TACOMA POWER ELECTRIC VEHICLE CHARGERS
TACOMA, WASHINGTON

PROJECT INFORMATION
THIS PROJECT INCLUDES INSTALLING ELECTRICAL DISTRIBUTION EQUIPMENT AND ASSOCIATED INFRASTRUCTURE TO ENERGIZE EV CHARGERS AT SEVEN (7) LOCATIONS IN DOWNTOWN TACOMA.

SITES
(1) MUNICIPAL PARKING LOT 728 MARKET ST
(2) TACOMA PARKING GARAGE 110 SOUTH 1ST ST
(3) PARK PLAZA GARAGE 923 COMMERCE ST
(4) 14TH ST LOT 1401 PACIFIC AVENUE
(5) MUSEUM OF GLASS GARAGE 1852 DOCK ST
(6) CONVENTION CENTER GARAGE 1500 COMMERCE ST
(7) TACOMA DOME, LOT A 2727 EAST D STREET

APPLICABLE CODES
ALL WORK SHALL CONFORM TO ALL PERTINENT CODES, REGULATIONS, LAWS, AND ORDINANCES AS REQUIRED BY THE STATE OF WASHINGTON.
2022 TACOMA MUNICIPAL CODE
2022 NATIONAL ELECTRICAL CODE
2018 WASHINGTON STATE ENERGY CODE (WAC 51-11C)
2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL FIRE CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL EXISTING BUILDING CODE

GENERAL NOTES
1. THE PLANS DO NOT SHOW ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL INVESTIGATE UTILITIES PRIOR TO ANY FOUNDATION EXCAVATION AND CONSIDER TRENCHING TO AVOID DAMAGE TO ANY UNDERGROUND UTILITIES. CONTACT THE OWNERS ENGINEER IF PROPOSED CONSTRUCTION CONFLICTS WITH ANY EXISTING UTILITIES. ALL EXISTING UTILITY INFRASTRUCTURE TO BE PROTECTED AT ALL TIMES THROUGHOUT CONSTRUCTION.
2. RESTORE ALL IMPACTED AREAS TO ORIGINAL CONDITIONS INCLUDING BUT NOT LIMITED TO RETAINING WALL, LANDSCAPING, PAVEMENT, CONCRETE, BACKFILL, CURB AND GUTTER.
3. ALL EQUIPMENT, BREAKERS, DISCONNECTS, AND CHARGERS TO BE CLEARLY MARKED USING PHENOLIC LABELS STATING TACOMA POWER AS THE OWNING PARTY OF THE MENTIONED EQUIPMENT.
4. UNFUSED DISCONNECTS SHALL BE HEAVY DUTY TYPE, HORSEPOWER RATED WITH INTERLOCKING COVER, APPROXIMATELY NEMA RATED FOR THE LOCATION INSTALLED. DISCONNECT HANDLE SHALL BE ON EXTERIOR OF ENCLOSURE AND BE LOCKABLE IN BOTH THE OPEN AND CLOSED POSITION, LAMINATED WITH THE LOAD SERVED, VOLTAGE, PHASE, HORSEPOWER, AND THE PANEL AND CIRCUIT NUMBER FROM WHERE IT IS FED. ACCEPTABLE MANUFACTURERS INCLUDE SQUARE D, SIEMENS, GE, EATON, OR APPROVED EQUAL.
5. PANELBOARDS SHALL BE HEAVY DUTY, COPPER BUS, CONTINUOUS DUTY WITH SHORT CIRCUIT CURRENT RATING (SCCR) PER TACOMA POWER STANDARDS 0.5-TO-600 AMPERE INTERRUPTING CAPACITY. CIRCUIT BREAKERS SHALL COMPLY WITH WSDOT 2023 STANDARD SPECIFICATION 9-29.24 ENCLOSURE CONSTRUCTION SHALL BE SURFACE MOUNT NM-1 ACCEPTABLE MANUFACTURERS INCLUDE SQUARE D, SIEMENS, GE, EATON, OR APPROVED EQUAL.
6. DO NOT DRILL ANCHORS INTO PRE-STRESSED CONCRETE STRUCTURE. ATTACH TO NON-TENSIONED FLOORED IN PLACE STRUCTURE ONLY.
7. ALL INSTALLATIONS TO MEET THE NEC, NFPA, AND CITY OF TACOMA STANDARDS.
8. PVC IS SCHEDULE 40 UNLESS NOTED OTHERWISE.
9. IF INFORMATION IS SHOWN ANYWHERE IN THE PLANS IT IS THE SAME AS SHOWN EVERYWHERE IT IS APPLICABLE.
10. DIMENSIONS ARE PROVIDED IN DETAILS TO ESTABLISH APPROXIMATE TOTAL AREA WHERE EQUIPMENT CAN BE INSTALLED. ACTUAL/FINAL DIMENSIONS TO BE COORDINATED IN THE FIELD WHEN EXACT DIMENSIONS OF EQUIPMENT ARE ESTABLISHED.
11. THE FURNISHING OF THE FOLLOWING EQUIPMENT IS NOT IN CONTRACT (NIC): ELECTRIC VEHICLE CHARGERS, CHARGER MOUNTING PEDESTALS WHERE SHOWN, CABLE MANAGEMENT SYSTEMS, BREAKAWAY BASEPLATES, AND NON-POD MOUNTED SERVICE CABINS. THESE EQUIPMENT ARE TO BE INSTALLED BY CONTRACTOR.
12. CONDUIT LAYOUT AND EQUIPMENT LOCATIONS ARE DIAGRAMMATIC. FINAL PLACEMENT IS TO BE COORDINATED IN THE FIELD WITH OTHER TRADES AND PROJECTS.
CONSTRUCTION NOTES

1. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL8.

2. EXCAVATE NORTH SIDE OF VAULT, CORE HOLE THROUGH VAULT AND THROUGH RETAINING WALL PER TACOMA POWER CUSTOMER DRAWING. RUN EGS CONDUITS EXPOSED DOWN FACE OF RETAINING WALL THEN UNDERGROUND ACROSS PARKING LOT TO NEW XFMR VAULT IN PARKING LOT PER TACOMA POWER STANDARD C-UG-1180.

3. FURNISH AND INSTALL SIX PXA XFMR VAULT PER TACOMA POWER STANDARD A-UG-1150, A-UG-1200, AND C-UG-1760. SEE DETAIL A FOR EQUIPMENT LAYOUT.

4. 200 KVA XFMR MV-480Y/277V 3-PH TO BE FURNISHED AND INSTALLED BY TACOMA POWER. XFMR IS SET ON TOP OF VAULT.

5. TRENCH AND BURY CONDUIT PER TACOMA POWER STANDARD C-UG-1190.

6. INSTALL STUBOUT TOWARD BACK OF SIDEWALK.

7. FURNISH AND INSTALL PROTECTIVE BOLLARDS TO PROTECT XFMR, EV CHARGERS AND SERVICE CABINET PER TACOMA POWER STANDARD C-UG-1490. COORDINATE FINAL LOCATION WITH TPU INSPECTOR.

8. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 480Y/277V, 3 PHASE, 4 WIRE, 24 SPACE SERVICE CABINET WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON DRAWING EL12 AND THIS DRAWING FOR BREAKER SCHEDULE. REFERENCE TACOMA POWER STANDARD C-MR-0005 AND C-MR-0002 FOR METERING.

9. FURNISH AND INSTALL CONCRETE BASE AND GROUNDING UNDER SERVICE CABINET PER DETAIL ON DRAWING EL11 AND NEC.

10. PATCH RETAINING WALL CORES. RESTORE AREA LANDSCAPING, PAVEMENT, CONCRETE, BACKFILL, CURBING AND GUTTER TO ORIGINAL CONDITION.

11. FURNISH AND INSTALL NYMCA 3R RATED, 3PH, 80A NONFUSED DISCONNECT SWITCH PER NEC.

12. EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.

13. FURNISH AND INSTALL NEMA 3R RATED, 3PH, 80A NONFUSED DISCONNECT SWITCH FOR BREAKER SCHEDULE. REFERENCE TACOMA POWER STANDARD C-MR-0005 AND C-MR-0002 FOR METERING.

14. TRANSFORMER, SERVICE CABINET, EV-1 & EV-1 ALT LAYOUT

DETAIL A

100'L TO SCALE EL1

15. EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.

16. FURNISH AND INSTALL NYMCA 3R RATED, 3PH, 80A NONFUSED DISCONNECT SWITCH PER NEC.

17. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 480Y/277V, 3 PHASE, 4 WIRE, 24 SPACE SERVICE CABINET WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON DRAWING EL12 AND THIS DRAWING FOR BREAKER SCHEDULE. REFERENCE TACOMA POWER STANDARD C-MR-0005 AND C-MR-0002 FOR METERING.

18. FURNISH AND INSTALL CONCRETE BASE AND GROUNDING UNDER SERVICE CABINET PER DETAIL ON DRAWING EL11 AND NEC.

19. PATCH RETAINING WALL CORES. RESTORE AREA LANDSCAPING, PAVEMENT, CONCRETE, BACKFILL, CURBING AND GUTTER TO ORIGINAL CONDITION.

20. FURNISH AND INSTALL NYMCA 3R RATED, 3PH, 80A NONFUSED DISCONNECT SWITCH FOR BREAKER SCHEDULE. REFERENCE TACOMA POWER STANDARD C-MR-0005 AND C-MR-0002 FOR METERING.

21. EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.

22. FURNISH AND INSTALL NYMCA 3R RATED, 3PH, 80A NONFUSED DISCONNECT SWITCH PER NEC.
CONSTRUCTION NOTES

1. RE-PURPOSE EXISTING 200A 3P SWITCH AND REPLACE FUSES WITH NEW 200A FUSES
2. REMOVE (2) EXISTING CONTACOR CABINETS, TIME CLOCK AND ASSOCIATED UNUSED EQUIPMENT. FURNISH AND INSTALL A NEW PANEL RATED 200A, 3PH, 208Y/120V.
3. REMOVE EXISTING CONDUCTORS BETWEEN EXISTING SWITCHBOARD AND EXISTING CONTACOR ENCLOSURES. MODIFY EXISTING GUTTER AS REQUIRED TO RUN FEEDERS TO THE NEW 200 AMP PANELBOARD.
4. INSTALL (2), TWO OWNER FURNISHED WALL-MOUNTED LEVEL-2 CHARGERS AND CABLE MANAGEMENT SYSTEMS PER DETAIL ON DRAWING EL8 AT PARKING STALLS (52 AND 54) ADJACENT TO THE EXISTING LEVEL-2 EV CHARGERS.
5. SURFACE MOUNT GR5 CONDUIT ON WALL AND UNDER CONCRETE BEAMS AS SHOWN IN PLAN.
6. CORE DRILL THROUGH WALL BY THE ENTRANCE DOOR FOR CONDUIT INSTALLATION.
7. FURNISH AND INSTALL 12X12X4 NEMA 4 JUNCTION BOX FOR COMMUNICATION GATEWAY. LOCATE WITHIN 16FT OF CHARGING UNITS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON DRAWING EL8.
8. FURNISH AND INSTALL EV CHARGING SIGNS PER DETAIL ON DRAWING EL10.
9. EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.

WIRE NOTES

1. (1) 3/4"C, 2#12, #12G
2. (1) 2"C, 3#-4/0, #4G
3. (1) 1.25"C, 4#8, #8G CU; (1) 2" SPARE CONDUIT
4. (1) 1.25"C, 4#8, #8G CU

RE-PURPOSE EXISTING 200A 3P SWITCH AND REPLACE FUSES WITH NEW 200A FUSES

FURNISH AND INSTALL A NEW PANEL RATED 200A, 3PH, 208Y/120V.

REMOVE EXISTING CONDUCTORS BETWEEN EXISTING SWITCHBOARD AND EXISTING CONTACOR ENCLOSURES. MODIFY EXISTING GUTTER AS REQUIRED TO RUN FEEDERS TO THE NEW 200 AMP PANELBOARD.

INSTALL (2), TWO OWNER FURNISHED WALL-MOUNTED LEVEL-2 CHARGERS AND CABLE MANAGEMENT SYSTEMS PER DETAIL ON DRAWING EL8 AT PARKING STALLS (52 AND 54) ADJACENT TO THE EXISTING LEVEL-2 EV CHARGERS.

SURFACE MOUNT GR5 CONDUIT ON WALL AND UNDER CONCRETE BEAMS AS SHOWN IN PLAN.

CORE DRILL THROUGH WALL BY THE ENTRANCE DOOR FOR CONDUIT INSTALLATION.

FURNISH AND INSTALL 12X12X4 NEMA 4 JUNCTION BOX FOR COMMUNICATION GATEWAY. LOCATE WITHIN 16FT OF CHARGING UNITS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON DRAWING EL8.

FURNISH AND INSTALL EV CHARGING SIGNS PER DETAIL ON DRAWING EL10.

EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.

FURNISH AND INSTALL 16X16X4 NEMA 4 JUNCTION BOX.

FURNISH AND INSTALL DISCONNECT FOR EACH CHARGER PER NEC.
CONSTRUCTION NOTES

- FEED NEW EV CHARGERS FROM EXISTING PANEL 5A LOCATED ON THE FIFTH FLOOR.
- INSTALL (6) SIX OWNER FURNISHED WALL-MOUNTED LEVEL-2 CHARGERS PER DETAIL ON DRAWING EL8. USE POWER SHARING. WIRE CONFIGURATION PER MANUFACTURER’S INSTALLATION MANUAL.
- FURNISH AND INSTALL CONDUIT FROM PANEL 5A TO NEW EV CHARGERS THROUGH THE WALL OPENING CLOSEST TO PANEL 5A.
- EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.
- FURNISH AND INSTALL 12X12X4 NM NEMA 4 JUNCTION BOX FOR COMMUNICATION GATEWAY. LOCATE WITHIN 160’ OF CHARGING UNITS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON DRAWING EL8.
- FURNISH AND INSTALL DISCONNECT PER NEC.

WIRE NOTES

- 1”C, 4#4, #8G CU
- 3/4”C, 2#12, #12G
- 80A/2P
- 40A/2P
- 20A/1P
- GATEWAY

TYP. XZ LS EL3
Approx. 36’
CONSTRUCTION NOTES

1. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

2. EXCAVATE THROUGH SIDEWALK TO EXPOSE WEST SIDE OF TACOMA POWER VAULT.
   CORE HOLE FOR 3” CONDUIT THROUGH SIDE OF VAULT AND SEAL AND GROUT HOLE AROUND PVC BELL END. COORDINATE ACCESS TO VAULT WITH TACOMA POWER.

3. FURNISH AND INSTALL 300 kVA XFMR VAULT PER TACOMA POWER STANDARD A-UG-1150,
   A-UG-1150, AND C-UG-1150. SEE DETAIL A FOR EQUIPMENT LAYOUT.

4. 200 kVA XFMR MV-480Y/277V, 3PH TO BE FURNISHED AND INSTALLED BY TACOMA POWER.
   XFMR IS SET ON TOP OF VAULT.

5. TRENCH AND BURY CONDUIT 36’ DEEP PER TACOMA POWER STANDARD C-UG-1150.
   INSTALL CONDUIT DIRECTLY BEHIND CURB OR SIDEWALK TO AVOID TREE ROOTS. COORDINATE WITH FIELD INSPECTOR.

6. INSTALL STUBOUT TO BACK OF SIDEWALK, APPROXIMATE LOCATION AS SHOWN.
   COORDINATE FINAL LOCATION WITH OWNER. UPDATE AS-BUILT DRAWINGS.

7. FURNISH AND INSTALL PROTECTIVE BOLLARDS TO PROTECT XFMR, EV CHARGERS AND SERVICE CABINET PER TACOMA POWER STANDARD C-UG-1400. COORDINATE FINAL LOCATION WITH TPU INSPECTOR.

8. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 480Y/277V, 3-PHASE, A WIRE, 24 SPACE SERVICE CABINET WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON DRAWNG EL13 AND THIS DRAWING FOR BREAKER SCHEDULE. REFERENCE TACOMA POWER STANDARD C-MR-0325 AND C-MR-0326 FOR METERING.

9. FURNISH AND INSTALL, CONCRETE BASE AND GROUNDING UNDER SERVICE CABINET PER DETAIL ON DRAWING EL11 AND NEC.

10. PATCH CORES AND RESTORE ALL AREA LANDSCAPING, PAVEMENT, CONCRETE, BACKFILL, CURBING AND GUTTER TO ORIGINAL CONDITION.

11. INSTALL CONDUIT DIRECTLY BEHIND CURB OR SIDEWALK TO AVOID TREE ROOTS.

12. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

13. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

14. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

15. TRENCH WITHIN THE SIDEWALK CONCRETE PANEL IMMEDIATE NORTH OR SOUTH OF EXISTING VAULT. AVOID CURB RAMPS AND CURB RADIUS OF SIDEWALK.

16. TRENCH WITHIN THE SIDEWALK CONCRETE PANEL IMMEDIATE NORTH OR SOUTH OF EXISTING VAULT. AVOID CURB RAMPS AND CURB RADIUS OF SIDEWALK.

WIRE NOTES

1. (2) 2” PVC, CONDUCTORS PER TACOMA POWER
2. (1) 4” PVC, 4-500MCM, #2/0G; (1) 4” SPARE
3. (1) 1.5” PVC, 400A, 4G CU
4. (2) 2” PVC CONDUIT STUB OUT

GENERAL NOTES

1. SOILS AT THIS LOCATION MAY BE CONTAMINATED. EXCAVATE, REMOVE AND DISPOSE OF CONTAMINATED SOIL PER RCRA SUBTITLE C OR D. THE EXCAVATED AREA SHALL BE REPLACED WITH CLEAN BACKFILL.

2. INSTALL FUTHER SERVICE-RATED 400A, 480Y/277V, 3-PHASE, A WIRE, 24 SPACE SERVICE CABINET WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON DRAWING EL13 AND THIS DRAWING FOR BREAKER SCHEDULE. REFERENCE TACOMA POWER STANDARD C-MR-0325 AND C-MR-0326 FOR METERING.

3. FURNISH AND INSTALL 5X5X4 XFMR VAULT PER TACOMA POWER STANDARD A-UG-1150,
   MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL9.

4. COORDINATE VEGETATION REMOVAL AND REMEDIATION WITH FIELD INSPECTOR TO ACCOMMODATE NEW EQUIPMENT. REMOVE ALL ABOVE AND BELOW GROUND PORTIONS OF BOHEMIAN KNOTWEED PATCH AND DISPOSE OFFSITE VEGETATION REMOVED WITHOUT LEAVING FRAGMENTS. WITHIN THE PARKING LOT, PLANT A SAME OR SIMILAR SPECIES AND SIZE. REFER TO TACOMA MUNICIPAL CODE 13.06.090.B FOR LANDSCAPING STANDARDS.

5. TRENCH WITHIN THE SIDEWALK CONCRETE PANEL IMMEDIATE NORTH OR SOUTH OF EXISTING VAULT. AVOID CURB RAMPS AND CURB RADIUS OF SIDEWALK.

6. TRENCH WITHIN THE SIDEWALK CONCRETE PANEL IMMEDIATE NORTH OR SOUTH OF EXISTING VAULT. AVOID CURB RAMPS AND CURB RADIUS OF SIDEWALK.

7. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

8. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

9. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

10. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

11. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

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13. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

14. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

15. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.

16. INSTALL CONCRETE FOUNDATION AND OWNER FURNISHED SMART DC EV CHARGER PER MANUFACTURER SPECIFICATION AND DETAIL ON DRAWING EL12.
CONSTRUCTION NOTES

- Furnish and install a new panel rated 225A, MLO, 208Y/120V. Place in vicinity of existing panel L2G. See one line diagram for breaker schedule.
- Feed new panel from 225A spare breaker in switchboard LD1A as shown.
- Install (6) six owner furnished wall-mounted level-2 chargers on the ground floor along garage wall adjacent to dock street in parking stalls 168 to 173 as shown per detail on drawing EL6.
- Furnish and install conduit exposed overhead in garage from main electrical room to EV chargers.
- Furnish and install EV charging signs per detail on drawing EL10.
- EV charging pavement markings per detail on drawing EL10 will be performed by others.
- Furnish and install 12x12x4 NM NEMA 4 junction box for communication gateway. Locate within 160' of all charging units where cell signal is strongest. See detail on drawing EL8.
- Furnish and install disconnect for each charger per NEC.

WIRE NOTES

- 2"C, 4-#4/0, #2G CU
- 1.25"C, 4#4, #8G CU
- 3/4"C, 2#12, #12G

ONE-LINE DIAGRAM

NOT TO SCALE
CONSTRUCTION NOTES

1. INSTALL (6) OWNER FURNISHED PEDESTAL-MOUNTED LEVEL 2 CHARGERS AS SHOWN PER DETAIL ON DRAWING EL13.
2. FURNISH AND INSTALL CONDUIT EXPOSED OVERHEAD IN GARAGE FROM PANEL 22M2 TO EV CHARGERS.
3. FURNISH AND INSTALL EV CHARGING SIGNS PER DETAIL ON DRAWING EL10.
4. EV CHARGING PAVEMENT MARKINGS PER DETAIL ON DRAWING EL10 WILL BE PERFORMED BY OTHERS.
5. FURNISH AND INSTALL 12X12X4 NM NEMA 4 JUNCTION BOX FOR COMMUNICATION GATEWAY. LOCATE WITHIN 100' OF ALL CHARGING UNITS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON DRAWING EL8.
6. DISCONNECT MEANS FOR EACH CHARGER IS TO BE FURNISHED BY THE OWNER, INSTALLED IN PEDESTAL. SEE DETAIL ON DRAWING EL13.

WIRE NOTES

- 1.25"- 4#8, #8G CU 3/4"- 2#12, #12G
- 40A/2P 208Y/120V 3 PHASE, 4 WIRE

ONE-LINE DIAGRAM
CONSTRUCTION NOTES

1. TACOMA POWER TO FURNISH AND INSTALL POLES, MV-208Y/120V XFMR, AND 3 PHASE AERIAL SERVICE CONDUCTORS TO THE NEW POLE.

2. COORDINATE FINAL INSTALLATION LOCATION WITH TACOMA POWER.

3. FURNISH AND INSTALL 5X5X4 NEMA 4 JUNCTION BOX FOR COMMUNICATION GATEWAY. LOCATE WITHIN 160’ OF ALL CHARGERS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON SHEET EL8.

4. TRANSLATE ONE-LINE DIAGRAM FOR INTEGRATION INTO ELECTRICAL SYSTEM.

5. INSTALL (10) TEN OWNER FURNISHED PEDESTAL-MOUNTED LEVEL 2 CHARGERS PER DETAIL ON DRAWING EL13, WITH EACH PEDESTAL POSITIONED IN FRONT AND BETWEEN TWO PARKING STALLS.

6. RESTORE ALL AREAS TO ORIGINAL CONDITION TO INCLUDE, BUT NOT LIMITED TO LANDSCAPING, PAVER WORK, CURB AND GUTTER.

7. DEDUCT MEANS FOR EACH CHARGER IS TO BE FURNISHED BY THE OWNER, INSTALLED IN BASE OF PEDESTAL. SEE DETAIL ON DRAWING EL13.

WIRE NOTES

1. FOR TACOMA POWER

2. (2) 4" PVC, 4-500 MCM, #2/0G

3. 3/4" C, 2#12, #12G

4. (2) 2" PVC CONDUIT STUB OUT

5. 1.25" PVC, 4#4, #8G CU

6. 1.5" PVC, 4#2, #8G CU

7. 2" PVC, 4-#1/0, #6G CU

8. 2" PVC, 4-#3/0, #4G CU

9. PER TACOMA POWER

10. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 208Y/120V, 3 PHASE, 24 SPACE SERVICE PANEL WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON SHEET EL12.

11. INSTALL PROTECTIVE BOLLARDS TO PROTECT XFMR, EV CHARGERS AND SERVICE CABINET PER TACOMA POWER STANDARD C-UG-1400. COORDINATE FINAL LOCATION WITH TPU INSPECTOR.

12. FURNISH AND INSTALL CONCRETE BASE AND GROUNDING UNDER SERVICE CABINET PER DETAIL ON SHEET EL11 AND NEC.

13. DISCONNECT MEANS FOR EACH CHARGER IS TO BE FURNISHED BY THE OWNER, INSTALLED IN BASE OF PEDESTAL. SEE DETAIL ON DRAWING EL13.

14. DISCONNECT MEANS FOR EACH CHARGER IS TO BE FURNISHED BY THE OWNER, INSTALLED IN BASE OF PEDESTAL. SEE DETAIL ON DRAWING EL13.

15. FURNISH AND INSTALL EV CHARGING SIGNS PER DETAIL ON DRAWING EL10.

16. EV CHARGING PAINTING SUITABLE FOR COMMUNICATION GATEWAY. LOCATE WITHIN 100’ OF ALL CHARGERS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON SHEET EL10.

17. FURNISH AND INSTALL 12X12X4 NM NEMA 4 JUNCTION BOX FOR COMMUNICATION GATEWAY. LOCATE WITHIN 160’ OF ALL CHARGERS WHERE CELL SIGNAL IS STRONGEST. SEE DETAIL ON DRAWING EL8.

18. INSTALL STUBOUT SOUTH OF XFMR, APPROXIMATE LOCATION AS SHOWN. COORDINATE FINAL LOCATION WITH OWNER. INCORPORATE IN A-S-BUILT DRAWINGS.

19. FURNISH AND INSTALL SERVICE-RATED 400A, 208Y/120V, 3 PHASE, 24 SPACE SERVICE PANEL WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON SHEET EL12.

20. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 208Y/120V, 3 PHASE, 24 SPACE SERVICE PANEL WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON SHEET EL12.

21. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 208Y/120V, 3 PHASE, 24 SPACE SERVICE PANEL WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON SHEET EL12.

22. INSTALL OWNER FURNISHED SERVICE-RATED 400A, 208Y/120V, 3 PHASE, 24 SPACE SERVICE PANEL WITH 400A MAIN BREAKER, TACOMA POWER METER BASE, AND CURRENT TRANSFORMER. SEE DETAIL ON SHEET EL12.
WALL/PEDESTAL MOUNTED EV CHARGER DETAILS

- COMMUNICATION GATEWAY ENCLOSURE
  - Not to scale
  - Lockable hinged NM NEMA 4 junction box with backplate
  - Duplex 20AMP receptacle inside enclosure

- PARK PLAZA GARAGE POWER SHARING DIAGRAM
  - Not to scale
  - U.L. listed terminal block for power sharing in accordance with manufacturer's installation guide, located within NEMA rated junction box

- WALL MOUNT SCHEMATIC
  - Not to scale
  - Cable management system
  - NEMA rated junction box
  - 4/6/2023
CONSTRUCTION NOTES

1. INSTALL CHARGER, POWER CONNECTIONS AND GROUND IN ACCORDANCE WITH MANUFACTURER’S SPECIFICATIONS AND INSTALLATION GUIDE.
2. CONSTRUCT CONCRETE FOUNDATION PER WSDOT STANDARD J-10.10-04 AND AS SHOWN.
3. DISCONNECT TO BE LOCKABLE IN BOTH THE OPEN AND CLOSED POSITION.
4. SEE ONE-LINE AND ELEVATIONS DRAWINGS FOR CONDUIT AND CABLE INFORMATION.
5. CABLE MANAGEMENT SYSTEM ATTACHED TO SIDE OF CHARGER.

POWER CONDUIT AND CABLE FROM DISCONNECT

PLACE REBAR IN CENTER OF SLAB

#3 REBAR 12" ON CENTER TYP.

COORDINATE DISCONNECT LOCATION WITH TPU INSPECTOR

ANCHOR CABINET TO PAD PER MANUFACTURER INSTALLATION GUIDE

FINISHED GRADE

CONDUIT AND CABLE TO SERVICE

SIGN

PLACE REBAR IN CENTER OF SLAB

COORDINATE DISCONNECT LOCATION WITH TPU INSPECTOR

ANCHOR CABINET TO PAD PER MANUFACTURER INSTALLATION GUIDE

FINISHED GRADE

CONDUIT AND CABLE TO SERVICE

SIGN
**NOTES**

The following instructions are for reference only. Pavement marking will be performed by others.

- Provide 4.5" spacing between stencils.
- Location: Center at foot of parking stall.
- Font: Standard Gothic.
- Color: Green on existing surface (no fill inside stencil).

**EVSE Pavement Marking and Signage Details**

**EVSE Charging Only**

**Scale: Not to Scale**

1. **EVSE Parking Signage**
   - Furnish and install signage adjacent to each parking stall served by an EV charger.
   - Mount on appropriate wall or install on 4x4 treated wood post where wall mounting is not suitable. Coordinate exact locations with City of Tacoma site representative.

2. **Evise Parking Signage**
   - Furnish and install signage adjacent to field inspector and Tacoma Power signage department.
   - Signs (1) and (2) are to be placed to identify EV charging parking space.
   - Sign (3) is to be placed to show the direction of charging station(s).

3. **NOTES**
   - Furnish and install signing. Coordinate with field inspector and Tacoma Power signage department.
   - Signs (1) and (2) are to be placed to identify EV charging parking space.
   - Sign (3) is to be placed to show the direction of charging station(s).
   - Furnish and install signing adjacent to each parking stall served by an EV charger.
   - Mount on appropriate wall or install on 4x4 treated wood post where wall mounting is not suitable. Coordinate exact locations with City of Tacoma site representative.
CONSTRUCTION NOTES:
1. Furnish and install 5/8" x 10' copper clad ground rod in all 4 corners of the foundation.
2. Construct concrete service foundation in accordance with WSDOT Standard J-10.10-04.
3. Furnish and install continuous bare copper conductor ground ring 6" inside the edge of the concrete foundation, buried 12" below the bottom of the concrete foundation, in full contact with native soil material and connected to all ground rods using approved NEC compliant connectors.
4. Furnish and install accessible ground well at each ground rod.
5. Extend bare copper ground tail from two ground rods to the service cabinet ground terminal. Protect copper conductor through concrete by installing in conduit.
6. #3 rebar 12" on center, place rebar mat in the center of concrete pad per WSDOT Standard J-10.10-04.
8. Internal utility power meter.
9. Main breaker.
10. Lockable distribution circuit breakers see one line for information.
11. Utility termination CT section per Tacoma power requirements.

5/8" X 10' COPPER CLAD GROUND ROD. TYP.
1/0 BARE CU GROUND RING

6" MIN.
**GENERAL NOTES**

1. DESIGN SHOWN IS BASED ON SKYLINE MANUFACTURING - SERIES 67850. MANUFACTURER'S NAMES AND MODELS ARE PROVIDED AS A POINT OF REFERENCE FOR A STANDARD, QUALITY AND FUNCTIONALITY AND ARE NOT INTENDED TO IMPLY SOURCING OF THE PRODUCT OR SERVICE PANEL. THE SERVICE PANEL MUST MEET OR EXCEED ALL THE CHARACTERISTICS SHOWN.

2. CIRCUIT BREAKERS SHALL COMPLY WITH WSDOT 2023 STANDARD SPECIFICATION 8-32-24 AND SERVICE ENCLOSURE SHALL COMPLY WITH SECTION 9-29-25.

3. SERVICE CABINET IS FURNISHED BY CITY OF TACOMA.

---

### 277/480V PANEL COMPONENT SCHEDULE

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<thead>
<tr>
<th>400A, 3Ø 4W CT LANDING PAD, B-LINE 6067HAL</th>
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<tbody>
<tr>
<td>13 JAW CT RATED METER BASE, B-LINE 121413</td>
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<tr>
<td>PANEL BOARD, 80A FRAME, 40A TRIP, 2 POLE, EATON BAB2040</td>
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<tr>
<td>13 JAW CT RATED METER BASE, B-LINE 121413</td>
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<td>EATON QL123EL</td>
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<td>CABINET NOTES</td>
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<td>TOP AND BOTTOM SCREENED AND GASKETED VENTS</td>
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<td>CT SECTION: METERBASE AND DEAD-FRONTED CT LANDING PAD</td>
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<tr>
<td>DEAD-FRONTED DISTRIBUTION SECTION</td>
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<tr>
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<tr>
<td>EQUIPMENT MOUNTING PAN WHITE</td>
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<td>UL 508A ENCLOSED INDUSTRIAL CONTROL PANEL</td>
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### 120/208V PANEL COMPONENT SCHEDULE

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PEDESTAL INSTALLATION DETAILS

1.5" GRC

V-SHAPED MOUNTING BRACKET
REFER TO MANUFACTURER'S PEDESTAL AND CABLE MANAGEMENT SYSTEM INSTALLATION GUIDE.

1.5" GRC SUPPORT AS NEEDED AND PER NEC

PUNCH OUT HOLE IN BACK OF PEDESTAL OPPOSITE OF ACCESS DOOR TO CREATE CONDUCTOR PATH.

DUAL CIRCUIT BREAKERS AND DISCONNECT

ISOLATED TERMINAL BLOCK
USE ONLY FOR POWER SHARING APPLICATIONS. OTHERWISE CONNECT CONDUCTORS DIRECTLY TO DUAL CIRCUIT BREAKERS ABOVE.

NON-ISOLATED TERMINAL BLOCK

WIRING INFORMATION STICKER

ATTACH PEDESTAL TO BREAKAWAY BASE USING 3/8" STAINLESS STEEL HARDWARE

GALVANIZED CONDUIT BODY

ANCHOR OWNER FURNISHED METAL BREAKAWAY BASE TO CONCRETE SLAB USING 3/4" DIAMETER 304 STAINLESS STEEL EPOXY ANCHOR AS MANUFACTURED BY HILTI OR APPROVED EQUAL. WITH MINIMUM 2-1/2" EMBEDMENT. AVOID DRILLING INTO REBAR. USE LEVELING NUTS BETWEEN CONCRETE AND BREAKAWAY BASE TO PLUMB AND LEVEL CHARGER PEDESTAL. GROUT Voids UNDER BREAKAWAY BASE USING APPROVED 4000 PSI NON SHRINK GROUT.

NOTE
SEE MANUFACTURER INSTALLATION GUIDE FOR INSTALLATION DETAILS.

ATTACH PEDESTAL TO BREAKAWAY BASE USING 3/8" STAINLESS STEEL HARDWARE

FRONT VIEW
SIDE VIEW

NOT TO SCALE

CONCRETE

MOUNTING BRACKET
NOT TO SCALE

PEDESTAL WITH SURFACE MOUNT CONDUIT
NOT TO SCALE

CABLE MANAGEMENT SYSTEM INSTALL PER MANUFACTURER INSTALLATION REQUIREMENTS

DUAL CIRCUIT BREAKERS AND DISCONNECT

ISOLATED TERMINAL BLOCK
USE ONLY FOR POWER SHARING APPLICATIONS. OTHERWISE CONNECT CONDUCTORS DIRECTLY TO DUAL CIRCUIT BREAKERS ABOVE.

NON-ISOLATED TERMINAL BLOCK

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NOTE
SEE MANUFACTURER INSTALLATION GUIDE FOR INSTALLATION DETAILS.
NEW PANEL SCHEDULE
NEW PANEL ENCLOSED IN SERVICE CABINET. FURNISHED BY CITY OF TACOMA

EXISTING PANEL SCHEDULE 5A

NEW PANEL SCHEDULE
NEW PANEL ENCLOSED IN SERVICE CABINET. FURNISHED BY CITY OF TACOMA
## NEW PANEL SCHEDULE

**New Panel**

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**TOTAL LOAD:**
- **CONV LOAD:** 73.00 KVA
- **NET CALC LOAD:** 73.00 KVA

**New Panel Enclosed in Service Cabinet. Furnished by City of Tacoma.**

## EXISTING PANEL SCHEDULE 22M2

**Panel 22M2**

**LOCATION:** CONVENTION CENTER GARAGE

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**TOTAL LOAD:**
- **CONV LOAD:** 73.00 KVA
- **NET CALC LOAD:** 73.00 KVA

**Panel 22M2**

**LOCATION:** CONVENTION CENTER GARAGE

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**TOTAL LOAD:**
- **CONV LOAD:** 73.00 KVA
- **NET CALC LOAD:** 73.00 KVA

**New Panel Enclosed in Service Cabinet. Furnished by City of Tacoma.**

---

**New Panel Schedule**

**LOCATION:** 3232 EAST 13TH STREET (TACOMA GYM L1)

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<td>7.200</td>
<td>W02</td>
<td>A</td>
<td>CAR CHARGING STATION #7</td>
<td>D</td>
<td>7.200</td>
<td>W02</td>
<td>A</td>
</tr>
<tr>
<td>25</td>
<td>CAR CHARGING STATION #7</td>
<td>D</td>
<td>7.200</td>
<td>W02</td>
<td>A</td>
<td>CAR CHARGING STATION #8</td>
<td>D</td>
<td>7.200</td>
<td>W02</td>
<td>A</td>
</tr>
</tbody>
</table>

**TOTAL LOAD:**
- **CONV LOAD:** 73.00 KVA
- **NET CALC LOAD:** 73.00 KVA

**New Panel Enclosed in Service Cabinet. Furnished by City of Tacoma.**