

Introduced by: City Manager Nathan Mai-Lombardo

AN ORDINANCE AUTHORIZING AN AGREEMENT WITH VANSTAR CONSTRUCTION TO INSTALL ELECTRIC VEHICLE CHARGERS

WHEREAS, the council approved on April 15, 2024 an agreement with Vanstar to apply for grants for electric vehicle charging infrastructure, which were approved; and

WHEREAS, as the city moves forward with upgrading some vehicles to electric vehicles, the council approves the installations of charging stations at strategic locations in the city, which starts with the City Hall, Police Station, and Fire House #1.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BERKELEY, MISSOURI, AS FOLLOWS:

- Section 1.** The City Manager is hereby authorized to enter into and execute an agreement with Vanstar Construction for electric vehicle charging stations.
- Section 2.** The agreement is attached and hereby incorporated herein and made a part of this ordinance, as if fully set out herein.
- Section 3.** This Ordinance shall be in full force and effect from and after its date of passage.

1st Reading this 17th day of June 2024

2nd Reading this 17th day of June 2024

3rd Reading, PASSED and APPROVED, this _____ day of _____ 2024

Babatunde Deinbo, Mayor

ATTEST:

Deanna L. Jones, City Clerk

Approved as to Form:
Donnell Smith, City Attorney

Final Roll Call:

Councilwoman Verges	Aye	___	Nay	___	Absent	___	Abstain	___
Councilwoman Williams	Aye	___	Nay	___	Absent	___	Abstain	___
Councilman Hoskins	Aye	___	Nay	___	Absent	___	Abstain	___
Councilwoman Anthony	Aye	___	Nay	___	Absent	___	Abstain	___
Councilman Hindeleh	Aye	___	Nay	___	Absent	___	Abstain	___
Councilwoman-at-Large Crawford-Graham	Aye	___	Nay	___	Absent	___	Abstain	___
Mayor Deinbo	Aye	___	Nay	___	Absent	___	Abstain	___

CITY OF BERKELEY
ELECTRIC VEHICLE CHARGING STATIONS

6/14/24

Dual-Port.

Series 7

Level 2 EV Charging

Example of type of Level 2
charger that may be used

blink

With its compact form factor, easy installation, commercial-grade aluminum body, and ENERGY STAR® certification, the Series 7 charging station is the perfect solution for your business or fleet.

DUAL-PORT • COMPACT • FLEXIBLE

Series 7 Benefits

- Configurable up to 48A Max per port
- Dual-port design for two vehicles to charge simultaneously
- Easy-to-read back-lit LCD screen
- Universal J1772 plug compatible with all-electric and plug-in hybrid electric vehicles*
- Bright station status LED indicator lights
- Data communication via built-in 4G LTE
- Built-In electricity metering via intuitive, smart network connection
- Remote station management
- Flexible access control and pricing
- Rugged aluminum enclosure
- Pedestal and wall-mount options



*Tesla adapter required

*Actual charging speeds may vary based on environmental and other factors and are not guaranteed.
The product image shown is for illustration purposes only and may not be an exact representation of the product.

Example of type of DCFC charger that may be used

blink[®]

60kW DC FAST CHARGER Specifications



Product Number	TP5-60-480
Rated Power	66.4kVA
Input Voltage Frequency	480VAC (3P+N+PE) 60Hz
FLA II Breaker Rating	80A 100A (or larger)
Maximum Power	60kW
Output Voltage	150-1000VDC
Output current	Up to 200A
Connector Options	CCS1 CHAdeMO NACS
CCS Cable	Up to 150A – Air Cooled
CHAdeMO Cable	Up to 125A – Air Cooled
NACS Cable	Up to 250A – Air Cooled
Cycle Mode	1 x 60kW (Max: 200A)
Parallel Mode	2 x 30kW (Max: 200A)
Efficiency	≥ 94% at nominal output power
Power factor	> 0.98 @ full load
Operating temperature	-4°F to 131°F (-20°C to 55°C)
Altitude	< 6600' (2000m)
Working Storage Humidity	≤ 95% RH ≤ 99% RH (Non-condensing)
Display	10" LCD Touch Screen
Access Control	RFID: ISO/IEC 14443A/B Credit Card Reader
Dimensions (L x D x H)	39.96" x 25.82" x 73.42"
Ingress Protection	NEMA 3S (IP54), IK10
Power Electronics Cooling	Air Cooled
Weight	617lbs (280kgs)
Insulation (input – output)	> 2.5kV
Charging Protocol	Mode 4 - IEC-61851, ISO-15118, DIN 70121 Mode 4 - CHAdeMO 0.9, 1.0
Connector Cable Length	CCS & NACS & CHAdeMO - 16ft (5m) Cable Management included for all connectors
Interface protocol	OCPP 1.6J
Communication Protocol	Ethernet, WiFi, 4G
Electrical Safety: GFCI	RCD 20 mA Type A
Electrical Safety: Surge Protection	20 kA
Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground
Electrical Safety: Output Short	Output power disabled when output is short circuited
Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics
Emergency Stop	Emergency Stop Button Disables Output Power
Regulatory Compliance	UL 2202, UL 2231-2 EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012
Metering	DC kWh meter per connector

BlinkCharging.com

(888) 998-2546

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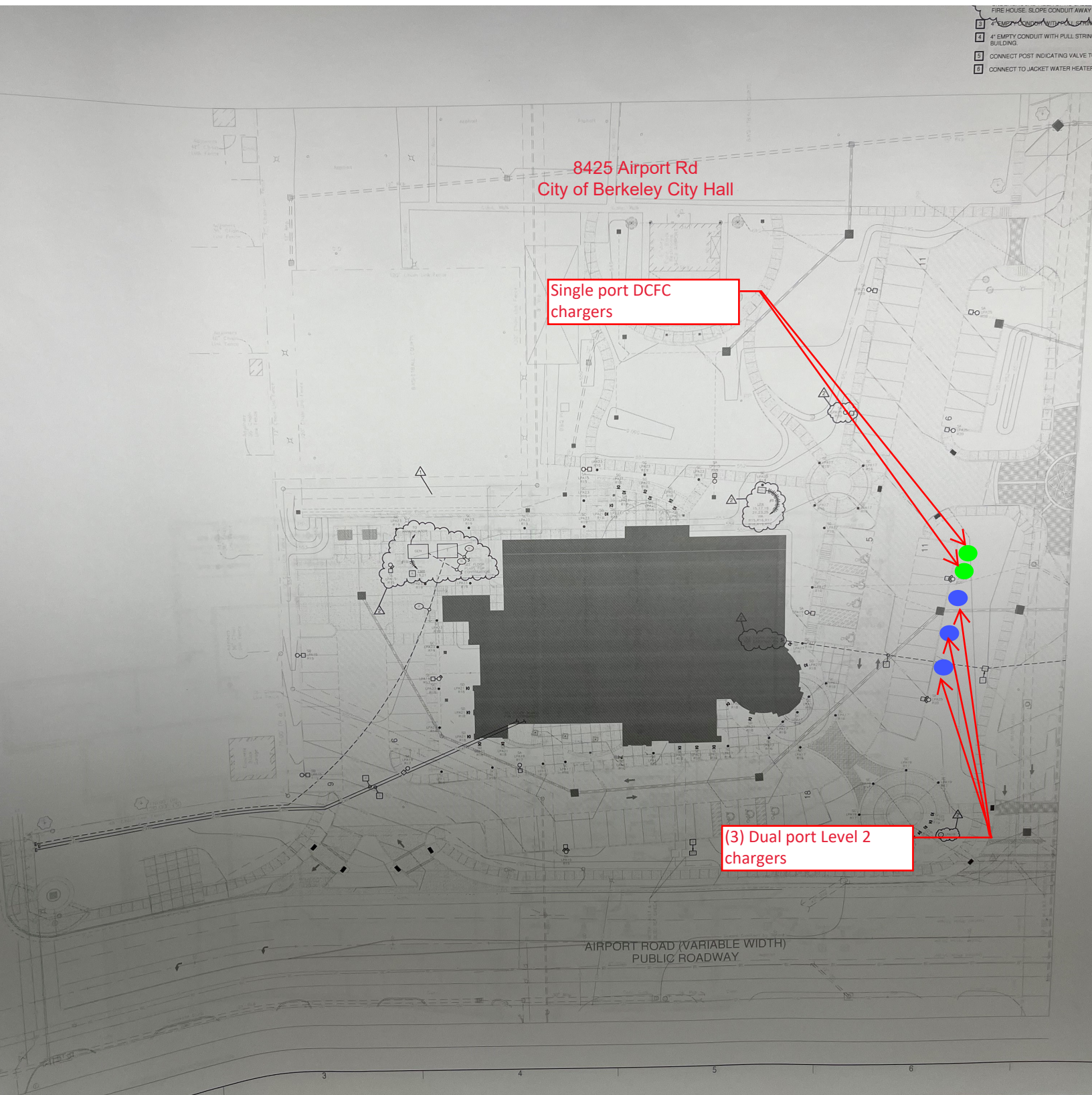
Chargers are capable of be programmed for free charging, payment by credit card with a setting that allows City of Berkeley vehicles to charge for free

- FIRE HOUSE: SLOPE CONDUIT AWAY
- 4" EMPTY CONDUIT WITH PULL STRING BUILDING
- CONNECT POST INDICATING VALVE TO
- CONNECT TO JACKET WATER HEATER

8425 Airport Rd
City of Berkeley City Hall

Single port DCFC
chargers

(3) Dual port Level 2
chargers





8340 FROST SAINT LOUIS, MO 63134

Police Station

(3) Dual port L2 chargers

(2) DCFC Charging ports

Berkeley Police

Berkeley Police

Frost Ave

Image Landsat / Copernicus

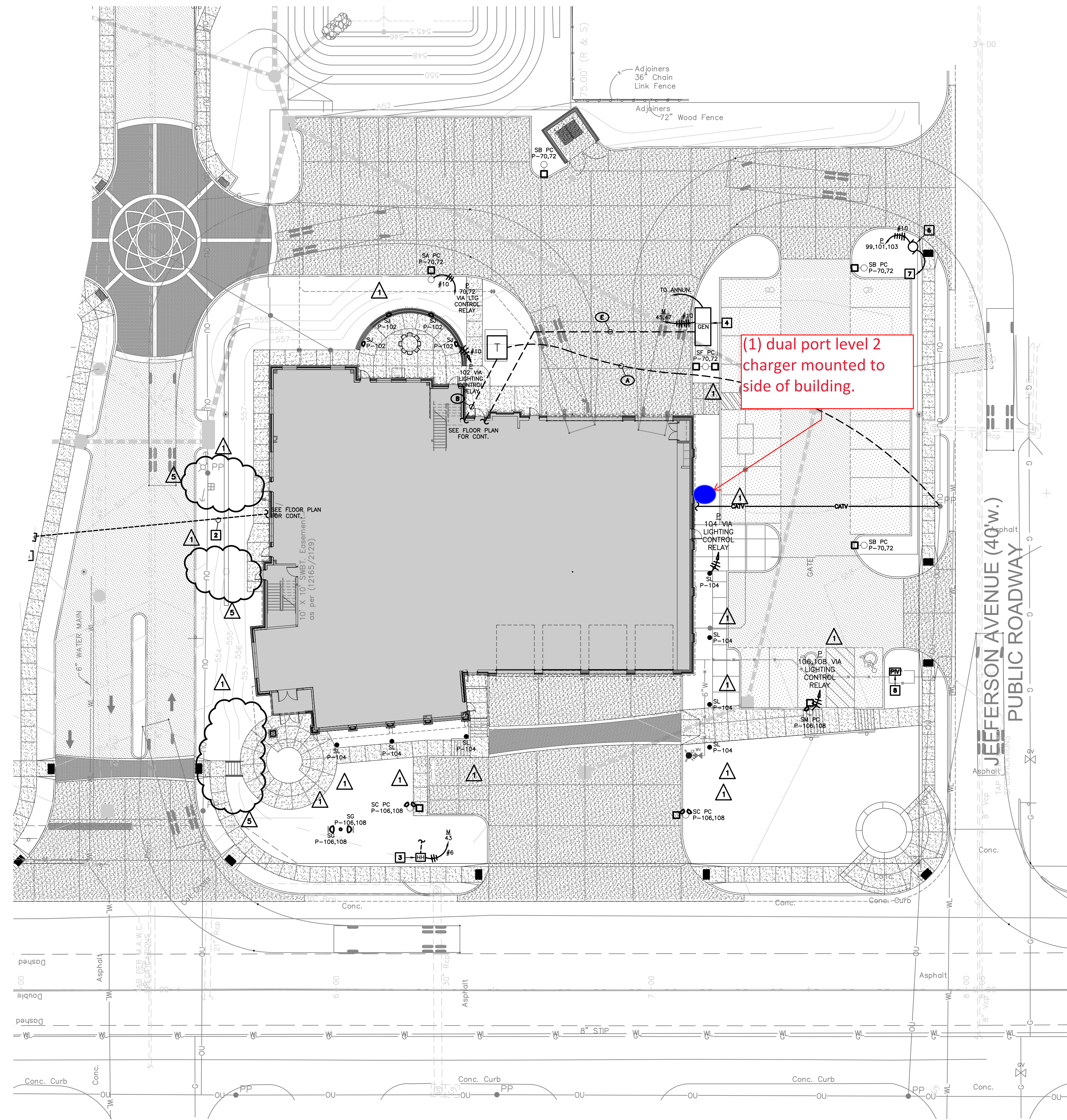
58 ft

Google Earth

38°45'41.19" N 90°19'43.38" W elev 575 ft eye alt 970 ft



SITE PLAN ELECTRICAL POWER
SCALE: 1"=20'



- 1 30"W x 36"L 36"D TIER 15 UNDERGROUND HAND ENCLOSURE SUPPLIED AND INSTALLED UNDER CITY HALL PROJECT. STUB 4 PVC INTO ENCLOSURE.
- 2 4" EMPTY PVC (CONCRETE ENCASED UNDER ROADWAY) WITH (3)-1 1/4" MINERDUCTS AND PULL STRINGS. FIBER CABLE TO BE INSTALLED UNDER CITY HALL PROJECT.
- 3 HANDHOLE BY SIGNALIZATION CONTRACTOR. INSTALL 1"2 TO PANEL "M". PULL 3 #8 CONDUCTORS COILED IN PULL BOX TO PANEL. CONNECT TO 50 AMP BREAKER. INSTALL 1"2 TO SIGNAL CONTROL RELAY. PULL 2 #12 CONDUCTORS COILED IN PULL BOX TO RELAY CONTROLS (4) 50 AMP EMERGENCY DOOR OPENING OPERATES SIGNAL. COORDINATE LENGTH OF CONDUCTOR WITH SIGNALIZATION CONTRACTOR.
- 4 CONNECT TO JACKET WATER HEATER AND BATTERY CHARGER.
- 5 AIM AT FLAG. MOUNT 5' EITHER SIDE OF POLE.
- 6 CONNECT TO GATE CONTROLLER.
- 7 INSTALL EMPTY 1"2 FROM GATE CONTROLLER TO NORTH MAIN DOOR INSIDE APPARATUS BAY FOR FUTURE CONTROL OF GATE.
- 8 CONNECT POST INDICATING VALVE TO FIRE ALARM PANEL.

New Fire Station for:
City of Berkeley
Airport Road, Berkeley Missouri 63134

HORNER & SHIFRIN, INC.
ENGINEERS
5220 OAKLAND AVE. • ST. LOUIS, MO 63110-1490
314-531-4521 • FAX: 314-531-8866 • www.HornerShifrin.com
Professional Engineer License No. 1000159
Certificate of Authority: 000159
Expiration Date: December 31, 2010

R. GREGORY GARNER
MO ARCHITECT LICENSE NO. A-5443

Archimages
Architecture+interiors

143 West Clinton Place
St. Louis Missouri 63122
(ph) 985.7445 (fax) 985.7477

M/O ARCHITECTURAL CORPORATION
ARCHIMAGES, INC. 000650





June 14, 2024

Nathan Mai-Lombardo, CPM
City Manager
The City of Berkeley
8425 Airport Rd.
Berkeley, MO 63134

RE: CITY OF BERKELEY CAR CHARGERS

We have completed the initial feasibility study for electric vehicle chargers at the City of Berkeley City Hall, Fire Station #1 and Police Station. We have made initial applications and received approval from Ameren for rebates. Below is a recap of our proposed scope of work at each building.

Fire Station #1

1. Install (2) 60 amp 2 pole breakers in panel M and run conduit from panel through ceiling and down the east block wall and drill out the block above the lockers to get outside.
2. LB down the outside of the building to the height of the EV chargers. We will match the existing heights.
3. Paint conduits on exterior of building only.
4. Provide and install (1) Level 2 charger (basis of design Blink Dual Port Series 7, 48A max). These are configurable up to 48 amps max per port.
5. Caulk where conduit goes through the block wall.

Police Station

1. Directional bore 80lf for (2) 2 ½" HDPE conduits.
2. Excavate 100lf X 12" wide X 24" deep.
3. Excavate, set rock and set (1) 17' X 30" Quazite box
4. Form and pour concrete pad 4' X 4' X 6" thick
5. Install (3) bases 16" diameter, 24" BFG, 12" AFG, no rebar, standard sona tube form.
6. Remove spoils from site.
7. Seed and straw restoration.
8. Install (1) 125 amp 3 pole breakers in the EDP 600 amp 277/480 volt panel.
9. Install (1) conduits out of the EDP panel and drill out the block wall to get outside
10. Install (3) 1" emt conduits out of the 120/208 panel. These will be ran overhead and down the block wall inside
11. Drill outside to get all (4) conduits out.
12. Install (1) trough on the outside of the building.
13. Install (2) 2 ½" PVC conduits into the trough from underground HDPE pipes.
14. Install (1) 17" X 30" Quazite box.
15. Pipe the (2) 2 ½" HDPE conduits into the Quazite box.
16. Level 3 Charger
 - a. Set (1) 200 amp rated non-fused disconnect next to the Level 3 charger.
 - b. Provide and install (1) DCFC Level 3 charger (basis of design: Blink CTX 60KW DFFC-CCS). This will be cycle mode so only (1) port may be in use at a time for full 60KW usage. If both ports are being used then the KW to each port will be split.
17. Level 2 Chargers
 - a. Install (6) 60 amp 2 pole breakers in Panel P
 - b. Install (3) dual port Level 2 charging stations (basis of design Blink Dual Port Series 7, 48A max)



18. We have installed an electric meter that will give us information regarding peak demand on the building to confirm there is adequate capacity in the existing service to add these car chargers. This pricing is based on adequate capacity being available, no service upgrades are included.

City Hall

1. Directional bore in earth 250' for (3) 2 ½" HDPE conduits
2. Excavate 75" X 12" X 24". Backfill with spoils.
3. Form and pour concrete pad for Level 3 charger
4. Install (3) concrete piers for Level 2 chargers
5. Remove spoils.
6. Seed/straw restoration.
7. Install (1) 125 vamp 3 pole breaker in the 277/480 volt MDP panel.
8. Install (1) 1 ½" emt from MDP panel through the drop ceiling and down the corner wall.
9. Patch and paint where drywall is removed
10. Install (1) 225 amp breaker in the 120/208 panel.
11. Install (3) 60 amp 2 pole breakers for the (3) Level 2 chargers.
12. Install (1) 2" emt conduit to the storeroom on the other side.
13. Install (1) 225 amp 3 phase 4 wire panel in storage room.
14. Install (3) 1" emt conduits out of panel to the corner wall.
15. Drill out a total of (4) holes through the brick. This will be just under the lower stone trim ring.
16. Install (1) trough on the outside of the building.
17. Set quazite box in the ground at building.
18. Pipe to the trough with (3) 2 ½" PVC conduits.
19. Set quazite box at corner of parking lot.
20. Install (1) PVC conduit to the Level 3 charger.
21. Provide and install (1) DCFC Level 3 charger (basis of design: Blink CTX 60KW DFFC-CCS). This will be cycle mode so only (1) port may be in use at a time for full 60KW usage. If both ports are being used then the KW to each port will be split.
22. Install (3) dual port Level 2 charging stations (basis of design Blink Dual Port Series 7, 48A max)
23. Install (2) PVC conduits to each pedestal charger locations. This will be a dedicated conduit per charger port.
24. Install (1) Level 3 charger. Forklift rental is included.
25. Install (1) disconnect at the Level 3 charger. This will be supported with a uni-strut rack.
26. Install and build (6) Level 2 chargers and (3) pedestals with associated hardware.

Old City Hall Park

1. Pricing to be determined, pending feedback from Ameren on new service options.

General items

1. City of Berkeley will need to provide adequate wifi connection to each charger. No provisions for upgrading existing wifi are included.
2. City of Berkeley is responsible for filing tax credit forms, no tax consulting is included. Vanstar will meet wage and apprenticeship requirements for the US Treasury EV charger tax credit. It is assumed that the City of Berkeley will meet all other requirements for this tax credit. Vanstar is not a tax professional and cannot guarantee tax credits are received, but will assist the City's accountant in providing any technical information related to the installation. Vanstar construction will take the lead and facilitate all Ameren rebate application paperwork.
3. Proposal assumes no surveying is required and that chargers can be located as shown in preliminary site plans.
4. No zoning variance applications are included.
5. Proposal includes installing labels on all chargers
6. Proposal includes testing and performing commissioning at all chargers
7. Permit fees to be paid by City of Berkeley
8. Sales taxes are not included



9. Proposal assumes no irrigation lines need to be repaired and no private utility lines are in the way of new installations.
10. Pricing is based on no utilities or obstructions being encountered during underground work.
11. Payment and performance bond is not included, but can be provided for additional price, if required.

Pricing breakdown for the scope of work listed above:

	Fire station	Police Station	City Hall	Total
L2 charging ports	2	6	6	14
L3 charging ports	0	2	2	4
Price	\$41,480	\$187,630	\$268,323	\$497,433
Ameren rebate	-\$10,000	-\$70,000	-\$70,000	-\$150,000
30% Federal tax credit	-\$12,444	-\$56,289	-\$80,497	-\$149,230
Price after incentives	\$19,036	\$61,341	\$117,826	\$198,203

Please feel free to contact us with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Nick Hugeback". The signature is fluid and cursive, with a large initial "N" and "H".

Nick Hugeback
President
VANSTAR CONSTRUCTION CO.