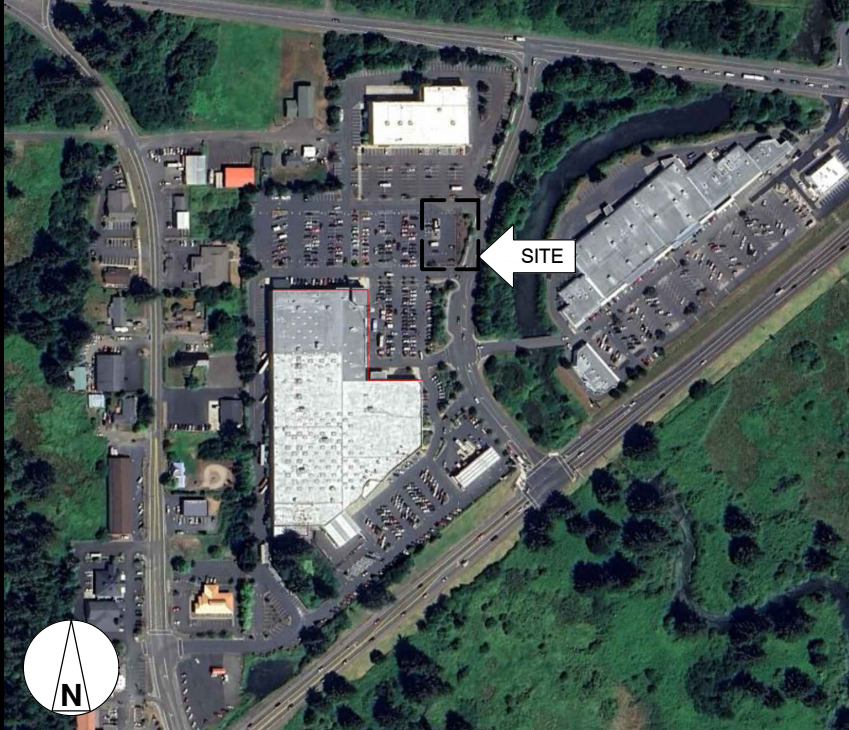
SHT. NO.	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES I
GN-2	GENERAL NOTES II
C-1	SITE PLAN
C-2	EXISTING CONDITIONS PLAN
C-3	EQUIPMENT/PARKING PLAN
C-4	CONSTRUCTION DETAILS I
C-5	CONSTRUCTION DETAILS II
C-6	CONSTRUCTION DETAILS III
C-7	CONSTRUCTION DETAILS IV
E-1	ELECTRICAL ONE-LINE DIAGRAM
E-2	ELECTRICAL DETAILS
E-3	ARC FLASH LABELS & BREAKER SETTINGS
E-4	REFERENCE DATASHEETS
G-1	GROUNDING, SCHEMATIC & DETAILS

DRAWN BY:	GFS
CHECKED BY:	SES
APPROVED BY:	HJ
PROJECT #:	50123704
JOB #:	50183983

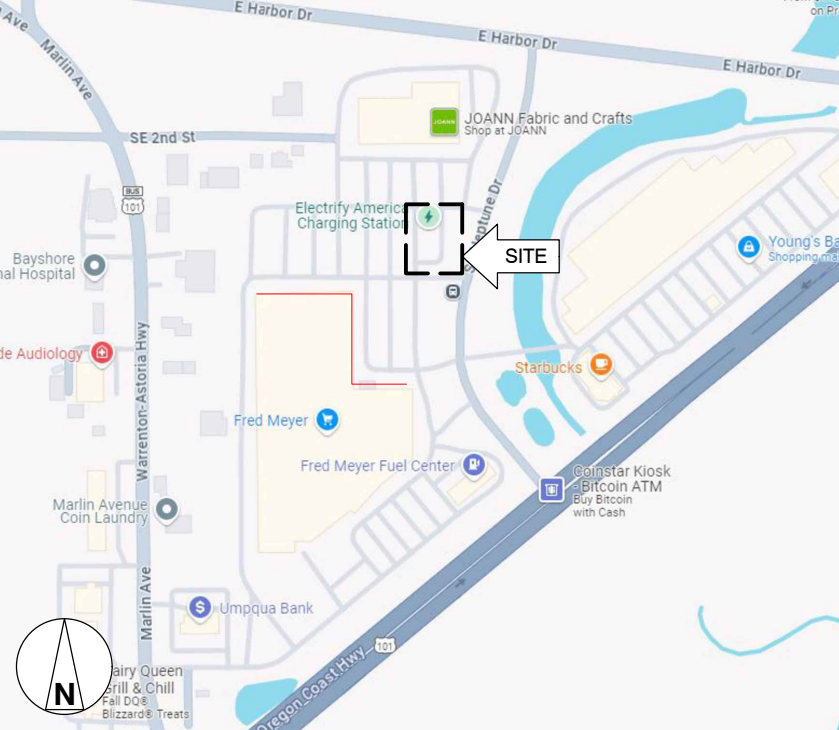
CONTRACTOR NOTE

CONTRACTOR SHALL COMPLETE INSTALL PER THE SIGNED AND SEALED SET OF DRAWINGS. ANY NECESSARY DEVIATIONS FROM THE DRAWINGS MUST BE SUBMITTED THROUGH AN RFI REQUEST PROCESS WITH ENGINEERING FOR AN APPROVAL PRIOR TO CONTRACTOR PROCEEDING WITH A DEVIATION OF THE SIGNED AND SEALED SET OF DRAWINGS.

AERIAL MAP



LOCATION MAP



SUBMITTALS

REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:
 WARRENTON, OR
 (TRT ID: 438558)

SITE ADDRESS:
 695 US-101
 WARRENTON, OR 97146

BEFORE SCALING

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE TESLA REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL BEFORE YOU DIG

OREGON
 (800) 332-2344

SHEET TITLE
 TITLE SHEET

SHEET NUMBER
 T-1

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
GENERAL CONTRACTOR(S) OR SUB-CONTRACTOR(S) – CIVIL CONTRACTOR AND/OR ELECTRICIAN CONTRACTOR
PROJECT OWNER/CONSTRUCTION MANAGER – TESLA
PROJECT HOST – LEGAL PROPERTY OWNER
ENGINEER – DEWBERRY ENGINEERS INC.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING THE GENERAL CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF PROJECT OWNER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE 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 THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE THE INSTALLATION AS INDICATED ON THE DRAWINGS FOR A FULLY FUNCTIONAL CHARGING STATION AND COMPLETE PROJECT.
- THE SUB-CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON DRAWINGS, THE GENERAL CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE PROJECT ENGINEER. ONLY WRITTEN APPROVALS SHALL BE DEEMED TO CONFIRM ANY SUCH CHANGES AS BEING APPROVED.
- 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 GENERAL 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 UNIQUE JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK.
- THE GENERAL CONTRACTOR SHALL REVIEW ROUTING OF CONDUIT, POWER AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING PLAN DRAWING. THE GENERAL CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONSTRUCTION MANAGER AND PROJECT HOST.
- INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE PROJECT HOST. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF GENERAL CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE CONSTRUCTION MANAGER IMMEDIATELY.
- APPLICABLE BUILDING CODES:
THE GENERAL CONTRACTORS WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
THE GENERAL CONTRACTOR WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION
- FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.
- 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.
- THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER GENERAL CONTRACTOR(S) AND/OR SUB-CONTRACTOR(S).
- CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
- THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND GENERAL CONTRACTOR(S) AND/OR SUB-CONTRACTOR(S) TO THE SITE AND/OR BUILDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
- THE GENERAL CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE PROJECT HOST 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- THE GENERAL CONTRACTOR AND SUB-CONTRACTORS 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.
- THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OR 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.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE PROJECT OWNER AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- GENERAL CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES AND ALL SPECIFIED CLOSE-OUT DOCUMENTATION TO THE PROJECT OWNER UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- THE GENERAL CONTRACTOR SHALL LEAVE THE WORK AREA AND SURROUNDING PREMISES IN A CLEAN CONDITION.
- 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).
- NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.

SITE WORK NOTES:

PART 1 – GENERAL

- REFERENCES:
A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION).
B. AASHTO (AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS)
C. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
D. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION).
- INSPECTION AND TESTING:
A. FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY AN INDEPENDENT TESTING LAB. THIS WORK IS TO BE COORDINATED BY THE GENERAL CONTRACTOR.
B. ALL WORK SHALL BE INSPECTED AND VERIFIED FOR CONFORMANCE AND RELEASED BY THE ENGINEER WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE GENERAL CONTRACTOR(S) RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.
- SITE MAINTENANCE AND PROTECTION:
A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE CONTRACT.
B. AVOID DAMAGE AND TAKE PROTECTIVE MEASURES TO THE SITE AND TO EXISTING FACILITIES, IMPROVEMENTS, STRUCTURES, PAVEMENTS, CURBS, AND LANDSCAPING DESIGNATED TO REMAIN. ANY DAMAGED PART SHALL BE REPAIRED AT SUB-CONTRACTOR(S) EXPENSE TO THE SATISFACTION OF THE PROJECT HOST.
C. KEEP SITE FREE OF ALL PONDING OR STANDING WATER.
D. PROVIDE EROSION CONTROL MEASURES, IF REQUIRED, SHALL BE 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. 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 SUB-CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE GENERAL 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.
G. 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 PROJECT OWNER AND/OR LOCAL UTILITIES.
H. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE PROJECT HOST OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE PROJECT HOST AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
I. PROVIDE A MINIMUM 48-HOUR NOTICE TO THE PROJECT HOST AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.
J. 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.
K. THE GENERAL CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS, RUBBISH, DEBRIS, STUMPS, STICKS, AND STONES.
L. THE GENERAL CONTRACTOR SHALL REMOVE ALL TRASH DEBRIS FROM THE SITE ON A DAILY BASIS.
M. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT TREES, VEGETATION, AND ROOT SYSTEMS DURING CONSTRUCTION.
N. CONTRACTOR TO COORDINATE POST CONSTRUCTION LANDSCAPING FINISHES WITH OWNER AND TESLA.

PART 2 – PRODUCTS

- GRANULAR BACKFILL: SHALL MEET THE FOLLOWING GRADATION:

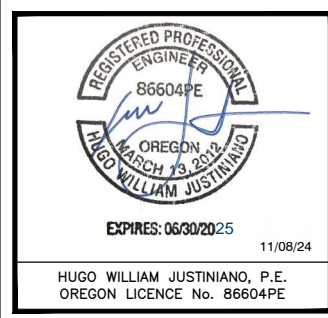
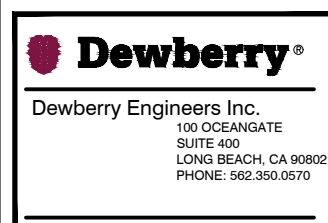
SIEVE SIZE	TOTAL PERCENT PASSING
1-1/2 INCH	100
1 INCH	75 TO 100
3/4 INCH	80 TO 100
3/8 INCH	35 TO 75
NO. 4	30 TO 60
NO. 30	7 TO 30
NO. 200	3 TO 15
- GRANULAR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-SM).
- ALL STRUCTURAL BACKFILL AND SUBBASE UNDER SLABS SHALL BE SELECT STRUCTURAL FILL MEETING THE GRADATION AND SOUNDNESS REQUIREMENTS IN ACCORDANCE WITH THE FOLLOWING:

SIEVE SIZE	TOTAL PERCENT PASSING
4 INCH	100
NO. 40	0 TO 70
NO. 200	0 TO 40
- MATERIALS SHALL BE SUBSTANTIALLY FREE OF SHALE OR OTHER SOFT, POOR DURABILITY PARTICLES. IF TESTING IS ELECTED BY PROJECT OWNER, MATERIAL WITH A MAGNESIUM SULFATE SOUNDNESS LOSS EXCEEDING 30% WILL BE REJECTED.
- COARSE AGGREGATE FOR SUBBASE COURSE SHALL CONFORM TO ASTM D2940.
- 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 ENGINEER. TYPICALLY THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.

PART 3 – EXECUTION

- 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 A RAIN EVENT, NO SEDIMENT WILL LEAVE THE WORK SITE.
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 UNDESIRABLE MATERIALS.

- EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH GRANULAR FILL.
 - REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
 - 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 ENGINEER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
 - 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.
 - DURING EXCAVATION, THE SUB-CONTRACTOR SHALL PROVIDE SHORING, SHEETING, AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF EXCAVATION.
 - WHEN DIRECTIONAL BORING IS REQUIRED, SUB-CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
- 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 SPECIFIED 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. 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.
D. BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 12-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED, FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12-INCHES IN LOOSE DEPTH AND COMPACTED.
E. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS ESTABLISHED BY THE STANDARD PROCTOR TEST, ASTM D 698.
F. WHENEVER THE DENSITY TESTING INDICATES THAT THE SUB-CONTRACTOR(S) 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 SUB-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.
G. THE SUB-CONTRACTOR SHALL OBTAIN GRAB SAMPLES OF SUFFICIENT QUANTITY TO PROVIDE TO LAB FOR PURPOSE OF DETERMINING MAX DRY DENSITY. ALL LOOSE AND/OR ORGANIC MATERIAL SHALL BE REMOVED PRIOR TO PREPARATION OF THE AREA FOR PLACEMENT OF STRUCTURAL BACKFILL. OVERALL PLAN AREA OF WORK SHALL EXTEND 3'-0" MINIMUM BEYOND THE FINAL DIMENSIONS.
H. SCARIFY THE EXISTING SOILS TO A DEPTH OF 6" AND RE-COMPACT USING A VIBRATING PLATE OR TAMPER, ANY SOFT AREAS SHALL BE OVEREXCAVATED 12" AND BACKFILLED WITH MATERIALS AND COMPACTION REQUIREMENTS SHOWN ON THE DRAWINGS.
I. PLACEMENT AND COMPACTION OF STRUCTURAL BACKFILL AND SUBBASE SHALL BE IN 12" LIFTS. EXCAVATE FOR THE FOOTING EDGE AS SHOWN ON THE DRAWINGS.
 - TRENCHING EXCAVATION:
J. 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.
K. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
L. 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 MATERIAL.
 - TRENCHING BACKFILL:
A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
B. NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF BACKFILLING.
C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
D. PLACE GRANULAR 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 AND HAUNCHES.
E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.
F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 12-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 ESTABLISHED BY THE STANDARD PROCTOR TEST, ASTM D 698.
H. PER LOCAL REGULATORY AUTHORITY AND AS APPLICABLE, ALL TRENCHES IN PUBLIC RIGHT-OF-WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
 - 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 MATCH SURROUNDING TOPOGRAPHY AND STRUCTURES.
B. UTILIZE GRANULAR FILL 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 OR BETTER CONDITION.
D. AREAS OF THE PROJECT HOST'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR PARKING/DRIVING AREAS SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
 - ASPHALT PAVING ROAD:
A. AASHTO
B. STATE SPECIFIC ASPHALT SPECIFICATIONS FOR HIGHWAYS
C. THE SUB-CONTRACTOR IS RESPONSIBLE FOR RE-STRIPING AND APPLYING SEALCOATING, UNLESS OTHERWISE SPECIFIED.



DRAWN BY:	GFS
CHECKED BY:	SES
APPROVED BY:	HJ
PROJECT #:	50123704
JOB #:	50183983

SUBMITTALS		
REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:
WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:
695 US-101
WARRENTON, OR 97146

SHEET TITLE
GENERAL NOTES I

SHEET NUMBER
GN-1

ELECTRICAL NOTES:

- THE GENERAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS. ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, SUB-CONTRACTOR SHALL NOTIFY THE PROJECT HOST AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE PROJECT HOST HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
- THE GENERAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE SUB-CONTRACTOR, PRIOR TO THE SUBMITTAL OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE THE SUBCONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
- 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:
 - UL – UNDERWRITERS LABORATORIES
 - NEC – NATIONAL ELECTRICAL CODE
 - NEMA – NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
 - OSHA – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 - SBC – STANDARD BUILDING CODE
 - NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
- DO NOT SCALE ELECTRICAL DRAWINGS, REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH ENGINEER ANY SIZES AND LOCATIONS WHEN NEEDED.
- EXISTING SERVICES: THE GENERAL CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE PROJECT HOST.
- THE GENERAL CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS AND TESTING. THE GENERAL CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING EQUIPMENT.
- THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL, UNLESS OTHERWISE SPECIFIED BY CONSTRUCTION MANAGER OR BY PROJECT DEVELOPER.
- THE GENERAL 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 PROJECT HOST'S CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
- CONDUCTORS: THE CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER OR ALUMINUM WITH TYPE (THWN-2) INSULATION, 600 VOLT, COLOR CODED UNLESS SPECIFIED DIFFERENTLY ON DRAWINGS.
- ALL (THWN-2) WIRING INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- 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.
- 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. SUB-CONTRACTOR IS TO PROVIDE ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE DIRECTED.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL SUB-CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION AND APPROVAL BY THE CONSTRUCTION MANGER.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.
- 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.
- ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
- 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.
- GENERAL 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.
- ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE CONTRACTOR(S) RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE CONSTRUCTION MANAGER UPON FINAL ACCEPTANCE.
- THE SUBCONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES.
- DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
- 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.
- ALL EXTERIOR AND INTERIOR ABOVE GROUND CONDUIT SHALL BE RIGID GALVANIZED STEEL UNLESS SPECIFIED OTHERWISE. RACEWAYS: ALL CONDUITS SHALL BE SCHEDULE 40 EMT MEETING OR EXCEEDING NEMA TC2 – 1990 UNLESS SPECIFIED OTHERWISE. THE SUB-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. EMT 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".

- SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
- CONNECTORS FOR POWER CONDUCTORS: SUB-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.
- THE SUB-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".
- WHEN DIRECTIONAL BORING IS REQUIRED, SUB-CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND CONDUITS.
- ALL BOLTS SHALL BE STAINLESS STEEL.
- ALL MATERIALS AND EQUIPMENT SUPPLIED AND INSTALLED BY THE SUBCONTRACTOR SHOULD BE NEW AND UNUSED.
- 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 MILLISECOND. DURING THE NORMAL CHARGING CYCLE, IF ANY FAULT OR IRREGULARITY IS DETECTED, THE CHARGING WILL AGAIN STOP WITHIN MILLISECOND 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.

REINFORCED CONCRETE NOTES:

- DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING APPLICABLE CODES: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"; ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
- DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOB SITE. MIX DESIGN SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACING CONCRETE.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS (UNLESS OTHERWISE NOTED). ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
- MAXIMUM AGGREGATE SIZE SHALL BE 3/4".
- THE FOLLOWING MATERIALS SHALL BE USED:

PORTLAND CEMENT:	ASTM C 150, TYPE I
REINFORCEMENT:	ASTM A 615, GRADE 60
NORMAL WEIGHT AGGREGATE:	ASTM C 33
WATER:	DRINKABLE
ADMIXTURES:	NON-CHLORIDE CONTAINING
- REINFORCING DETAILS SHALL BE IN ACCORDANCE WITH "MNL-66(20): ACI DETAILING MANUAL" AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI-318-08.
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B"; ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH:	3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:	#6 AND LARGER 2 IN. #5 AND SMALLER & WWF 1-1/2 IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:	SLAB AND WALL 3/4 IN. BEAMS AND COLUMNS 1-1/2 IN.
- A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE ANCHOR, SHALL BE PER MANUFACTURERS WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE.
- CURING COMPOUNDS SHALL CONFORM TO ASTM C-309.
- ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN ACI-301.
- DO NOT WELD OR TACKWELD REINFORCING STEEL.
- ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
- LOCATE ADDITIONAL EXPANSION JOINTS REQUIRED TO FACILITATE CONSTRUCTION AS ACCEPTABLE TO ENGINEER. PLACE REINFORCEMENT CONTINUOUSLY THROUGH JOINT.
- REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
- PLACE CONCRETE IN A UNIFORM MANNER TO PREVENT THE FORMATION OF COLD JOINTS AND OTHER PLANES OF WEAKNESS. VIBRATE THE CONCRETE TO FULLY EMBED REINFORCING. DO NOT USE VIBRATORS TO TRANSPORT CONCRETE THROUGH CHUTES OR FORMWORK.
- DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
- DO NOT ALLOW CONCRETE SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 14 DAYS AFTER PLACEMENT.
- MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE BETWEEN 50 DEGREES AND 90 DEGREES FAHRENHEIT. FOR COLD-WEATHER AND HOT-WEATHER CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS MINIMUM.
- UNLESS INDICATED OTHERWISE ON THE DRAWINGS, REINFORCEMENT SPLICES SHALL MEET CLASS B, TENSION LAP REQUIREMENTS IN ACCORDANCE WITH ALL PROVISIONS OF ACI 318 LATEST EDITION, UNLESS NOTED OTHERWISE.
- PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING.

TRAFFIC MANAGEMENT NOTES:

- ALL TEMPORARY CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
- ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- CONTRACTORS SHALL NOTIFY THE OWNER AND ALL TENANTS OF THIS PROPERTY AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
- MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- EXISTING PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES THROUGH A COMBINATION OF PEDESTRIAN DETOURS OR PROTECTED SAFE ROUTES. ALL PEDESTRIAN ROUTES SHALL MEET APPLICABLE ACCESSIBILITY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC THROUGHOUT CONSTRUCTION AT THIS LOCATION. THE CONTRACTOR SHALL INSTALL TEMPORARY TRAFFIC SIGNS, DRUMS, CONES, OR OTHER TRAFFIC CONTROL DEVICES TO DIRECT VEHICLES AND PEDESTRIANS AROUND THE WORK ZONE.

HORIZONTAL DIRECT DRILLING NOTES:

- THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING AND INSTALLING UNDERGROUND UTILITIES USING THE DIRECTIONAL BORING (HORIZONTAL DIRECTIONAL DRILLING, HDD) METHOD OF INSTALLATION, ALSO COMMONLY REFERRED TO AS GUIDED HORIZONTAL BORING. THIS WORK SHALL INCLUDE ALL SERVICES, EQUIPMENT, MATERIALS, AND LABOR FOR THE COMPLETE AND PROPER INSTALLATION, TESTING, RESTORATION OF UNDERGROUND UTILITIES AND ENVIRONMENTAL PROTECTION AND RESTORATION.
- WORK PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A GENERAL WORK PLAN OUTLINING THE PROCEDURE AND SCHEDULE TO BE USED TO EXECUTE THE PROJECT. PLAN SHOULD DOCUMENT THE THOUGHTFUL PLANNING REQUIRED TO SUCCESSFULLY COMPLETE THE PROJECT.
- ENVIRONMENTAL PROTECTION: CONTRACTOR SHALL PLACE SILT FENCE BETWEEN ALL BORING OPERATIONS AND ANY DRAINAGE, WETLAND, WATERWAY OR OTHER AREA DESIGNATED FOR SUCH PROTECTION BY CONTRACT DOCUMENTS, STATE, FEDERAL AND LOCAL REGULATIONS. ADDITIONAL ENVIRONMENTAL PROTECTION NECESSARY TO CONTAIN ANY HYDRAULIC OR BORING FLUID SPILLS SHALL BE PUT IN PLACE, INCLUDING BERMS, LINERS, TURBIDITY CURTAINS AND OTHER MEASURES. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE ENVIRONMENTAL REGULATIONS. FUEL OR OIL MAY NOT BE STORED IN BULK CONTAINERS WITHIN 200' OF ANY WATER-BODY OR WET-LAND.
- UTILITY LOCATES: CONTRACTOR SHALL NOTIFY ALL COMPANIES WITH UNDERGROUND UTILITIES IN THE WORK AREA VIA THE STATE OR LOCAL "ONE-CALL" TO OBTAIN UTILITY LOCATES. ONCE THE UTILITIES HAVE BEEN LOCATED CONTRACTOR SHALL PHYSICALLY IDENTIFY THE EXACT LOCATION OF THE UTILITIES BY VACUUM OR HAND EXCAVATION, WHEN POSSIBLE, IN ORDER TO DETERMINE THE ACTUAL LOCATION AND PATH OF ANY UNDERGROUND UTILITIES WHICH MIGHT BE WITHIN 20 FEET OF THE BORE PATH. CONTRACTOR SHALL NOT COMMENCE BORING OPERATIONS UNTIL THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE WORK AREA HAVE BEEN VERIFIED.
- SAFETY: CONTRACTOR SHALL ADHERE TO ALL APPLICABLE STATE, FEDERAL AND LOCAL SAFETY REGULATIONS AND ALL OPERATIONS SHALL BE CONDUCTED IN A SAFE MANNER. SAFETY MEETINGS SHALL BE CONDUCTED AT LEAST WEEKLY WITH A WRITTEN RECORD OF ATTENDANCE AND TOPIC SUBMITTED TO ENGINEER.
- SITE RESTORATION: FOLLOWING BORING OPERATIONS, CONTRACTOR WILL DE-MOBILIZE EQUIPMENT AND RESTORE THE WORK-SITE TO ORIGINAL CONDITION. ALL EXCAVATIONS WILL BE BACKFILLED AND COMPACTED TO 95% OF ORIGINAL DENSITY. LANDSCAPING WILL BE RESTORED TO ORIGINAL.
- RECORD KEEPING: CONTRACTOR SHALL MAINTAIN A DAILY PROJECT LOG OF BORING OPERATIONS AND A GUIDANCE SYSTEM LOG WITH A COPY GIVEN TO ENGINEER AT COMPLETION OF PROJECT. AS-BUILT DRAWINGS SHALL BE CERTIFIED AS TO ACCURACY BY CONTRACTOR.



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EXPIRES: 06/30/2025 11/08/24

HUGO WILLIAM JUSTINIANO, P.E.
OREGON LICENCE No. 86604PE

DRAWN BY: GFS

CHECKED BY: SES

APPROVED BY: HJ

PROJECT #: 50123704

JOB #: 50183983

SUBMITTALS

REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:

WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:

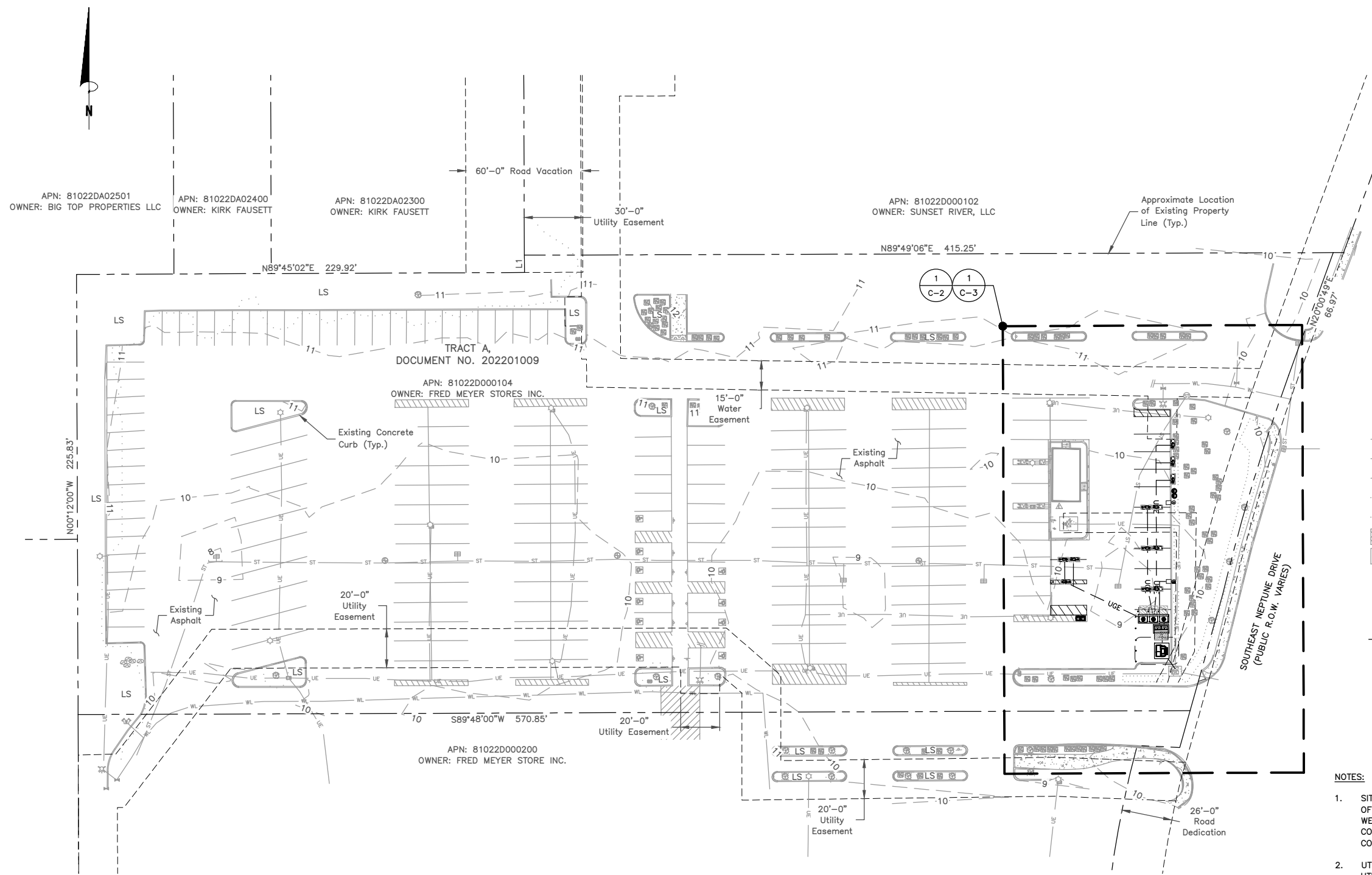
695 US-101
WARRENTON, OR 97146

SHEET TITLE

GENERAL NOTES II

SHEET NUMBER

GN-2



SITE PLAN
 SCALE: 1"=60' FOR 11"x17"
 1"=30' FOR 22"x34"

0' 30' 60'

LEGEND

- SITE BENCHMARK
- CLEANOUT
- STORM MANHOLE
- STORM INLET (RECTANGLE)
- FIRE HYDRANT
- WATER VALVE
- IRRIGATION CONTROL VALVE
- FIRE DEPARTMENT CONNECTION
- LIGHT POLE
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- ELECTRIC BOX
- ELECTRIC VAULT
- ELECTRIC VEHICLE CHARGING STATION
- UNKNOWN TERMINUS
- HANDICAP PARKING
- DECIDUOUS TREE
- SHRUB
- BOULDER
- LANDSCAPED AREA
- BOLLARD
- SIGN
- STORM LINE (UNDERGROUND)
- WATER LINE (UNDERGROUND)
- ELECTRIC LINE (UNDERGROUND)
- SHRUB LINE
- TREE DRIP EDGE
- TRUNCATED DOMES
- CONCRETE AREA
- ENCUMBRANCE NUMBER
- AREA OF CONCERN
- PROPERTY LINE

NOTES:

1. SITE PLAN BASED ON ENGINEERING DESIGN SURVEY: A PORTION OF THE SE1/4 OF SECTION 22, TOWNSHIP 8 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, CITY OF WARRENTON, CLATSOP COUNTY, STATE OF OREGON BY LAYTON SURVEYS LLC SITE COORDINATED BY CLARK DATED 09/19/2024.
2. UTILITY CONNECTION TO BE MADE UNDER PACIFIC CORP UTILITIES STANDARDS, CONFIRM FINAL DESIGN PRIOR TO CONSTRUCTION, PACIFIC CORP WORK ORDER TBD.
3. EXISTING UNDERGROUND UTILITIES LOCATED WITHIN AREA OF PROPOSED TRENCH & EQUIPMENT SITE AREA. HAND DIG AND RELOCATE AS REQUIRED.
4. EXISTING CUSTOMER OWNED ELECTRICAL CONDUIT TO BE RELOCATED AS NEEDED DURING CONSTRUCTION.
5. EXISTING STORM DRAIN INLETS TO BE COVERED WITH SILT BAG DURING CONSTRUCTION.
6. CONTRACTOR TO SEED & STRAW ALL DISTURBED AREA AFTER CONSTRUCTION HAS BEEN COMPLETED.
7. CONTRACTOR TO VERIFY DEPTH OF STORM LINE PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF CONFLICT ARISES WITH DEPTH OF CHARGE POST FOUNDATIONS & CONDUITS.
8. CONTRACTOR TO CONFIRM ADA/ACCESSIBLE STRIPING & ASSOCIATED STALLS HAVE <2% GRADE IN ALL DIRECTIONS.
9. CONTRACTOR TO COORDINATE PRIMARY CONDUIT ROUTE AND UTILITY EQUIPMENT LOCATIONS WITH UTILITY DESIGN.



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HUGO WILLIAM JUSTINIANO, P.E.
 OREGON LICENCE No. 86604PE

DRAWN BY:	GFS
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APPROVED BY:	HJ
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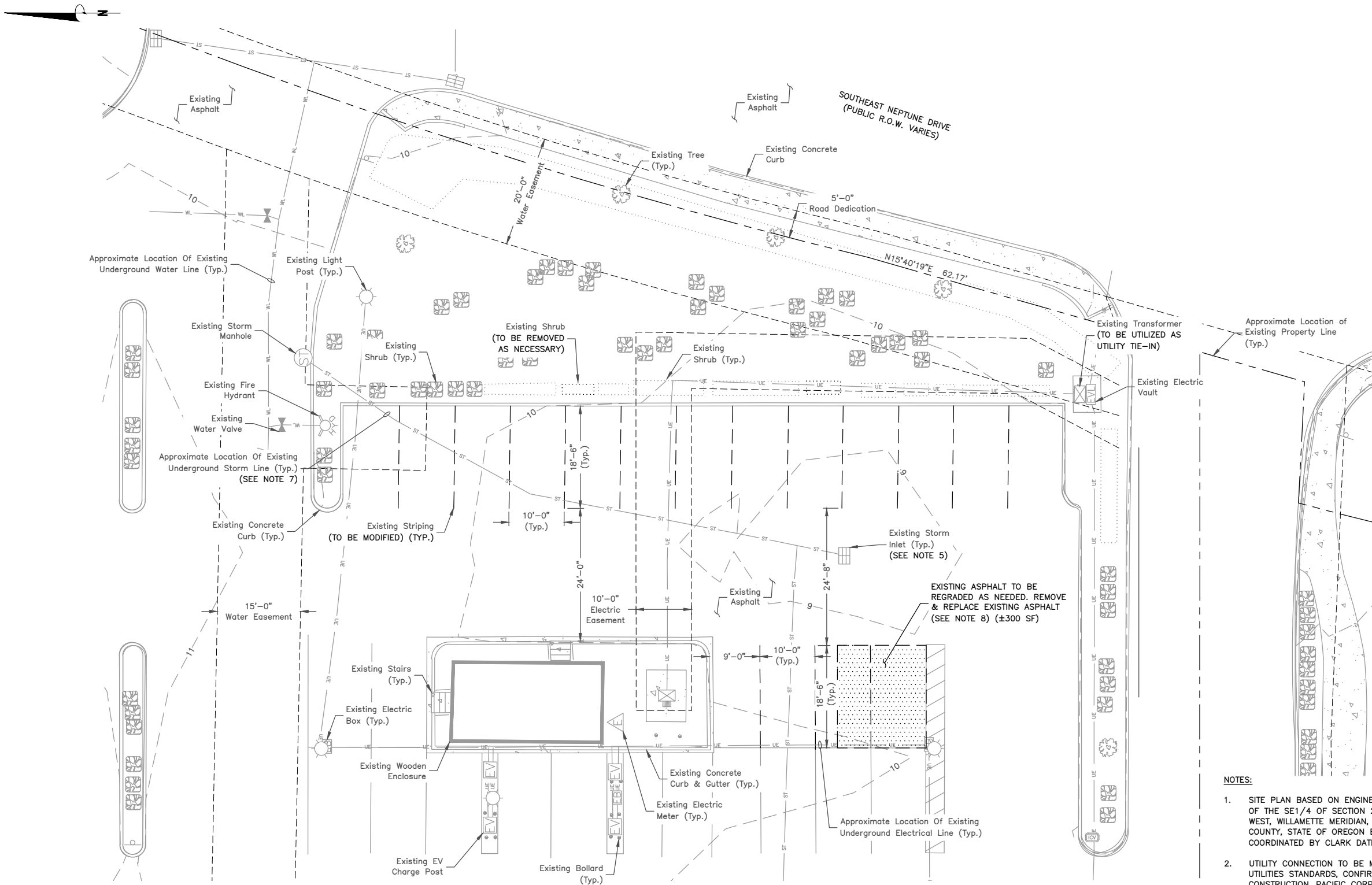
SUBMITTALS		
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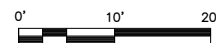
SHEET TITLE
SITE PLAN

SHEET NUMBER
C-1



EXISTING CONDITIONS PLAN 1

SCALE: 1"=20' FOR 11"x17"
1"=10' FOR 22"x34"



NOTES:

- SITE PLAN BASED ON ENGINEERING DESIGN SURVEY: A PORTION OF THE SE1/4 OF SECTION 22, TOWNSHIP 8 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, CITY OF WARRENTON, CLATSOP COUNTY, STATE OF OREGON BY LAYTON SURVEYS LLC SITE COORDINATED BY CLARK DATED 09/19/2024.
- UTILITY CONNECTION TO BE MADE UNDER PACIFIC CORP UTILITIES STANDARDS, CONFIRM FINAL DESIGN PRIOR TO CONSTRUCTION, PACIFIC CORP WORK ORDER TBD.
- EXISTING UNDERGROUND UTILITIES LOCATED WITHIN AREA OF PROPOSED TRENCH & EQUIPMENT SITE AREA. HAND DIG AND RELOCATE AS REQUIRED.
- EXISTING CUSTOMER OWNED ELECTRICAL CONDUIT TO BE RELOCATED AS NEEDED DURING CONSTRUCTION.
- EXISTING STORM DRAIN INLETS TO BE COVERED WITH SILT BAG DURING CONSTRUCTION.
- CONTRACTOR TO SEED & STRAW ALL DISTURBED AREA AFTER CONSTRUCTION HAS BEEN COMPLETED.
- CONTRACTOR TO VERIFY DEPTH OF STORM LINE PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF CONFLICT ARISES WITH DEPTH OF CHARGE POST FOUNDATIONS & CONDUITS.
- CONTRACTOR TO CONFIRM ADA/ACCESSIBLE STRIPING & ASSOCIATED STALLS HAVE <2% GRADE IN ALL DIRECTIONS.
- CONTRACTOR TO COORDINATE PRIMARY CONDUIT ROUTE AND UTILITY EQUIPMENT LOCATIONS WITH UTILITY DESIGN.



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



Dewberry Engineers Inc.
100 OCEANGATE
SUITE 400
LONG BEACH, CA 90802
PHONE: 562.350.0570



HUGO WILLIAM JUSTINIANO, P.E.
OREGON LICENCE No. 86604PE

DRAWN BY: GFS

CHECKED BY: SES

APPROVED BY: HJ

PROJECT #: 50123704

JOB #: 50183983

SUBMITTALS

REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:

WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:

695 US-101
WARRENTON, OR 97146

SHEET TITLE

EXISTING CONDITIONS
PLAN

SHEET NUMBER

C-2



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PALO ALTO, CA 94304
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SITE NAME:

WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:

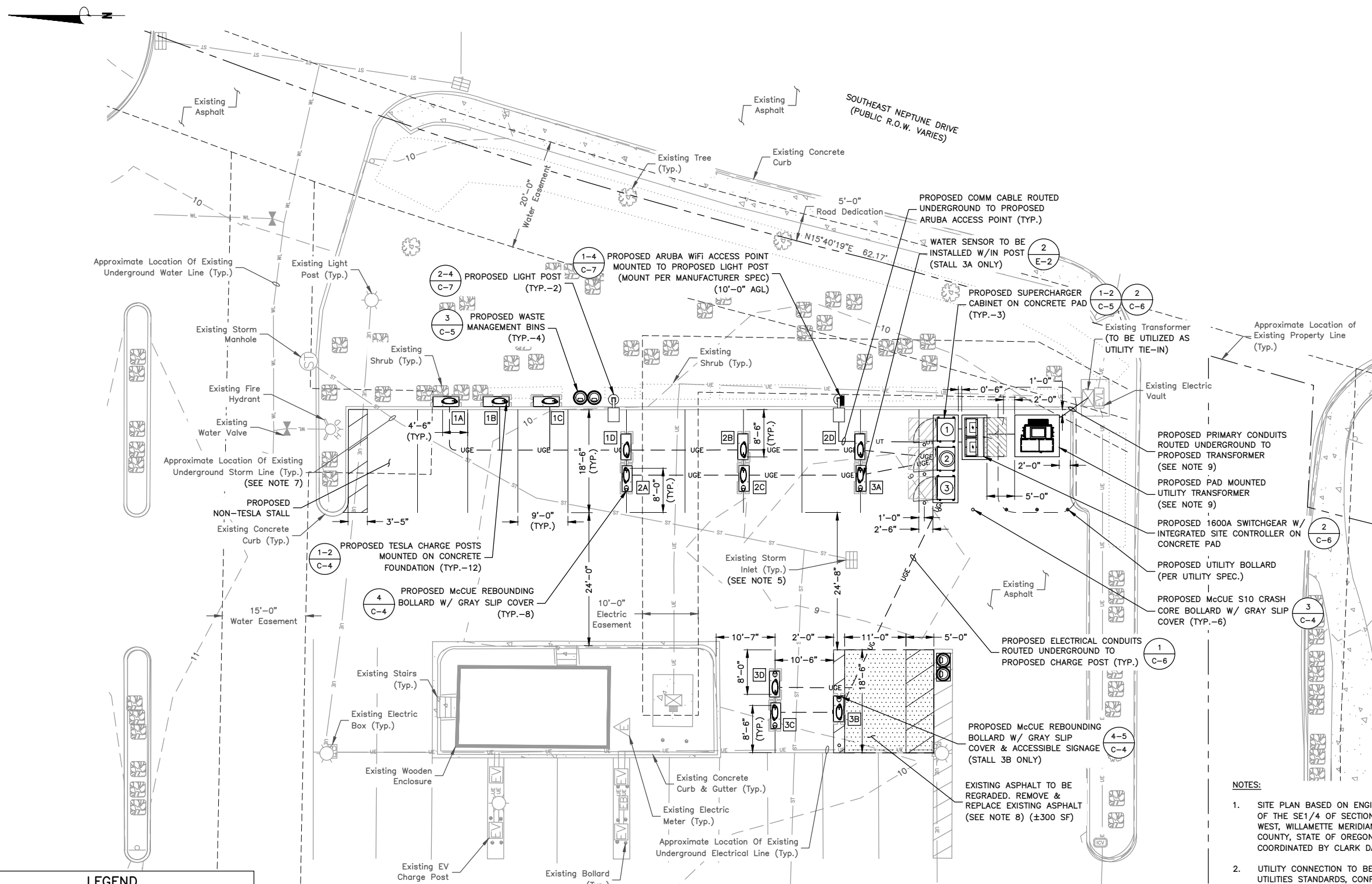
695 US-101
WARRENTON, OR 97146

SHEET TITLE

EQUIPMENT/PARKING PLAN

SHEET NUMBER

C-3



LEGEND

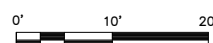
⊕	TESLA 'STAR POINT' SUPERCHARGER
⊕	TESLA 'STAR CENTER' SUPERCHARGER
1A	TESLA CHARGE POST
T	V4 CABLE TERMINUS

PARKING STALL SCHEDULE

DESCRIPTION	QUANTITY
EXISTING STALLS (TO BE MODIFIED)	17
PROPOSED TESLA STALLS	12
PROPOSED NON- TESLA STALLS	1
NET PARKING STALL CHANGE	-4

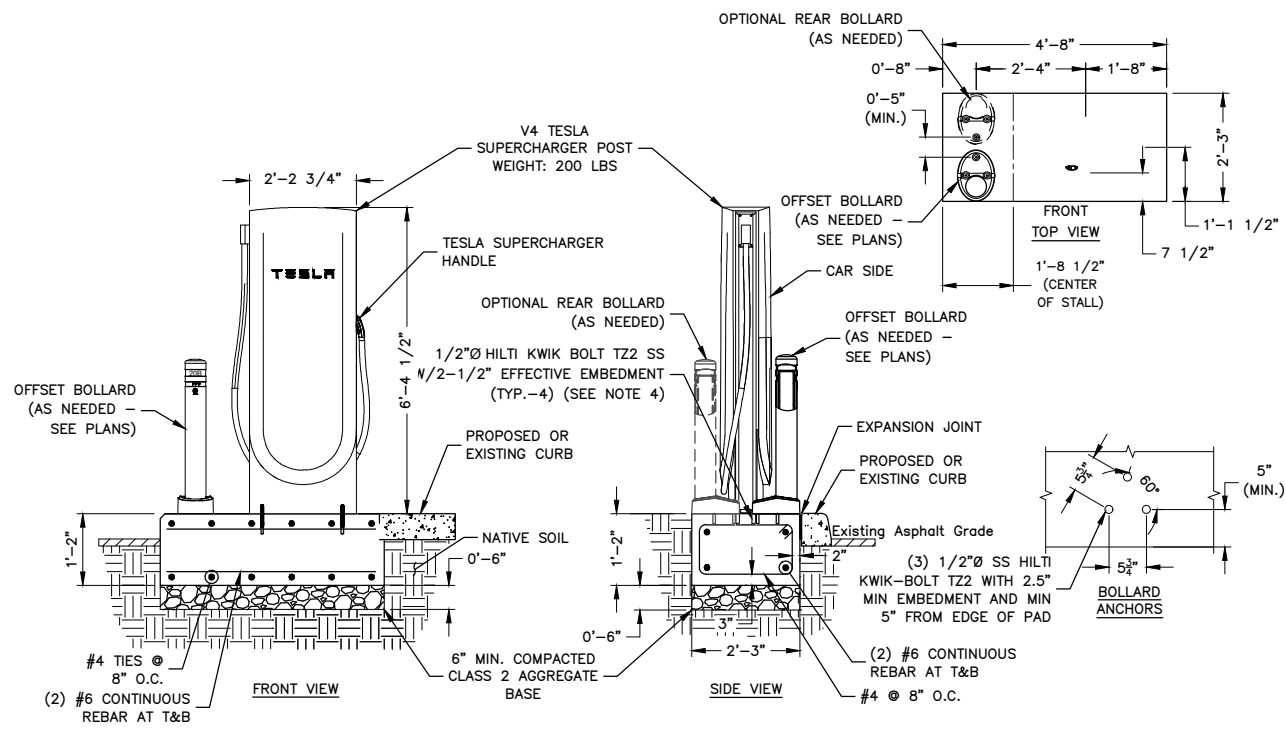
EQUIPMENT/PARKING PLAN

SCALE: 1"=20' FOR 11"x17"
1"=10' FOR 22"x34"



NOTES:

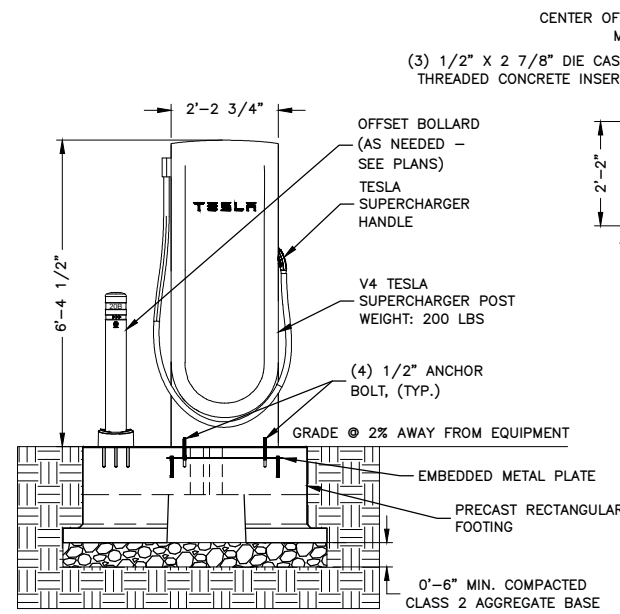
- SITE PLAN BASED ON ENGINEERING DESIGN SURVEY: A PORTION OF THE SE1/4 OF SECTION 22, TOWNSHIP 8 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, CITY OF WARRENTON, CLATSOP COUNTY, STATE OF OREGON BY LAYTON SURVEYS LLC SITE COORDINATED BY CLARK DATED 09/19/2024.
- UTILITY CONNECTION TO BE MADE UNDER PACIFIC CORP UTILITIES STANDARDS, CONFIRM FINAL DESIGN PRIOR TO CONSTRUCTION, PACIFIC CORP WORK ORDER TBD.
- EXISTING UNDERGROUND UTILITIES LOCATED WITHIN AREA OF PROPOSED TRENCH & EQUIPMENT SITE AREA. HAND DIG AND RELOCATE AS REQUIRED.
- EXISTING CUSTOMER OWNED ELECTRICAL CONDUIT TO BE RELOCATED AS NEEDED DURING CONSTRUCTION.
- EXISTING STORM DRAIN INLETS TO BE COVERED WITH SILT BAG DURING CONSTRUCTION.
- CONTRACTOR TO SEED & STRAW ALL DISTURBED AREA AFTER CONSTRUCTION HAS BEEN COMPLETED.
- CONTRACTOR TO VERIFY DEPTH OF STORM LINE PRIOR TO CONSTRUCTION. CONTACT ENGINEER IF CONFLICT ARISES WITH DEPTH OF CHARGE POST FOUNDATIONS & CONDUITS.
- CONTRACTOR TO CONFIRM ADA/ACCESSIBLE STRIPING & ASSOCIATED STALLS HAVE <2% GRADE IN ALL DIRECTIONS.
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V4 SUPERCHARGER POST CAST-IN-PLACE FOUNDATION

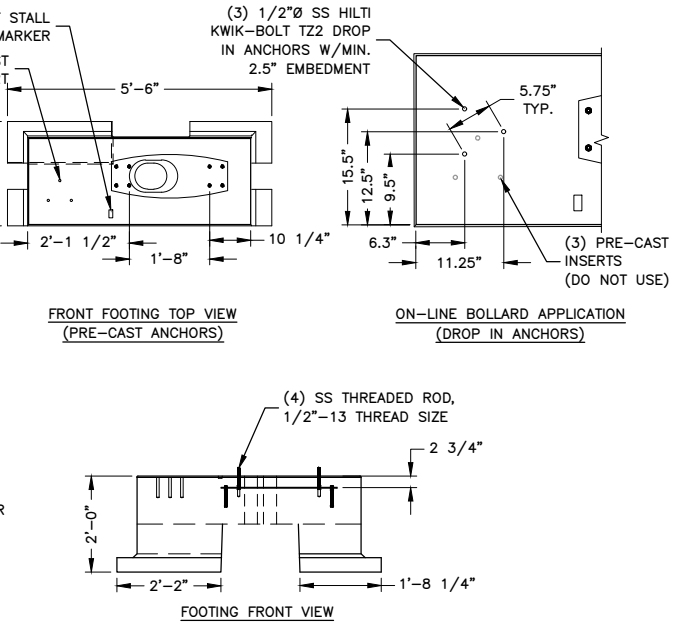
SCALE: N.T.S.

1



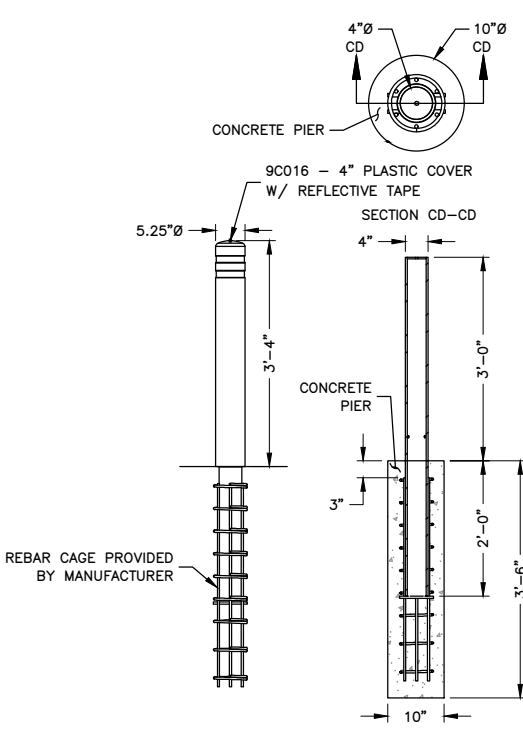
TESLA SUPERCHARGER POST DETAIL

SCALE: N.T.S.



NOTES:

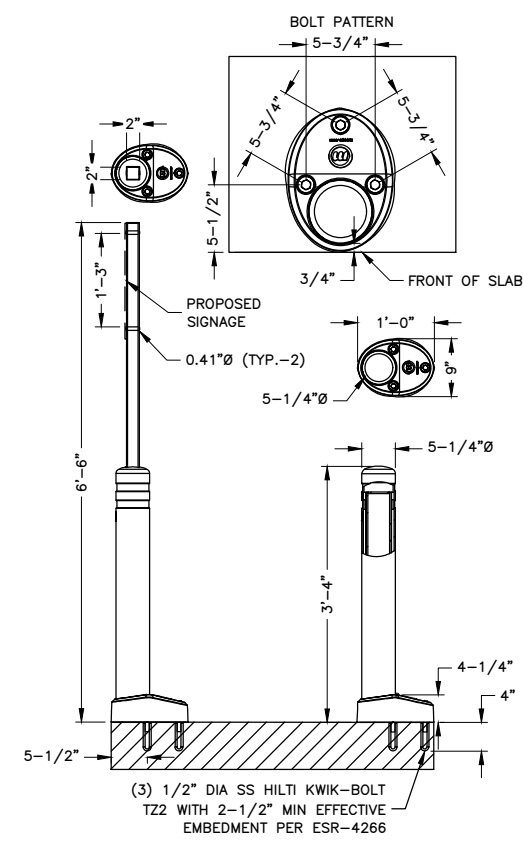
1. PRECAST FOOTING REINFORCED WITH STRUCTURAL FIBER
VOLUME: 0.483 CU YDS
WEIGHT: 1,990 LBS
SEE CUTSHEETS FOR ADDITIONAL INFORMATION
2. S501.1333 SUPERCHARGER POST CENTER ON CENTER
PRECAST FOOTING DETAIL RA
WIND RATING (WITHOUT SIGN) = 134 MPH
WIND RATING (WITH SIGN) = 120 MPH



McCUE CRASH CORE BOLLARD DETAIL

SCALE: N.T.S.

3



McCUE REBOUNTING BOLLARD & SIGN

SCALE: N.T.S.

4



ACCESSIBLE SIGNAGE DETAIL

SCALE: N.T.S.

5



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HUGO WILLIAM JUSTINIANO, P.E.
OREGON LICENCE No. 86604PE

DRAWN BY:	GFS
CHECKED BY:	SES
APPROVED BY:	HJ
PROJECT #:	50123704
JOB #:	50183983

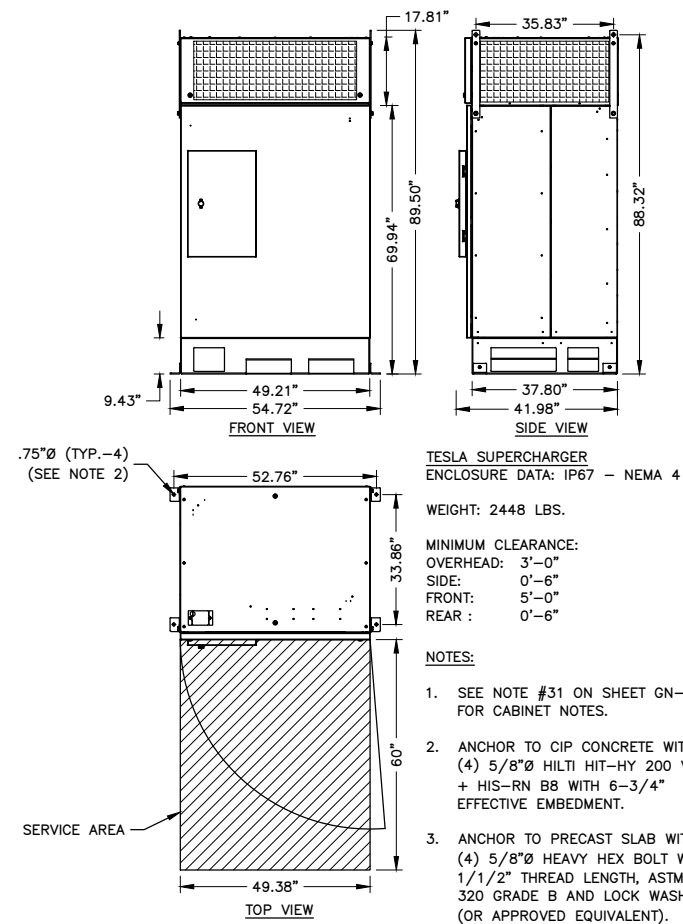
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REV.	DATE	DESCRIPTION
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A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:
WARRENTON, OR
(TRT ID: 438558)

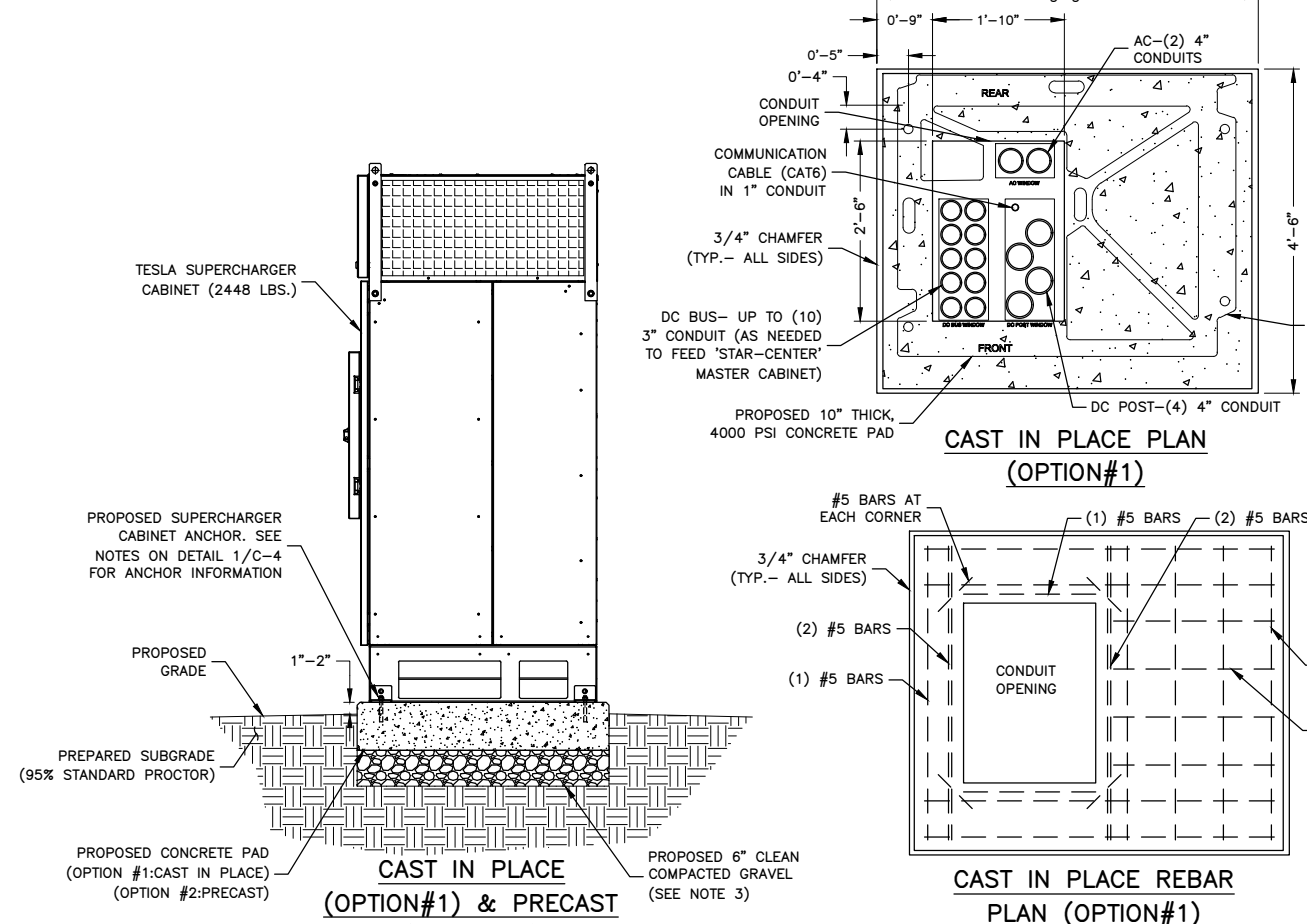
SITE ADDRESS:
695 US-101
WARRENTON, OR 97146

SHEET TITLE
CONSTRUCTION
DETAILS I

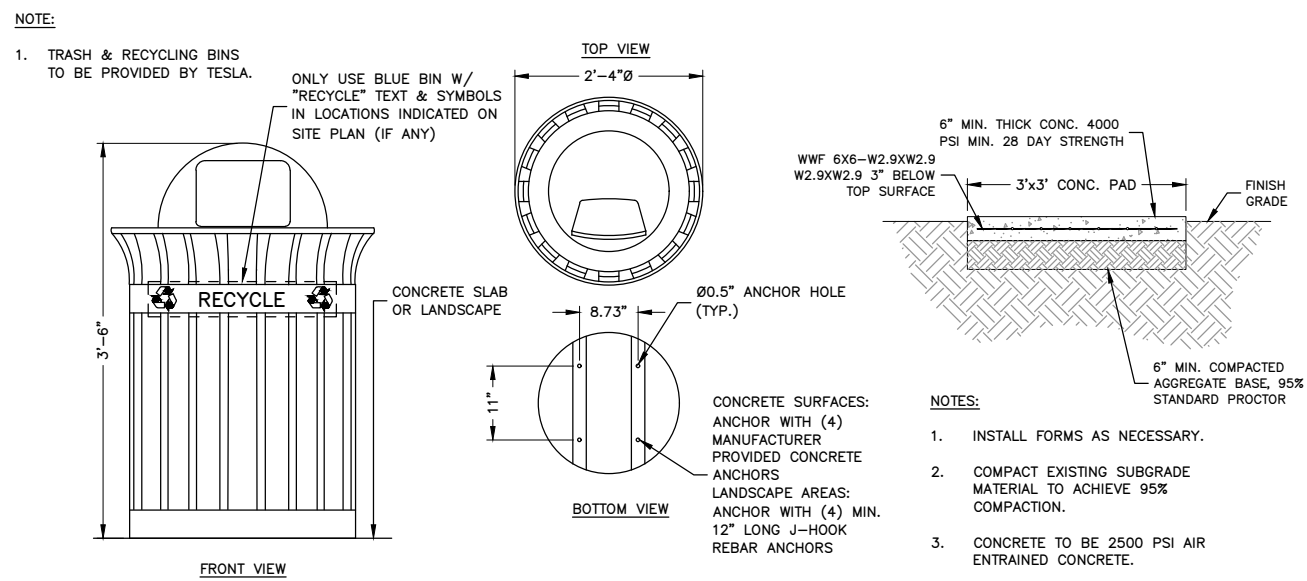
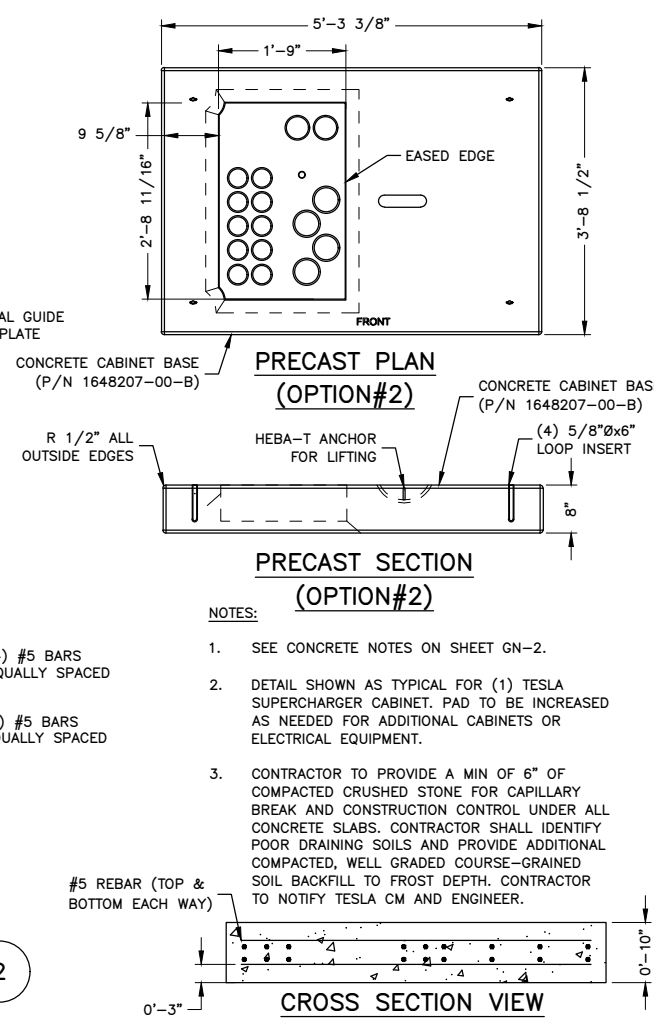
SHEET NUMBER
C-4



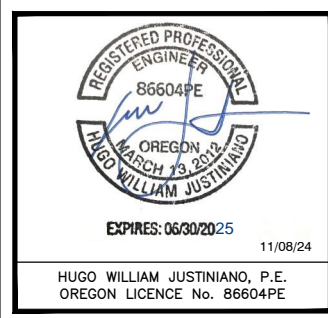
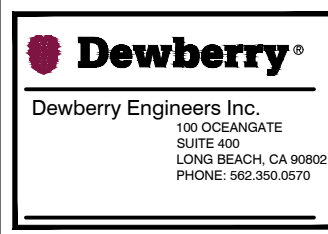
TESLA SUPERCHARGER CABINET DETAIL
 SCALE: N.T.S.



TESLA CABINET FOUNDATION PLAN
 SCALE: N.T.S.



WASTE MANAGEMENT BIN & PAD DETAIL
 SCALE: N.T.S.



DRAWN BY:	GFS
CHECKED BY:	SES
APPROVED BY:	HJ
PROJECT #:	50123704
JOB #:	50183983

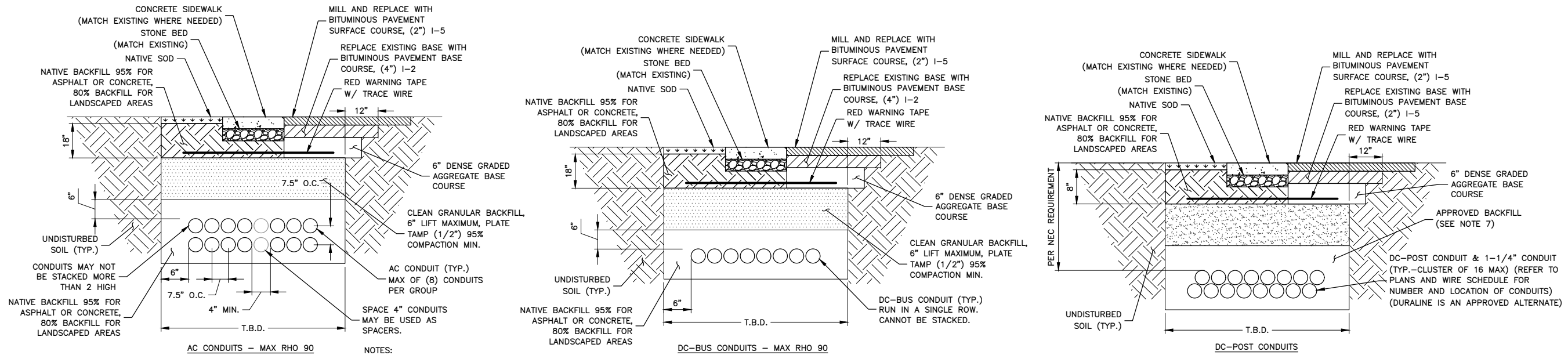
SUBMITTALS		
REV.	DATE	DESCRIPTION
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WARRENTON, OR
 (TRT ID: 438558)

SITE ADDRESS:
 695 US-101
 WARRENTON, OR 97146

SHEET TITLE
CONSTRUCTION DETAILS II

SHEET NUMBER
C-5

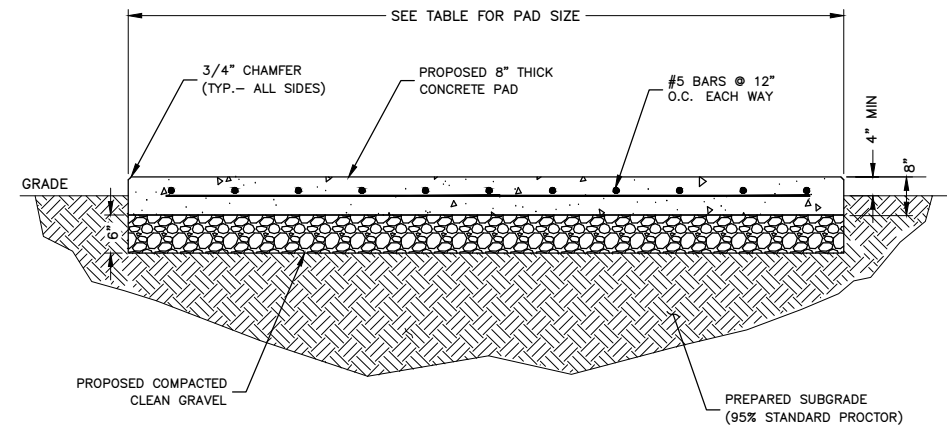


NOTES:

- IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
- IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
- CONCRETE ENCASE CONDUIT WHEN TRENCHING UNDER SITE ACCESS ROAD.
- ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRE CONSTRUCTION CONDITIONS OR BETTER.
- MAINTAIN 12" SEPARATION MIN. BETWEEN AC OR DC CONDUCTORS AND COMMUNICATION CABLES.
- CONFIRM ALL DEPTHS W/UTILITY & NEC PRIOR TO CONSTRUCTION.
- FOR TRENCHES WITH MIXED CIRCUIT TYPES, APPLY THE CONDUIT SPACING FOR THE CIRCUIT TYPE WITH THE LARGER SPACING REQUIREMENT.
- APPROVED BACKFILL IS REQUIRED TO MEET THE DESIGNED RHO VALUES. USE THE SPECIFIED BACKFILL LISTED BELOW OR TEST NATIVE SOIL CONDITIONS TO CONFIRM MAX DEFINED RHO VALUES. MINIMUM 2" OF APPROVED BACKFILL COVERAGE AROUND CONDUITS IS REQUIRED.
- RHO 90 BACKFILL - LOW STRENGTH FLUIDIZED THERMAL (SLURRY) BACKFILL WITH MIN 28 DAY COMPRESSIVE STRENGTH OF 150 PSI MUST BE USED TO ACHIEVE MAX RHO 90.

TYP. BURIED CONDUIT TRENCH DETAILS 1

SCALE: N.T.S.



CONCRETE PAD DIMENSIONS				
PAD TYPE	L	W	t (THICKNESS)	AREA (S.F.)
SWITCHGEAR**	7'-6"	5'-0"	8"	38
SUPERCHARGERS*	15'-9"	4'-6"	10"	71

NOTE:

- SEE CONCRETE NOTES ON SHEET GN-2.
- REFER TO DETAIL 2/C-5 FOR SLAB REINFORCEMENT DETAILS.
- SWITCHGEAR ANCHORS SHALL BE: (8) 1/2"Ø HILTI HIT-HY 200 V3 + HIS-N B7 W/5" EFFECTIVE EMBEDMENT.

CONCRETE PAD DETAIL 2

SCALE: N.T.S.



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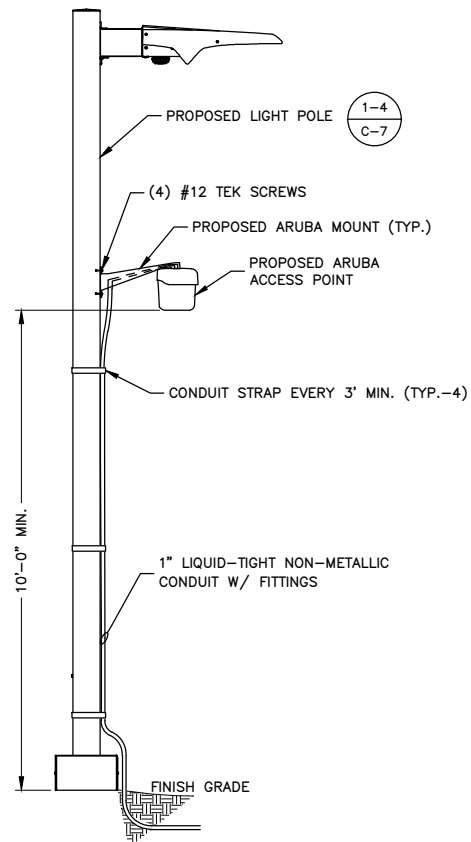
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SHEET TITLE
CONSTRUCTION
DETAILS III

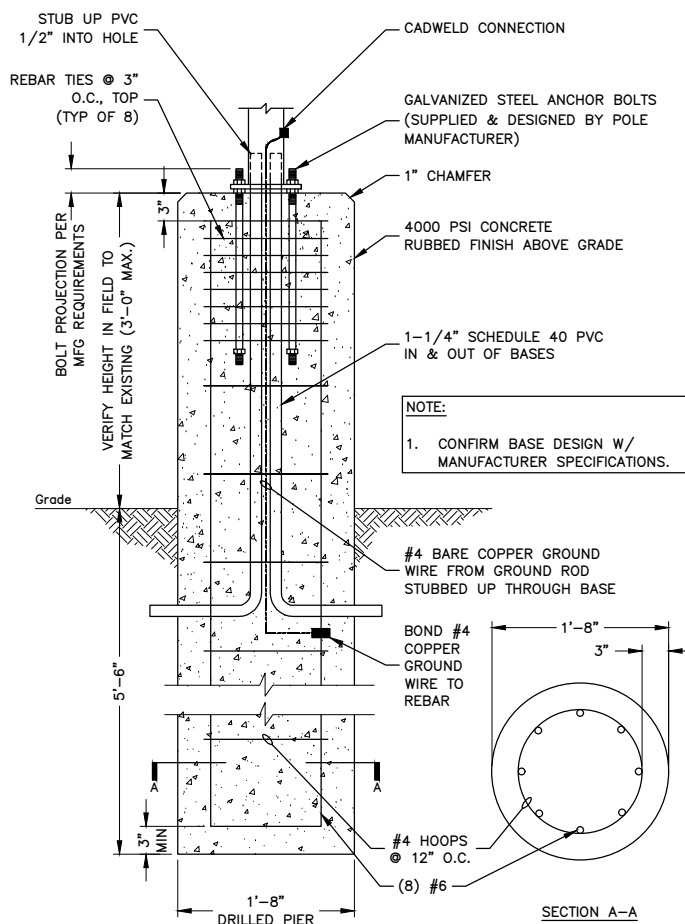
SHEET NUMBER
C-6



ARUBA ACCESS POINT POLE MOUNTING DETAIL

SCALE: N.T.S.

1



PEDESTRIAN LIGHT POLE BASE DETAIL

SCALE: N.T.S.

2

WILL WILL LIGHTING

Area & Flood

NAFCO® SLX SLIM LED LIGHTING

Catalog # _____
Project _____
Comments _____

Highlights

- Designed, engineered, and manufactured in Wisconsin, USA from premium domestic and imported components
- Performance coatings and custom color matching of RAL codes and architectural colors
- IES files, photometric reports, and lighting simulations available from factory design team
- Proprietary heat sink design with low drive current resulting in reported L90 LED life over 100,000 hours
- Toolless driver access for technology upgrades and maintenance
- Flexible mounting options with custom adapters available

Applications

- Area, site, and flood lighting
- Roadways and streets
- Parking lots, ramps, and walkways
- Car dealerships, schools, and hospitals
- Hotels and gas stations
- Retail stores and commercial buildings
- Outdoor sports facilities including tennis courts
- Amber and traffic applications

Construction & Finish

- Rugged aluminum chassis with excellent heat/impact resistance and hinged electrical access
- Architectural grade powder coat enclosure and black anodized heat sink
- High-grade stainless steel hardware for superior strength and corrosion resistance
- Driver components are fully encased in potting material for moisture and vibration resistance

Light Poles & Arms

- WILL offers one of the most comprehensive light pole, bracket, and arm catalogs in the industry
- Aluminum, steel, fiberglass, and concrete materials
- Straight, tapered, and decorative designs
- Custom fabrication, finishing, and accessories available
- Dedicated light pole application support team

Compliance & Warranty

- ETL Certification for UL STD 1598 & CSA STD C22.2 # 250.0 for wet locations Meets Buy American Act requirements
- Standard 5-year limited warranty with extended factory warranties available
- Turtle and wildlife compliance options (consult factory)
- Vandal resistant and tested to 9008 standards

Light Engine & Electrical

- Premium Tier 1 LED chips for extreme efficiency and high-quality color rendering for a broad range of applications
- Optical assembly constructed of UV stabilized polycarbonates with silicone seal
- 40°C to +45°C ambient operating temperature
- Standard AC input voltage of 120-277V 50/60 Hz up to 480V available
- Isolated 0-10V/PWM/3-mode dimmable and dim-to-off with standby power <0.3W
- Power factor of 0.90 min
- Total harmonic distortion of 20% max
- Drivers include integral input surge protection of Differential Mode RVI, Common Mode 10kV per EN 61000-4-5
- Thermally protected secondary 10kV surge suppression available (optional)
- Always-on auxiliary power: 120VAC, 250mA (optional)
- Local specifying engineer recommended for product selection and local compliance
- Licensed electrician required for installation

Control Options

- Integral passive Infrared Bluetooth® sensor for motion, photo, dimming, and daylight harvesting control
- Wireless mesh system for large-scale control of zones, dimming, schedules, and sensors
- DMX control options available from factory

WILL LIGHTING

WILL WILL LIGHTING

Area & Flood

EPA Chart

Base Model	CFM	40° Beam	45° Beam	50° Beam
WF-SLS	0.8	1.8	3.1	
WF-SLM	0.6	1.6	2.3	
WF-SLS	0.7	1.8	2.8	

Specifications & Typical Lumen Output (WHITE LED)

Base Model	Height (ft)	System Watts (W)	Single Bay	Driver Current (A)	Typical LED Requirement	20° Beam	30° Beam	40° Beam	50° Beam	60° Beam
WF-SLS-40	10	44	1	0.675	100-100W	12,000	18,000	27,000	36,000	45,000
WF-SLS-100	15	96	1	1.000	150-150W	24,000	36,000	54,000	72,000	90,000
WF-SLS-160	15	168	2	0.800	200-200W	36,000	54,000	81,000	108,000	135,000
WF-SLS-180	15	180	3	0.700	300-300W	48,000	72,000	108,000	144,000	180,000
WF-SLM-210	19	207	4	0.625	400-400W	60,000	90,000	135,000	180,000	225,000
WF-SLS-230	19	231	6	0.475	700W	84,000	126,000	189,000	252,000	315,000
WF-SLS-200	22	200	8	0.475	750-1000W	96,000	144,000	216,000	288,000	360,000

Note: Typical lumen values are based on photometric tests performed in accordance with ANSI/IES LM-79-15. Field performance may differ resulting from optical configuration, color temp and CRI, glass management, corner orientation, and application. Beam Data based on 20°C ambient operating temperature. Beam RCU ratings are calculated with fixture set to 0°.

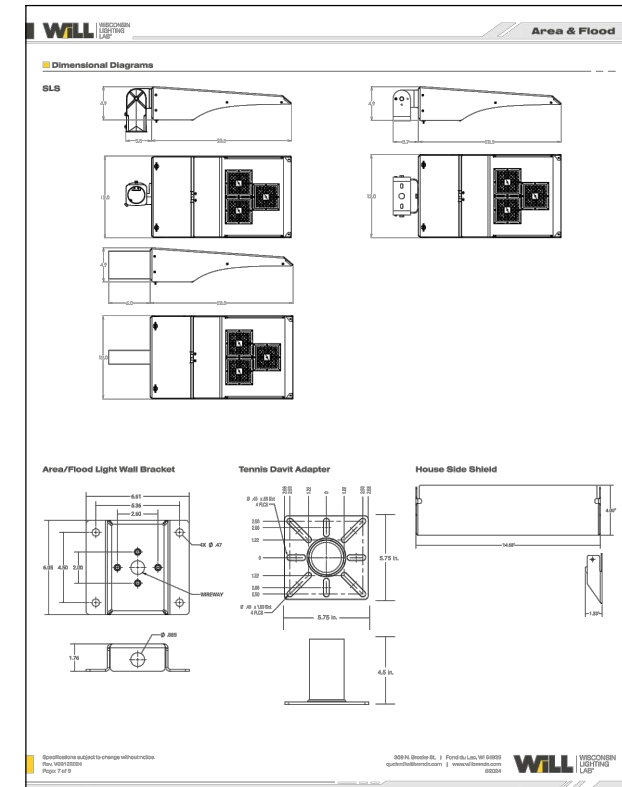
WILL LIGHTING

ORDER INFORMATION:
PRODUCT ID: NF-SLS-100-40-HV-3W-RAL-MPS

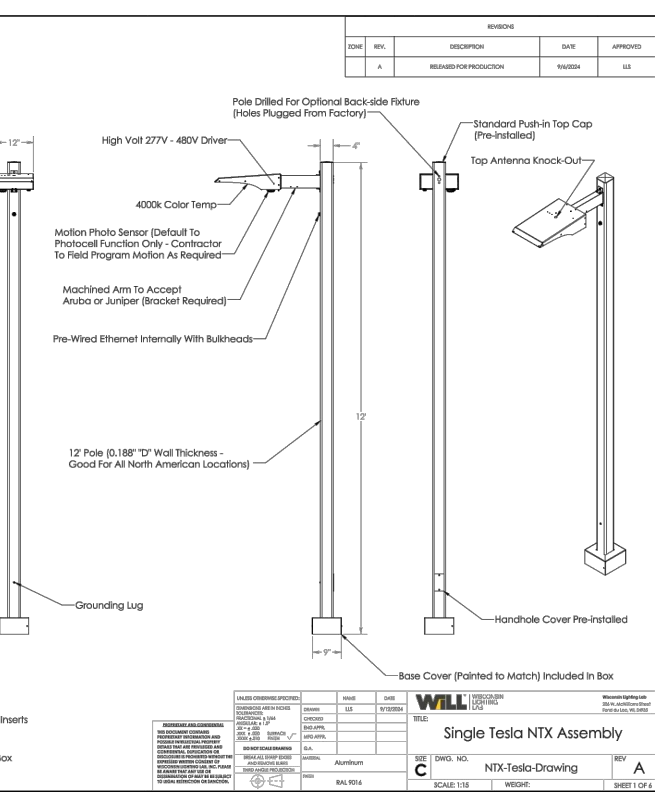
LIGHT FIXTURE & POLE DETAIL

SCALE: N.T.S.

3



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	NTS-Pole	NTS 4" Square Pole	1
2	4in Square Anchor Base	4 Inch Square Anchor Base - Hole Template included	1
3	4ESALYS-Master Assembly-VE	4E Slim Area Light Master Assembly	1
4	NTX Hinge	NTX Fixture Hinge	1
5	SPAH	Slide Pole Arm Hook - NTX Arm	1
6	OA-PTC-SQ-4	4" Square Black ABS Plastic Push In Top Cap	1
7	Flat Hand Hole Cover	Flat Hand Hole Cover	1
8	68R8K 1/2 or Equivalent	Locking Panel Plugs	1
9	68R8K 1/4 or Equivalent	Locking Panel Plugs	2
10	Juniper-AP44-Arm	12in Extruded Arm With Access Point Cut-Out	1
11	4in Square Base Cover-Nested	Aluminum 4 Inch Base Cover - Hardware included	1
12	91771A192 or Equivalent	#8-32 Thread, 0.5" Long, 18-8 Stainless Steel Flat Head Screw	2
13	91099A450 or Equivalent	1/4"-20 Thread, 0.5" Long, Stainless Steel Flat Head Screw	6
14	9224A583 or Equivalent	5/16"-18 Thread, 18-8 Stainless Steel Hex Bolt	1
15	91772A542 or Equivalent	1/4"-20 Thread, 1" Long, 18-8 Stainless Steel Flat Head Screw	1
16	CatSe-Connector	CatSe Waterproof Connector - Cap included	1
17	AB-KIF-N2	0.625 x 16.00 x 2.00 Anchor Bolt Set	1
18	Anchor-Bolt-Template	Paper Hole Template For Anchor Base	1



ORDER INFORMATION:
TPN: 2136148-00-A LIGHT FIXTURE ASSEMBLY-WLL-NTX

LIGHT POLE DETAIL

SCALE: N.T.S.

4

TESLA

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

Dewberry

Dewberry Engineers Inc.
100 OCEANGATE
SUITE 400
LONG BEACH, CA 90802
PHONE: 562.350.0570

REGISTERED PROFESSIONAL ENGINEER
86604PE
OREGON
MARCH 23, 2012
HUGO WILLIAM JUSTINIANO
EXPIRES: 06/30/2025
11/08/24

HUGO WILLIAM JUSTINIANO, P.E.
OREGON LICENCE No. 86604PE

DRAWN BY: GFS
CHECKED BY: SES
APPROVED BY: HJ
PROJECT #: 50123704
JOB #: 50183983

SUBMITTALS

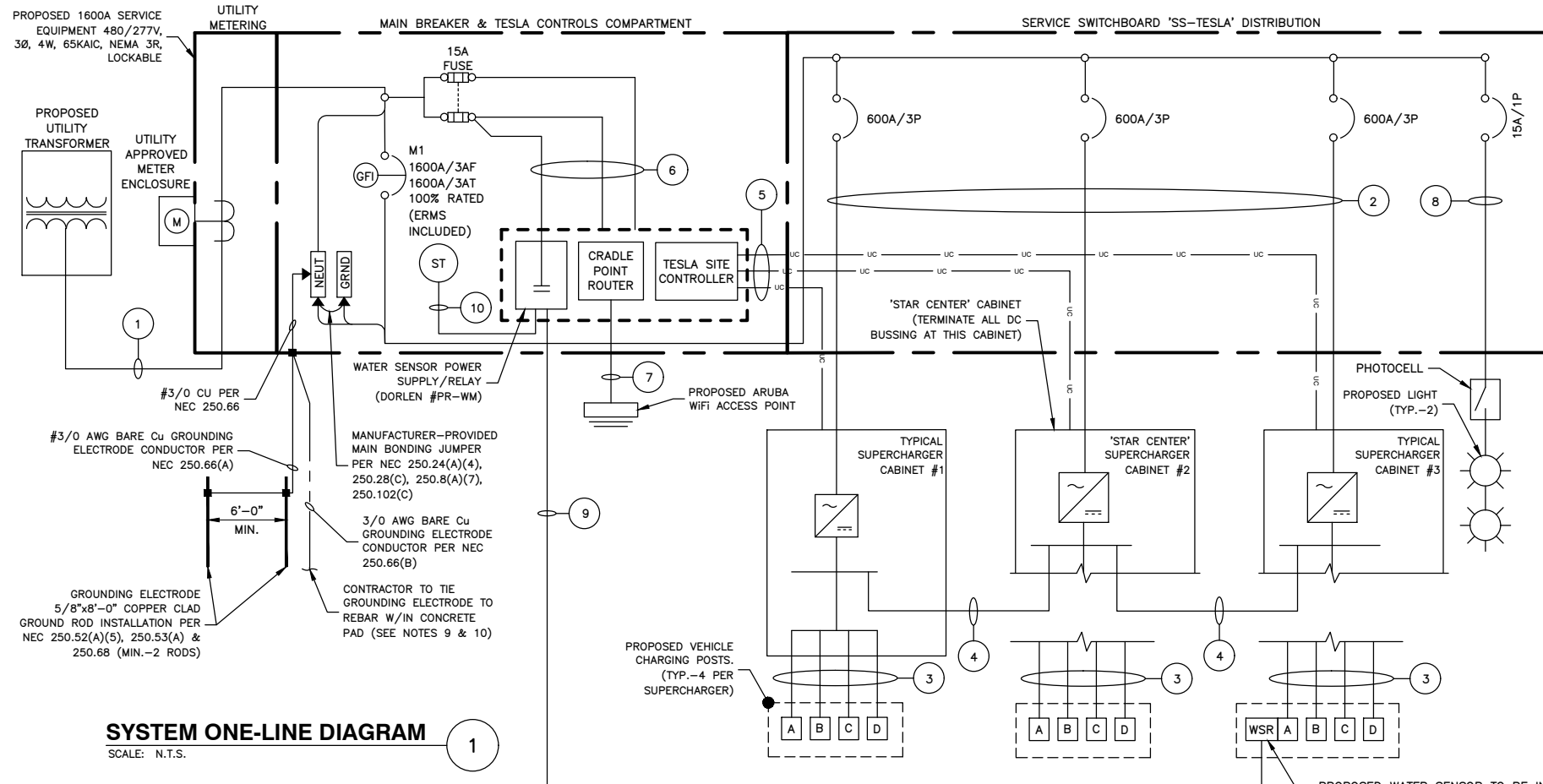
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SITE NAME:
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SITE ADDRESS:
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WARRENTON, OR 97146

SHEET TITLE
CONSTRUCTION
DETAILS IV

SHEET NUMBER
C-7



SERVICE ELECTRICAL CIRCUIT SCHEDULE			
NO:	FROM	TO	CONFIGURATION
1	PROPOSED TRANSFORMER	PROPOSED SERVICE EQUIPMENT PANEL	(6) 6" PVC CONDUIT (BY CONTRACTOR) (CONTRACTOR TO CONFIRM LATEST SCOPE OF WORK & RESPONSIBILITIES PRIOR TO CONSTRUCTION)
2	PROPOSED SERVICE BREAKER (600A) (TYP.-3)	PROPOSED TESLA SUPERCHARGER (TYP.-3)	[2 SETS:] (3) 500KCMIL AL (THWN-2) (1) 500KCMIL AL (THWN-2) NEUT (1) #1 CU OR 2/0 AL EGC* IN 4" PVC/HDPE CONDUIT**
3	PROPOSED TESLA SUPERCHARGER (TYP.-3)	PROPOSED TESLA V4 POST (TYP.-12)	[1 SET PER CHARGE POST:] (4) 600KCMIL AL (XHHW-2) (1000V RATED) (1) 2/0 AWG CU EGC (1000V RATED) & 1000V COMM CABLE*** IN 4" CONDUIT** (DURALINE ACCEPTABLE)
4	'STAR CENTER' SUPERCHARGER CABINET DC BUS	DC BUS OF EACH TYPICAL SUPERCHARGER CABINET	[2 SETS:] (2) 600KCMIL AL (XHHW-2) (1) 1/0 AWG CU EGC & (1) 3/0 AWG AL DC MID 1000V RATED IN 3" PVC CONDUIT
5	INTEGRATED SITE CONTROLLER	SUPERCHARGER (TYP.-3)	SHIELDED 600V RATED CAT6 COMM CABLE IN 1" PVC/HDPE CONDUIT**
6	PROPOSED SERVICE EQUIPMENT: LINE (15A)	TESLA CONTROLS COMPARTMENT	FACTORY INSTALLED WIRING (BY MANUFACTURER)
7	PROPOSED CRADLEPOINT ROUTER	PROPOSED ARUBA WIFI ACCESS POINT	(1) CAT5e OR CAT6 COMM CABLE IN 1" PVC/HDPE CONDUIT**
8	PROPOSED SERVICE EQUIPMENT: PANEL (15A)	PROPOSED SITE LIGHTING	(2) #10 CU (1) #10 CU GND IN 1" PVC/HDPE CONDUIT**
9	TESLA CONTROLS COMPARTMENT (WATER SENSOR RELAY)	PROPOSED WATER SENSOR INSTALLED W/IN CHARGE POST 3A	(2) #12 CU (1) #12 CU GND IN 3/4" PVC CONDUIT
10	TESLA CONTROLS COMPARTMENT (WATER SENSOR RELAY)	SHUNT TRIP COIL	FACTORY INSTALLED WIRING (BY MANUFACTURER)

* MODIFIED PER NEC 250.64(A)(2)
** PER UL 615A AND NEC 253, LISTED HDPE CONDUIT PERMITTED. CONTRACTOR TO CONFIRM USE W/ TESLA CM
*** COMM CABLE TO BE ROUTED W/IN 4" CONDUIT. 1.25" CONDUIT CAN BE USED FOR RUNS OVER ±200FT.

- NOTES:**
- CONDUCTOR LENGTHS ARE ESTIMATES ONLY. FINAL CONDUCTOR ROUTING PATH AND LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD BASED ON PHYSICAL MEASUREMENTS. CONTRACTOR TO ORDER CONDUCTORS BASED ON FIELD MEASUREMENTS (MUST BE APPROVED BY TESLA INSTALLATION MANAGER).
 - ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ON-SITE SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (NEC) AND UTILITY COMPANY STANDARDS.
 - ALL CONDUCTORS TO RECEIVE ANTI-OXIDATIVE COATING DURING INSTALLATION.
 - DC RUN LENGTH MAXIMUM IS 330' INCLUDING BURIED DEPTH. ANY DC RUN LENGTHS OVER THE MAXIMUM SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF TESLA.
 - UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER AT TIME OF PRE CONSTRUCTION MEETING TO ENSURE ACCURACY OF INSTALLATION.
 - UTILITY CONDUITS, CONNECTORS, TRANSFORMER PAD & TRANSFORMER FOUNDATION TO BE INSTALLED PER UTILITY SPECIFICATION. CONFIRM LATEST SPECIFICATIONS PRIOR TO CONSTRUCTION.
 - EXISTING UNDERGROUND UTILITIES LOCATED WITHIN AREA OF PROPOSED TRENCH & EQUIPMENT SITE AREA. HAND DIG AND RELOCATE AS REQUIRED.
 - CONTRACTOR RESPONSIBLE FOR ALL TRAFFIC SAFETY MEASURES THROUGHOUT DURATION OF CONSTRUCTION. COORDINATE ANY ACCESS ROAD CLOSURES W/OWNER.
 - SYSTEM GROUNDING RESISTANCE SHALL BE LESS THAN 25Ω PER NEC. CONTRACTOR SHALL ADD 5/8"x8"-0" COPPER CLAD GROUND RODS W/ 6'-0" MIN. SPACING PER NEC 250.52(A)(5), 250.53(A), & 250.68 AS NEEDED TO SYSTEM UNTIL RESISTANCE IS MET. COORDINATE WITH VENDOR FOR REQUIRED SYSTEM GROUNDING RESISTANCE BEYOND 25Ω.
 - CONTRACTOR SHALL CONFIRM THERE IS A MIN. OF 20 L.F. OF REBAR PRIOR TO GROUNDING TO ELECTRODE W/IN FOUNDATION. IF 20 L.F. IS NOT AVAILABLE, GROUNDING RODS MUST BE INSTALLED PER NOTE 9.
 - GROUND FAULT PROTECTION TESTING SHALL BE CONDUCTED PRIOR TO ENERGIZING THE SERVICE EQUIPMENT.
 - SERVICE EQUIPMENT IS LISTED FOR OPERATION AT 100% OF ITS RATING.
 - ELECTRICAL EQUIPMENT SHALL BE LISTED BY A NATIONALLY RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE CITY.

SERVICE SWITCHBOARD 'SS-TESLA' LOAD SCHEDULE											
CKT NO.	TRIP AMPS	DESCRIPTION	KVA			KVA			DESCRIPTION	TRIP AMPS	CKT NO.
			A	B	C	A	B	C			
1			129.00	-	-	129.00	-	-			2
3	600A	SUPERCHARGER #1	-	129.00	-	-	129.00	-	SUPERCHARGER #2	600A	4
5			-	-	129.00	-	-	129.00			6
7			129.00	-	-	0.10	-	-			8
9	600A	SUPERCHARGER #3	-	129.00	-	-	0.10	-	CONTROLLER	15A	10
11			-	-	129.00	-	-	-			12
13	15A	SITE LIGHTING	-	-	0.25	-	-	-			14
15	-	-	-	-	-	-	-	-			16
TOTALS			PHASE	A	B	C					
			APPARENT POWER	387.10 KVA	387.10 KVA	387.25 KVA					
			CURRENT	1396 A	1396 A	1396 A					

SYSTEM PLACARD:

TESLA SUPERCHARGER
695 US-101,
WARRENTON, OR 97146
1600A, 480/277, 3P, 4W
(877) 798-3752

PLACARDS SHALL BE COLOR RED WITH 1" HEIGHT, CARDINAL WHITE LETTERING. INSTALL (1) SCREW EACH CORNER.

3"

TESLA EV SYSTEM
DISCONNECT

PLACE ON SWITCHBOARD MAIN DISCONNECT

WARNING

CONTROLS COMPARTMENT EQUIPMENT IS STILL LIVE WHEN THE MAIN SERVICE DISCONNECT IS IN THE "OFF" POSITION. INDEPENDENT "CONTROLS DISCONNECT" LOCATED ADJACENT TO MAIN DISCONNECT

PLACE ON EXTERIOR OF CONTROLS COMPARTMENT PANEL

NOTE:

- THE DC BUS SHALL BE CONFIGURED IN A RADIAL FASHION WHERE ALL DC BUS CONDUCTORS ROUTE FROM EACH 'TYPICAL' SUPERCHARGER CABINET, AND TERMINATE INTO THE ONE, 'STAR CENTER' SUPERCHARGER CABINET.
- USE OF DURALINE FOR SUPERCHARGER TO CHARGE POST DC CONDUITS IS AN APPROVED ASSEMBLY. SEE TUV CERTIFICATION ON SHEET E-2

ELECTRICAL S.O.W. RESPONSIBILITIES		
SCOPE	BY UTILITY	BY CONTRACTOR
PROVIDE PRIMARY SIDE TRENCHING		X
PROVIDE & INSTALL PRIMARY SIDE CONDUITS W/ PULLWIRE		X
PROVIDE & INSTALL PRIMARY SIDE CONDUCTORS	X	
PROVIDE & INSTALL UTILITY TRANSFORMER PAD		X
PROVIDE & INSTALL UTILITY TRANSFORMER	X	
INSTALL PRIMARY & SECONDARY CONNECTIONS AT UTILITY TRANSFORMER	X	
PROVIDE & INSTALL METER	X	
PROVIDE CTs	X	
INSTALL CTs (INSIDE SWITCHGEAR)	X	
PROVIDE SECONDARY SIDE TRENCHING		X
PROVIDE & INSTALL SECONDARY SIDE CONDUITS W/ PULLWIRE		X
PROVIDE & INSTALL SECONDARY SIDE CONDUCTORS	X	
PROVIDE ROAD CUTS/ROAD BORES		X
PROVIDE & INSTALL PAVEMENT REPLACES		X

NOTE: SCOPE SHOWN ABOVE WAS PROVIDED BY PACIFIC CORP, FIELD VERIFY PRIOR TO CONSTRUCTION

UTILITY FAULT CURRENT

TRANSFORMER: 1000 KVA
SECONDARY VOLTAGE: 277/480V
SECONDARY FAULT CURRENT: 24,000 A*

* VALUE BASED ON INFINITE BUS CALCULATION WITH ASSUMED Z = 5%

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REGISTERED PROFESSIONAL ENGINEER
95150PE
OREGON
JULY 11, 2019
JOSEPH GIGANTIELLO
EXPIRES: 6/30/25 11/08/24
JOSEPH GIGANTIELLO, P.E.
OREGON LICENCE No. 95150PE

DRAWN BY:	GFS
CHECKED BY:	SES
APPROVED BY:	HJ
PROJECT #:	50123704
JOB #:	50183983

SUBMITTALS		
REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:
**WARRENTON, OR
(TRT ID: 438558)**

SITE ADDRESS:
**695 US-101
WARRENTON, OR 97146**

SHEET TITLE
**ELECTRICAL ONE-LINE
DIAGRAM**

SHEET NUMBER
E-1

AC SUPERCHARGER LENGTHS		
SUPERCHARGER	LINEAR LENGTH BREAKER PANEL TO SUPERCHARGER	ESTIMATED LENGTH*
1	4'	29'
LENGTH OF AC AL WIRE PER CONDUIT**:		116'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE ***:		232'
2	7'	32'
LENGTH OF AC AL WIRE PER CONDUIT**:		128'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE***:		256'
3	12'	37'
LENGTH OF AC AL WIRE PER CONDUIT**:		148'
TOTAL NUMBER OF CONDUITS:		2
LENGTH OF AC AL WIRE***:		296'
TOTAL LENGTH OF AC AL WIRE****:		784'
TOTAL LENGTH OF EGC*****:		196'

NOTES:
1. SEE SHEET E-1 FOR WIRE CONFIGURATION.
* AC CONDUCTORS: 25 FT IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH & TRANSITIONS.
** ESTIMATED LENGTH OF AI WIRE = SUM OF ESTIMATED LENGTH X 4 WIRES PER SUPERCHARGER
*** LENGTH = LENGTH OF AC AL WIRE PER CONDUIT X # OF CONDUITS
**** TOTAL LENGTH = SUM OF AC LENGTHS
***** TOTAL LENGTH OF EGC = LENGTH X # SETS

DC CHARGING POST LENGTHS			
SUPERCHARGER	CHARGE POST	LINEAR LENGTH	ESTIMATED DC WIRE LENGTH*
1	1A	104'	126'
	1B	95'	117'
	1C	86'	108'
	1D	63'	85'
2	2A	64'	86'
	2B	40'	62'
	2C	43'	65'
	2D	19'	41'
3	3A	26'	48'
	3B	74'	96'
	3C	86'	108'
	3D	90'	112'
CONDUIT LENGTH:		1054'	
TOTAL CONDUCTOR LENGTH**:		4216'	
TOTAL LENGTH OF EGC & COMM CABLE:		1054'	

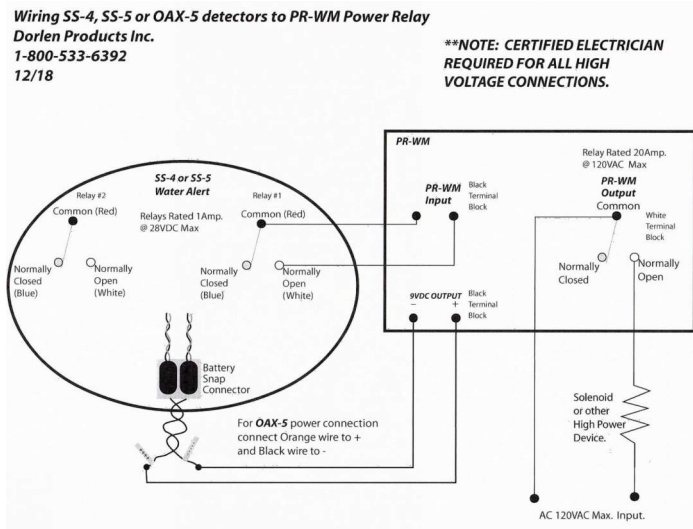
NOTES:
1. SEE SHEET E-1 FOR WIRE CONFIGURATION.
2. ANY DC RUN OVER 330' SHALL BE BROUGHT TO THE ATTENTION OF TESLA CM.
* 22 FT IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH & TRANSITIONS.
** ESTIMATED LENGTH OF DC AL WIRE = SUM OF ESTIMATED LENGTH X 4 WIRES PER SUPERCHARGER

SECONDARY SERVICE LENGTHS		
	LINEAR LENGTH	ESTIMATED LENGTH*
TRANSFORMER TO SWITCHGEAR	10'	35'
TOTAL LENGTH OF WIRE**:		BY UTILITY
NUMBER OF WIRE FILLED CONDUITS:		TBD
TOTAL LENGTH OF AC WIRE***:		BY UTILITY

NOTES:
1. SEE SHEET E-1 FOR WIRE CONFIGURATION.
* AC CONDUCTORS: 25 FT IS ADDED TO THE HORIZONTAL RUN LENGTH TO ACCOUNT FOR BURIED DEPTH & TRANSITIONS.
** ESTIMATED LENGTH OF WIRE = SUM OF ESTIMATED LENGTH X 4 WIRES PER SET
*** LENGTH OF WIRE PER DISCONNECT = ESTIMATED TOTAL LENGTH OF WIRE X # WIRE SETS

CONDUCTOR LENGTH TABLES

SCALE: N.T.S.



WATER SENSOR - POWER RELAY DETAIL
SCALE: N.T.S.

TÜVRheinland® Letter Report
Precisely Right. TUV Rheinland of North America, Inc.
295 Foster St. #100
Littleton, MA 01460, USA
www.tuv.com

11/19/2021 Report No. 32195766.001
Project No. 234176170

Mr. Mark Edwards
Tesla, Inc.
3500 Deer Creek Rd
Palo Alto, CA 94304, USA
Tel: (678) 438 9475
Email: Markedwards@tesla.com

Subject: Duraline Conduits 2", 3" and 4" Testing

Dear Mr. Mark Edwards:

This letter report is to present the results of testing results of Duraline flexible conduit for Tesla supercharger station installation in accordance with the following standards:

- ANSI/CAN/UL1660 Liquid-tight Flexible Nonmetallic Conduit, 6th Ed. dated 01/30/2019
- UL 651A Schedule 40 and 80 High Density Polyethylene (HDPE) Conduit, 5th Ed. dated 03/10/2017
- UL 1990 Nonmetallic Underground Conduit with Conductors, 3rd Ed. dated 01/20/2017

The project was authorized by the signed PO #4900294467, dated 08/07/2021 for the project proposal # 234041515, the following tests have been completed by 11/02/2021 in the Duraline lab on Knoxville TN.

The following table lists completed tests in accordance with the standards UL 1990, UL 651A and UL 1660.

No.	UL 1990 Clause	UL 651A Clause	UL 1660 Clause	Test description	Test Result
1	10	11.3	--	Water absorption test	Pass
2	11	9.3	--	Low temperature handling test	Pass
3	--	--	5.6	Tension	Pass
4	--	--	5.5	Deflection test	Pass
5	--	--	5.4	Cold Impact	Pass
6	15	11.2	5.11	Moisture penetration	Pass
8	17	--	5.16	Direct burial crush test	Note

Note
As discussed with Duraline engineers, conduit stiffness varies with wall thickness per Table 5 in the standard ASTM F2160 – 16 Solid Wall High Density Polyethylene (HDPE) Conduit based on Controlled Outside Diameter (OD). The stiffness calculated for conduit 2", 3" and 4" are 101+/22 psi, 92+/-2 psi

MS0009914 Attachment 1 Page 1 of 2 Rev. 0

TÜVRheinland® Letter Report
Precisely Right. TUV Rheinland of North America, Inc.
295 Foster St. #100
Littleton, MA 01460, USA
www.tuv.com

and 61+/-2 psi. The test has been performed per ASTM 2412 as required by both UL 1990 and UL 1660. All samples were visually inspected and no any cracks observed on samples after the test. Those stiffness test data are reference for Tesla engineers to determine conduit burial depth for Tesla supercharger station installation.

The Duraline conduit test report is enclosed.

The above Duraline conduits can be used in the field installation of charge post CS-350-A2 per NEC with adequate depth calculation.

If there are any questions regarding the results contained in this report, or any of the other services offered by TUV Rheinland of North America, Inc., please do not hesitate to contact the undersigned.

Please note, this letter report does not represent authorization for the use of any TUV Rheinland certification marks.

Evaluated by: *Zhiyong Hu*
Zhiyong Hu
Principal Test Engineer
Email: zhu@us.tuv.com

Reviewed by: *Howard Liu*
Howard Liu
Manager, Power Electronics Segment – Americas
Email: hliu@us.tuv.com

MS0009914 Attachment 1 Page 2 of 2 Rev. 0

SPECIALTY SMOOTH-COR FLEX

- Flexible: Reduces/eliminates the need for sweeps and bends
- Crush resistant: Equivalent to Schedule 40 PVC
- Lightweight: Easier installation, 40% lighter than PVC
- Compatibility: Easily adapts to other conduit materials
- Glueless coupling: Safe, quick assembly
- Gasketed: Air and watertight
- Low COF: Longer cable pulls with lower cable stress

INSTALLATION TYPES
Underground
Direct Bury
Concrete Encasement

SIZE RANGE AVAILABLE
2.0"
3.0"
4.0"

STANDARD COLORS
Outer Wall: ■
Inner Wall: ■

STANDARD
DETAILS Manufactured from flexible HDPE (High Density Polyethylene)

SPECIFICATIONS All Smooth-Cor Flex dimensions meet or exceed one or more of the following: ASTM D-3350, ASTM D-638, ASTM D-792, ASTM D-1238, ASTM D-1693

CONDUIT MARKINGS Permanent marking along conduit includes: material, relevant standards, production info, and sequential feet or meter markings.

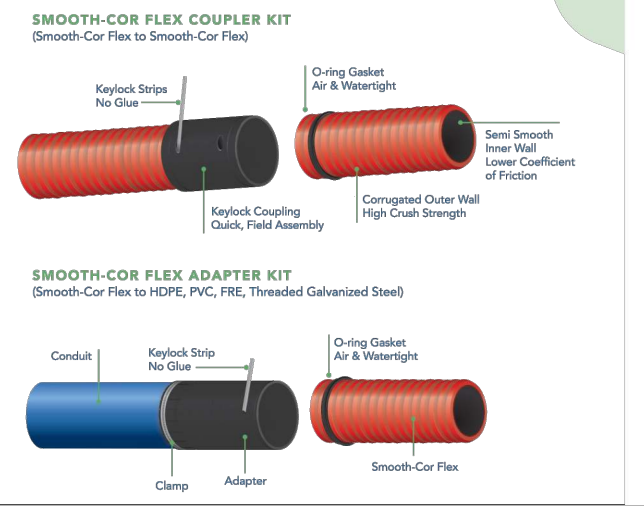
CO-EXTRUDED LINING Corrugated exterior with a smooth, co-extruded inner layer

PRE-INSTALLED TAPE Factory pre-installed Bull-Line™ 1250lb Pull Tape comes standard in Smooth-Cor Flex on steel reels. Smooth-Cor Flex coils are only available as empty.

OPTIONS

PACKAGING Available on steel reels or 250' coils

durac-line +1 800 847 7651 WWW.DURALINE.COM TUV Rheinland orbia



NOTES:

- DURALINE SMOOTH-COR FLEX CONDUIT HAS BEEN CERTIFIED AS CRITICAL COMPONENT OF THE SUPERCHARGER TO TUV.
- PRODUCT WILL BE USED TO CONNECT THE TESLA SUPERCHARGER CABINET TO TESLA CHARGE POST.
- DURALINE SMOOTH-COR FLEX CONDUIT SHALL NOT BE INSTALLED WITHIN SUPERCHARGER CABINETS OR POST. CONTRACTOR SHALL TRANSITION SMOOTH-COR FLEXIBLE CONDUIT TO PVC CONDUIT AND SWEEP PVC CONDUIT INTO THE SUPERCHARGER CABINETS OR POST.

DURALINE SMOOTH-COR FLEX DETAILS
SCALE: N.T.S.



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REGISTERED PROFESSIONAL ENGINEER
95150PE
OREGON
JOSEPH GIGANTIello
EXPIRES: 6/30/25 11/08/24
JOSEPH GIGANTIello, P.E.
OREGON LICENCE No. 95150PE

DRAWN BY:	GFS
CHECKED BY:	SES
APPROVED BY:	HJ
PROJECT #:	50123704
JOB #:	50183983

SUBMITTALS		
REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:
WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:
695 US-101
WARRENTON, OR 97146

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2

⚠ DANGER

NO SAFE PPE EXISTS

ENERGIZED WORK PROHIBITED

305 in Arc Flash Boundary
110.2 cal/cm² Incident Energy at 18 in

PPE DO NOT WORK ON LIVE!

480 VAC Shock Risk when cover is removed
00 Glove Class
42 in Limited Approach
12 in Restricted Approach
N/A Minimum Arc Rating

Location: MAIN SWBD - LINE-SIDE

TESLA SUPERCHARGER_WARRENTON, OR - 1600A MCB
TESLA (3) Tesla Chargers & (12) Charge Posts
695 US-101
WARRENTON, OR 97146

TRT-438558 Prepared on: 11/08/24 By: Tesla

Warning: Changes in equipment settings or system configuration will invalidate the calculated values and PPE requirements

SWITCHBOARD MAIN BREAKER

⚠ WARNING

Arc Flash and Shock Risk

Appropriate PPE Required

26 in Arc Flash Boundary
2.19 cal/cm² Incident Energy at 18 in

PPE Arc-rated shirt & pants + arc-rated coverall + arc-rated arc flash suit
480 VAC Shock Risk when cover is removed
00 Glove Class
42 in Limited Approach
12 in Restricted Approach
12 cal/cm² Minimum Arc Rating

Location: SUPERCHARGER

TESLA SUPERCHARGER_WARRENTON, OR - 1600A MCB
TESLA (3) Tesla Chargers & (12) Charge Posts
695 US-101
WARRENTON, OR 97146

TRT-438558 Prepared on: 11/08/24 By: Tesla

Warning: Changes in equipment settings or system configuration will invalidate the calculated values and PPE requirements

SUPERCHARGER CABINET (TYP.-3)

7" MIN.

5" MIN.

AVAILABLE DC FAULT CURRENT

AVAILABLE FAULT CURRENT: 24,000 A

DATE OF CALCULATION: 11/08/24

AVAILABLE FAULT CURRENT LABEL

SCALE: N.T.S.

ARC FLASH WARNING LABELS

SCALE: N.T.S.

BREAKER SETTINGS – EATON MAIN			
MAIN SERVICE SWITCHBOARD – 1600A MCB – ZPOWER			
		PHASE	GROUND
DESIGNATION	FRAME AMPS	1600A	1600A
	AIC RATING	65	65
FRAME	MANUFACTURER	EATON	EATON
	TYPE/MODEL	SBN-616	SBN-616
TRIP UNIT	SENSOR AMPS	1600	1600
	PLUG AMPS	1600	1600
TRIP UNIT SETTINGS (1600A TRIP)	DESCRIPTION	LSI, 1600AF, 200-1600AF	GF, 800-6000AF
	TYPE/MODEL	MAGNUM SB, DT 520	MAGNUM SB, DT 520
	LONG DELAY PICKUP (I _r)	1 (1600A)	
	LONG DELAY TIME (t _r)	24 S	
	SHORT DELAY PICKUP (I _{sd})	2.5 (4000A)	
	SHORT DELAY TIME (I _{2t})	0.1 S	
	INSTANTANEOUS PICKUP (I _i)	6 (9600A)	
	GROUND FAULT PICKUP (I _g)		0.75 (1200A)
	GROUND FAULT DELAY TIME (t _g)		0.5 S
SUPERCHARGER CABINET BREAKER – 600A			
TRIP UNIT	TYPE/MODEL	PDG3 THERMAL MAG TRIP UNIT (600A TRIP)	
TRIP UNIT SETTINGS	INSTANTANEOUS (I _i)	5 (3000A)	

BREAKER SETTINGS – GE MAIN			
MAIN SERVICE SWITCHBOARD – 1600A MCB – ZPOWER			
		PHASE	GROUND
DESIGNATION	FRAME AMPS	1600	1600
	AIC RATING	65	65
FRAME	MANUFACTURER	GE	GE
	TYPE/MODEL	SSF	SSF
TRIP UNIT	SENSOR AMPS	1600	1600
	PLUG AMPS	1600	1600
TRIP UNIT SETTINGS (1600A TRIP)	DESCRIPTION	LSI(OB), 800-2000AF, UL489	GF, 200-2000AF
	TYPE/MODEL	SS, SH POWERBREAK II, EGTU	SS, SH POWERBREAK I & II, EGTU
	LONG TIME PICKUP (LT)	1.0 (1600A)	
	LONG TIME DELAY (LTD)	C-7	
	LT CURVE	I ² T	
	SHORT TIME PICKUP (STPU)	2.5 (4000A)	
	SHORT TIME DELAY (STD/I ² S T)	ST02-MIN I ² S T: OFF	
	INSTANTANEOUS PICKUP (INST PU)	4.5 (7200A)	
	GROUND FAULT PICKUP (GF PU)		0.75 (1200A)
	GROUND FAULT DELAY (GFD/I ² S T)		GFD09 I ² S T: OFF
SUPERCHARGER CABINET BREAKER – 600A			
TRIP UNIT	TYPE/MODEL	PDG3 THERMAL MAG TRIP UNIT (600A TRIP)	
TRIP UNIT SETTINGS	INSTANTANEOUS (I _i)	5 (3000A)	

BREAKER SETTINGS

SCALE: N.T.S.



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JOSEPH GIGANTIELLO, P.E.
OREGON LICENCE No. 95150PE

DRAWN BY: GFS

CHECKED BY: SES

APPROVED BY: HJ

PROJECT #: 50123704

JOB #: 50183983

SUBMITTALS		
REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:
WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:
695 US-101
WARRENTON, OR 97146

SHEET TITLE
ARC FLASH LABELS
& BREAKER SETTINGS

SHEET NUMBER
E-3



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SUBMITTALS

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SITE NAME:

WARRENTON, OR
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SITE ADDRESS:

695 US-101
WARRENTON, OR 97146

SHEET TITLE

REFERENCE
DATASHEETS

SHEET NUMBER

E-4

V3.5 Supercharger Cabinet Technical Specifications

AC Input (Electrical)	Input (V _{AC})	480	440	415	400	380	
	Rated AC Input Power	Power (kVA)	387	354	334	322	306
	AC Input Voltage	380 V _{AC} -480 V _{AC} (-5%, +10%), 4-wire 3AC+N					
	AC Input Current	465 A _{AC} Max.					
	Frequency	50 Hz /60 Hz					
	Power Factor	≥ 0.99					
	Current THD	< 3%					
	Voltage THD	< 2%					

AC Input (Mechanical)	Conductor Sizes	L1, L2, L3, N: 150 - 400 mm ² , 250 - 750 MCM	
	Conductor Material Type	L1, L2, L3, N: Cu, Al PE: Cu/Al	
	Mfr. Termination Temp. Rating	90°C	

Shared DC Bus (Electrical)	Max Rated DC Bus Power	Power (kW)	575
	Max Rated DC Bus Current	Current (A _{DC})	640
	DC Bus Voltage Range	880 - 1000 V _{DC}	

Shared DC Bus (Mechanical)	Conductor Sizes	V+, V- (2x/pole): 150 - 300 mm ² , 250 - 600 MCM	
	Conductor Material Type	V+, V-, Mid: Cu, Al PE: Cu/Al	
	Conductor Voltage Rating	1000 V	
	Mfr. Termination Temp. Rating	90°C	

DC Post Output (Electrical)	Max. Rated Post Power	250 kW
	Post Rated Voltage Range	0-500 V _{DC}
	Post Rated Current @T _a =35°C	NACS: 350 A _{DC} , CCS2 & GB Handle: 450A _{DC}
	Number of Charge Posts	1-4
	Max Voltage Drop	10 V _{DC}

DC Post Output (Mechanical)	Conductor Size	V+, V- (2x/pole): 600 MCM or 300 mm ²	
	Conductor Material Type	V+, V-, Al, Cu PE: Cu/Al	
	Conductor Voltage Rating	1000 V	
	Mfr. Termination Temp Rating	90°C	

Tesla V3.5 Supercharger Cabinet 2023-05-05 2

V3.5 Supercharger Cabinet Technical Specifications

System	Efficiency	96%
Protection	AC Input side: Class 1	Isolated DC Output
	Over Voltage/Current/Temperature, Surge Protection, Isolation Monitoring	
	Short-Circuit Protection	External Electronic Trip Circuit Breaker
	Short-Circuit Current Rating	85 kA RMS symmetrical

Environmental	Operating Temperature	-30°C to 50°C, -22°F to 122°F
	Ingress Protection	IP66 (Cabinet), IP2X (Cooling)
	Ventilation Requirements	Ventilation Not Required

Noise	Typical noise at 1m	35 dB(A)
--------------	---------------------	----------

Standards	UL 2202, CSA C22.2#1071, FCC, ICES-003-B, IEC 61851-1, EN 61000-6-2 EN 55011, GB/T 18487.1, GB/T 27930, NB/T 33008.1, NB/T 33001	
------------------	---	--

Layout	Max. Distance to Charge Post	100 m, 340 ft.
---------------	------------------------------	----------------

Weight	Supercharger Cabinet Weight	4 Post Cabinet: 1110 kg (2448 lbs) 3 Post Cabinet: 1039 kg (2291 lbs)
---------------	-----------------------------	--

Dimensions	Depth, Width, Height	1000, 1250, 2200 mm; 39 ^{12/32} , 49 ^{9/16} , 86 ^{20/32} in.
-------------------	----------------------	---

Mounting	Per-anchor min. Shear Strength	4 kN
	Per-anchor min. Tension Strength	11 kN

DC Post Output (24V)	24V Post Power Supply Conductors	V+, V- (1x/pole): 10 mm ² , #8 AWG CU Integrated in signal cable bundle
-----------------------------	----------------------------------	---

Tesla V3.5 Supercharger Cabinet 2023-05-05 3

V4 Supercharger Post Technical Specifications

Product	Part Number	1732843
	Model Number	CS-615-A2 (NACS/CCS1), CS-615-E2 (CCS2)
	Certified Maximum Power with V3 Cabinet	250kW
	Certified Voltage Range with V3 Cabinet	0-500VDC
	Certified Continuous Current with V3 Cabinet	615A
	Protection	Over Current, Over Temperature
	Compliance	UL 2202, CSA 22.2#1071, IEC 61851-1, IEC 61851-2
Communication/Control Protocols	ISO 15118-2, DIN 70121 OCPP 2.0.1	

Environmental	Operating Temperature	-30°C to 50°C
	Ingress Protection	IP54 / NEMA 3R
	Flood Tolerance	1015 mm
	Maximum Noise Level @ 1m	60 dBA below 40°C, 65 dBA above 40°C

Mechanical	Total Weight	90 kg
	Dimensions	334 x 891 x 1946 mm
	Charging Cable Length	3 m

Site Layout and Installation	Input Lug: V+, V- (2/pole)	Cu/Al, 150 mm ² - 380 mm ² (300MCM - 750MCM)
	PE Lug (2)	Cu/Al, 16 mm ² - 95 mm ² (6AWG - 250MCM)
	24V Power Input: V+, V- (1/pole)	Cu, 10 mm ² (8 AWG)
	Termination Temperature	90°C
	Max Distance From Cabinet	100 m

Tesla V4 Supercharger Post The specifications within this datasheet are subject to change by Tesla 2

TESLA EQUIPMENT DATASHEETS

SCALE: N.T.S.



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PALO ALTO, CA 94304
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100 OCEANGATE
SUITE 400
LONG BEACH, CA 90802
PHONE: 562.350.0570



JOSEPH GIGANTIELLO, P.E.
OREGON LICENCE No. 95150PE

DRAWN BY: GFS

CHECKED BY: SES

APPROVED BY: HJ

PROJECT #: 50123704

JOB #: 50183983

SUBMITTALS

REV.	DATE	DESCRIPTION
0	11/08/24	ISSUED FOR PERMITS
A	10/08/24	ISSUED FOR 90% REVIEW

SITE NAME:

WARRENTON, OR
(TRT ID: 438558)

SITE ADDRESS:

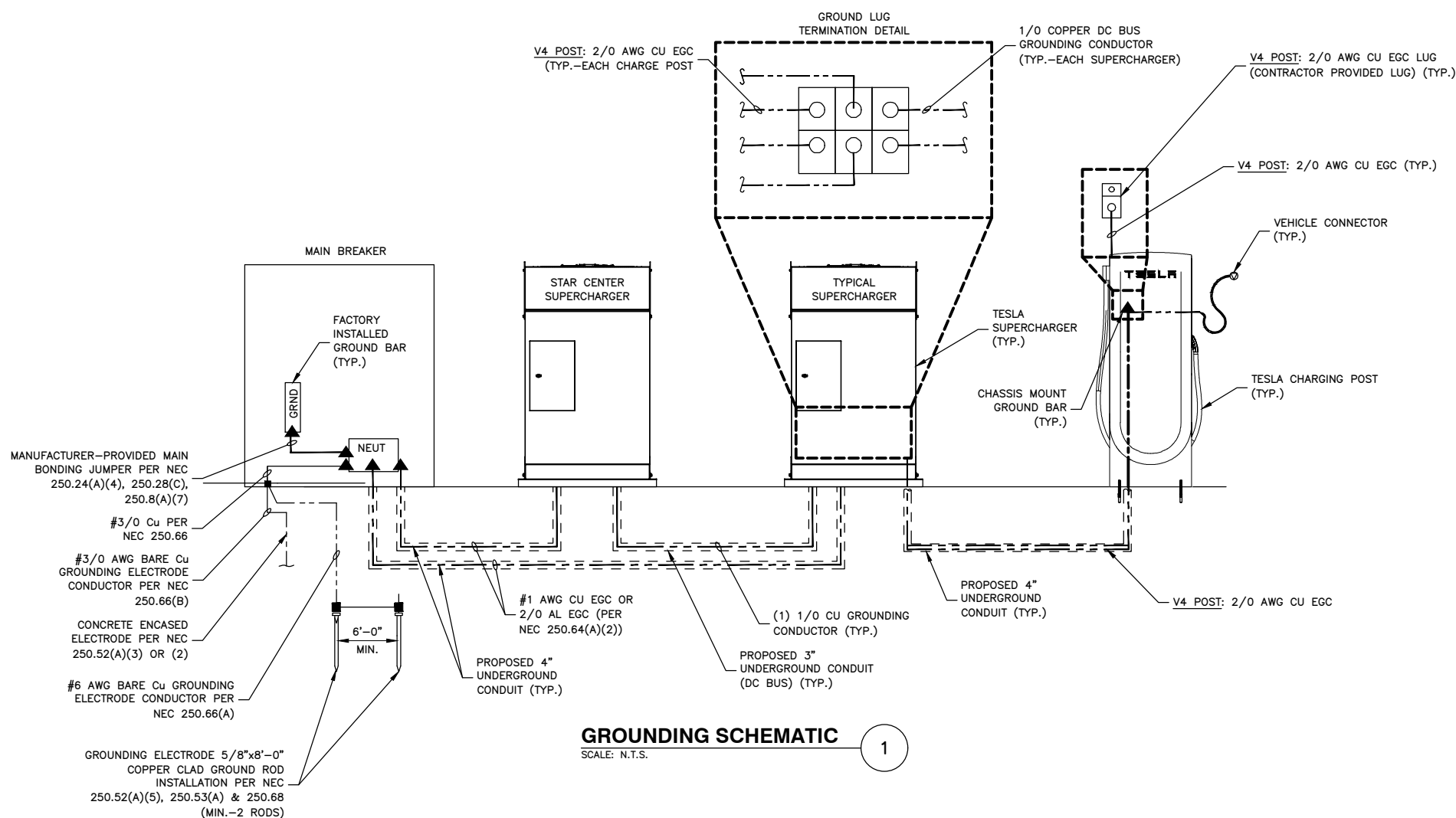
695 US-101
WARRENTON, OR 97146

SHEET TITLE

GROUNDING, SCHEMATIC
& DETAILS

SHEET NUMBER

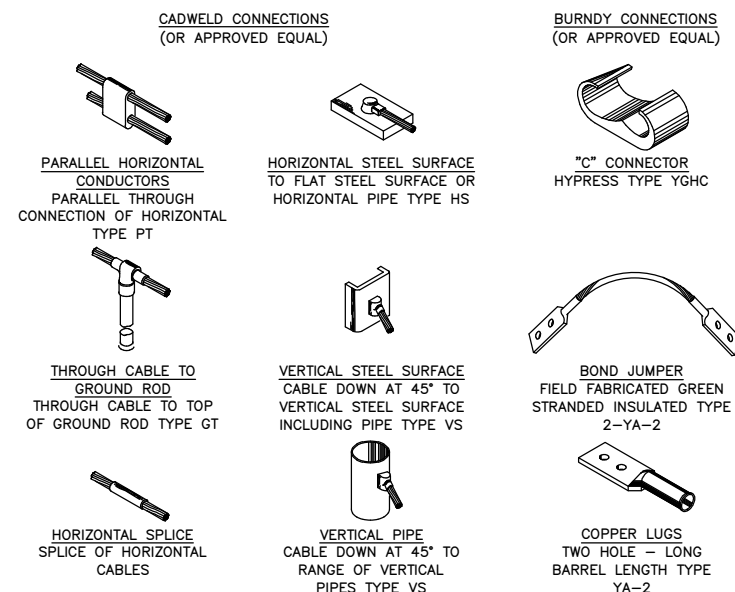
G-1



GROUNDING SCHEMATIC

SCALE: N.T.S.

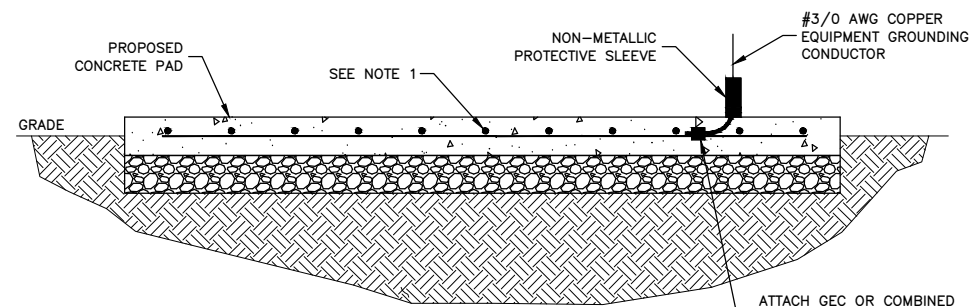
1



GROUND CONNECTION DETAILS

SCALE: N.T.S.

2



NOTE:

- REBAR BONDED TOGETHER WITH STEEL TIE WIRES.
- CONTRACTOR SHALL DOCUMENT AND HAVE THE AHJ INSPECT AND APPROVE THE CONCRETE ENCASED ELECTRODE PRIOR TO POURING CONCRETE

CONCRETE ENCASED ELECTRODE DETAIL

SCALE: N.T.S.

3

ATTACH GEC OR COMBINED GEC/EGC TO 20'-0" OF CONTINUOUS OR SPliced REBAR USING LISTED CONNECTION