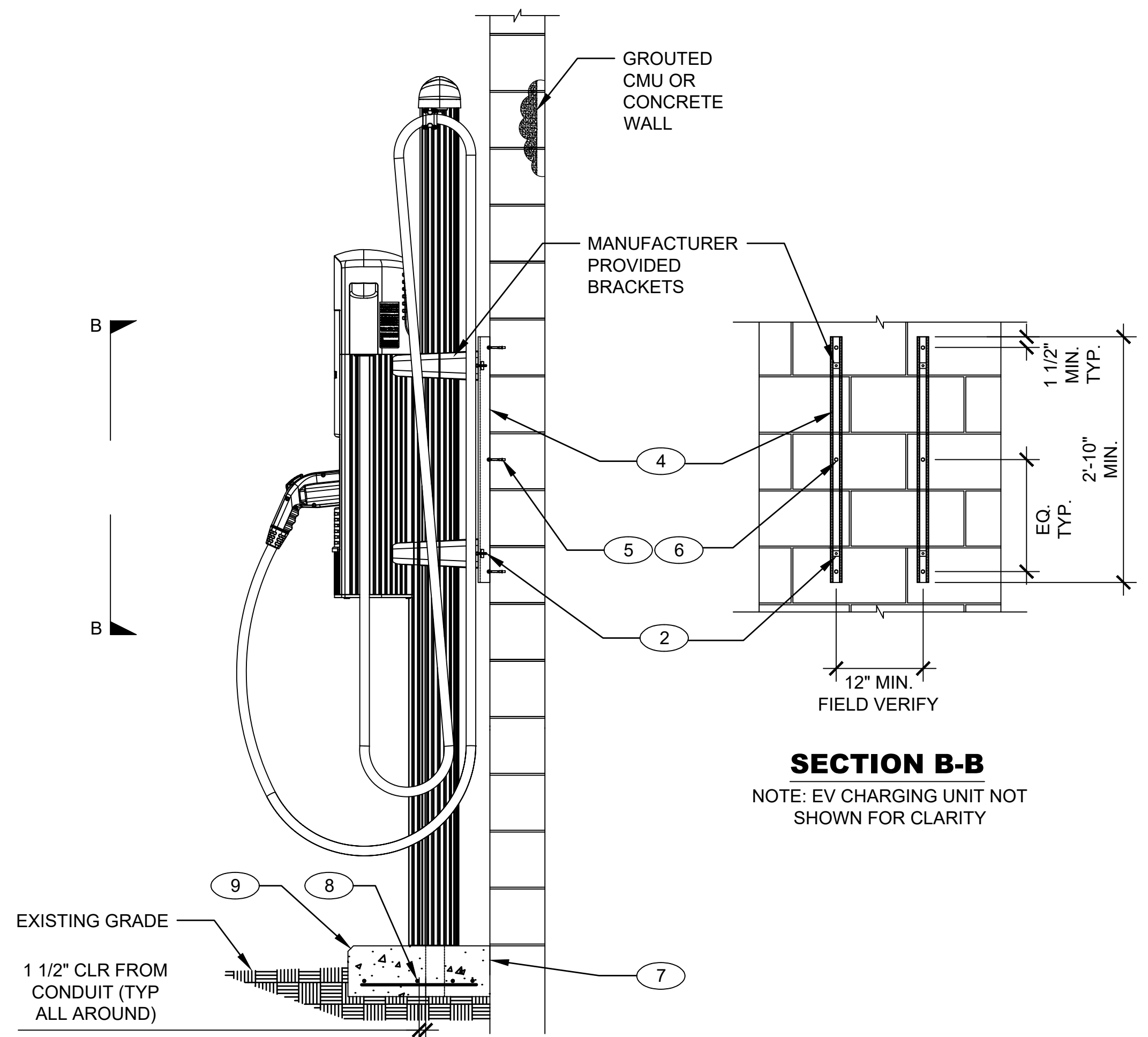


SECTION A-A
NOTE: EV CHARGING UNIT NOT SHOWN FOR CLARITY



SECTION B-B
NOTE: EV CHARGING UNIT NOT SHOWN FOR CLARITY

MASONRY AND CONCRETE WALL CONNECTION DETAIL
SCALE: NONE

GENERAL NOTES:

- GENERAL CRITERIA**
- COORDINATION WITH EXISTING CONDITIONS
 - COORDINATE WITH ELECTRICAL, [CIVIL] AND MANUFACTURER'S DRAWINGS. IF DISCREPANCIES ARE FOUND REPORT THEM TO THE STRUCTURAL EOR BEFORE PROCEEDING WITH THE WORK.
 - DO NOT SCALE DRAWINGS FOR THE PURPOSE OF DETERMINING DIMENSIONS.
 - IF THIS SHEET IS NOT 24"x36" USE GRAPHIC SCALE ACCORDINGLY.
 - NO MODIFICATIONS SHALL BE MADE TO ANY MEMBERS OF THE STRUCTURAL SYSTEM WITHOUT THE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL EOR.
 - EXISTING CONDITIONS
 - NEW CONSTRUCTION MUST BE COORDINATED WITH EXISTING SITE CONDITIONS.
 - LOCATE AND PROTECT ALL EXISTING UNDERGROUND FACILITIES.
 - DO NOT CUT OR DRILL THROUGH REINFORCING IN EXISTING CONCRETE UNLESS SPECIFICALLY NOTED ON PLANS. GPR TO LOCATE REINFORCING AT LOCATIONS REQUIRING CUTTING OR CORING PRIOR TO START OF CONSTRUCTION. SUBMIT REINFORCEMENT LOCATION IN CONFLICT WITH DRAWINGS TO EOR FOR REVIEW.
 - FIELD SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT CONCEALED CONDUITS, PLUMBING, OR OTHER UTILITIES. FOR CONCRETE OR MASONRY, GPR SHALL BE USED FOR PENETRATIONS GREATER THAN 3/4" IN DEPTH.
 - SUBMITTAL REQUIREMENTS
 - SEE PROJECT SPECIFICATIONS FOR ALL SUBMITTAL REQUIREMENTS. EOR TO VERIFY ALL SUBMITTALS LISTED IN 01 3300 ATTACHMENT-A ARE ACCURATE AND REFLECT THE ACTION SUBMITTALS LISTED IN SPECIFICATION SECTIONS.
 - DESIGN LIMITATIONS
 - WALL MOUNT INSTALLATION SHALL ONLY BE USED FOR THE CHARGEPOINT CT4000 SERIES.

MATERIAL CRITERIA

- CONCRETE:
 - ALL CONCRETE SHALL BE NORMAL WEIGHT AND DEVELOP A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI FOR ACI 318 EXPOSURE CLASS F2 AND CONFORMING TO SPECIFICATION 03 3001.
- CONCRETE MASONRY UNITS (CMU)
 - ALL MASONRY UNITS SHALL BE GRADE M, TYPE 1, W/ NOMINAL DIMENSION OF 8"x8"x1'-4".
 - MASONRY UNITS SHALL HAVE DESIGN COMPRESSIVE STRENGTH OF 1500 PSI MIN.
- POST INSTALLED ANCHORS:
 - ANCHORS SHALL BE INSTALLED PER PROJECT SPECIFICATIONS, THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) AND ICC-ES REPORTS.
 - HOLES FOR ANCHORING SHALL BE ACHIEVED WITH ROTARY HAMMER AND CARBIDE-TIPPED DRILL BIT, UNLESS NOTED OTHERWISE.
 - DRILLING OF HOLES FOR ANCHORS IN HOLLOW MASONRY SHALL BE DRILLED WITH HAMMER DRILL SET IN ROTATION ONLY MODE (I.E., HAMMERING ACTION OF THE DRILL TURNED OFF).
 - ANCHORS SHALL BE INSTALLED AT NOT LESS THAN THE MINIMUM EDGE DISTANCES, EMBEDMENT AND/OR SPACING AS LISTED IN THE APPLICABLE MPII AND ICC-ES REPORTS. ANCHOR CAPACITY IS DEPENDENT UPON EFFECTIVE EMBEDMENT LENGTH, SPACING BETWEEN ADJACENT ANCHORS, AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE DISTANCE CLEARANCES INDICATED ON THE DRAWINGS.
 - ANCHOR LENGTHS SHOWN IN THESE PLANS ARE THE REQUIRED MINIMUM EMBEDMENT DEPTHS. SUBCONTRACTOR SHALL PROVIDE ANCHORS WITH SUFFICIENT PROJECTION LENGTH FOR PROPER INSTALLATION OF SUPPORTED EQUIPMENT AND/OR STRUCTURE.

GENERAL NOTES CON'D :

- POST INSTALLED ANCHORS (CONT'D):
 - CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REBAR. EV CHARGER LOCATION MAY VARY BY +/- 1" UNLESS NOTED OTHERWISE TO AVOID CONFLICTS. NO REINFORCEMENT SHALL BE CUT TO INSTALL ANCHORS. DEFECTIVE OR ABANDONED HOLES SHALL BE FILLED WITH REPAIR GROUT/STRUCTURAL CONCRETE THAT AS A MINIMUM MATCHES THE ADJACENT CONCRETE/MASONRY STRENGTH.
- REINFORCING STEEL
 - REINFORCING STEEL SHALL BE GRADE 60, DEFORMED BARS, CONFORMING TO ASTM A615 OR A706.
 - MAINTAIN THE FOLLOWING CONCRETE COVERAGE FOR REINFORCING STEEL:
 - CONCRETE CAST AGAINST EARTH = 3"
 - CONCRETE EXPOSED TO WEATHER: 1-1/2" (FOR #5 BARS AND SMALLER)
 - DO NOT WELD OR BEND REINFORCEMENT IN THE FIELD UNLESS SPECIFICALLY SHOWN OR APPROVED BY ENGINEER OF RECORD.
 - PROVIDE BAR SUPPORT ACCESSORIES IN ACCORDANCE WITH THE LATEST ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
 - PLACEMENT OF ALL REINFORCEMENT SHALL COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE".

DESIGN CRITERIA:

- THE FOLLOWING CRITERIA COVERS THE STRUCTURAL DESIGN OF THIS EV CHARGING STATION WALL MOUNT.
- MANAGEMENT LEVEL 4
 - DESIGN LOADS:
 - VERTICAL:
 - DEAD LOADS - STRUCTURE IS DESIGNED FOR THE ACTUAL IN-PLACE WEIGHTS OF ALL MATERIALS SHOWN ON THE CONSTRUCTION DOCUMENTS.

KEYED NOTES:

- ELECTRICAL VEHICLE CHARGING EQUIPMENT. MOUNT USING MANUFACTURER PROVIDED BRACKETS. SEE ELECTRICAL/[CIVIL] FOR SITE LOCATION.
- 3/8"Ø ASTM A307 GRADE A HOT-DIP GALVANIZED HEX BOLT @ MANUFACTURER PROVIDED BRACKET WITH N228 B-LINE CHANNEL NUT.
- 7/16"Ø PRE-DRILLED HOLE IN UNISTRUT AND UNGROUTED CMU WALL W/ 3/8"Ø ASTM A307 GRADE A THRU-BOLT W/ A563 AND F436 4"x 3/8" WASHER ON BACK SIDE OF WALL. PROVIDE DOUBLE NUTS, FIRST NUT FINGER TIGHT, SECOND NUT SNUG TIGHT. ALL ELEMENTS SHALL BE HOT-DIP GALVANIZED.
- B-LINE B22 W/ H 1 7/8 HOLE PATTERN HOT-DIPPED GALVANIZED OR STAINLESS STEEL CHANNEL.
- CONCRETE WALL INSTALLATION: 3/8"Ø HILTI KB-TZ2 SS304, 2-1/2" EFFECTIVE MIN. EMBED. SEE ICC-ES REPORT-4266 FOR INSTALLATION INSTRUCTIONS (5" MIN. SPACING, 6" MIN. EDGE DISTANCE, 4" MIN. WALL THICKNESS).
- GROUTED CMU WALL INSTALLATION: 3/8"Ø HILTI KB-TZ2 SS304, 2-1/2" EFFECTIVE MIN. EMBED. SEE ICC-ES REPORT-4561 FOR INSTALLATION (3" MIN. SPACING, 12" MIN. EDGE DISTANCE, 1-3/8" CLR FROM HEAD AND BED JOINTS MIN.).
- 1'-4" x 1'-4" x 6" CONCRETE LANDING PAD WITH (4) #3 EACH WAY CENTERED IN SLAB. PAD SHALL BE LEVEL PRIOR TO EV CHARGING STATION INSTALLATION.
- #3 EACH SIDE OF CONDUIT STUBOUT, BOTH DIRECTIONS.
- ALL EXPOSED EDGES OF CONCRETE FOUNDATION SHALL HAVE A 3/4" CHAMFER. WHERE NEW PAD ABUTS EXISTING WALL, CHAMFER NOT REQUIRED.

DESIGNER NOTES:
(DO NOT INCLUDE ON CONSTRUCTION DRAWINGS)

- EDIT TO BE PROJECT SPECIFIC.
- COMPLY WITH CURRENT EDITION OF LANL CAD STANDARDS MANUAL.
- ANCHORS PER LANL MASTER SPEC 05 0520 FOR NORMAL CONFIDENCE POST-INSTALLED ANCHORS.
- ANCHORS SHALL BE INSTALLED IN COMPLIANCE WITH ICC-ESR-4266, AND ICC-ESR-4561 FOR GROUTED MASONRY AND CONCRETE APPLICATIONS RESPECTIVELY.
- ANCHORAGE DESIGN IS BASED ON THE DIMENSIONS AND OPERATIONAL WEIGHTS OF THE CHARGEPOINT CT4000 EV CHARGING STATION SERIES ONLY.
- THIS STANDARD DETAIL HAS BEEN DEVELOPED FOR INSTALLATIONS EXEMPT FROM THE EFFECTS OF NATURAL PHENOMENA HAZARDS PER ESM CH. 5 SECTION II, 1.1.A.1. AN SSI AND CALCULATION SHALL NOT BE REQUIRED FOR INSTALLATIONS MEETING THIS EXEMPTION.
- WHERE THE ESM CH. 5 SECTION II, 1.1.A.1 EXEMPTION DOES NOT APPLY, ALL IBC, ESM, AND REFERENCED CODE AND STANDARDS REQUIREMENTS SHALL APPLY.

LBO-DESIGN PACKAGE REVIEWER	N/A		
APPROVED FOR RELEASE A. YAEGER			
SUBMITTED A. GIESLER			
VERIFIED A. GIESLER			
DESIGNED G. SEAY			
DRAWN G. SEAY	0	INITIAL ISSUE	10/02/23
CLASSIFICATION UNCLASSIFIED D. SMITH	NO	REVISION DESCRIPTION	DATE

ENGINEERING STANDARDS

ELECTRICAL VEHICLE CHARGING STATIONS

WALL-MOUNTED DETAILS

TA-XX BLDG XXXX

SHEET **S-5001**

Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545 **3** OF **6**

PROJECT ID DRAWING NO **CHAPTER 5 ST-G4090-3** REV **0**