



TOWN OF JACKSON PLANNING & BUILDING DEPARTMENT

TRANSMITTAL MEMO

Town of Jackson

- Public Works/Engineering
- Building
- Title Company
- Town Attorney
- Police

Joint Town/County

- Parks and Recreation
- Pathways
- Joint Housing Dept

Teton County

- Planning Division

- Engineer
- Surveyor- *Nelson*
- Assessor
- Clerk and Recorder
- Road and Levee

State of Wyoming

- Teton Conservation
- WYDOT
- TC School District #1
- Game and Fish
- DEQ

Federal Agencies

- Army Corp of Engineers

Utility Providers

- Qwest
- Lower Valley Energy
- Bresnan Communications

Special Districts

- START
- Jackson Hole Fire/EMS
- Irrigation Company

Date: July 11, 2022	REQUESTS:
Item #: P22-176	The applicant is submitting a request for LDR Text Amendment to sec. 6.2.2 to require electric vehicle infrastructure in parking lots in the Town of Jackson.
Planner: Tyler Valentine	For questions, please call Tyler Valentine at 733-0440, x1305 or email to the address shown below. Thank you.
Phone: 733-0440 ext. 1305	
Email: tvalentine@jacksonwy.gov	
Applicant/Agent Yellowstone-Teton Clean Cities -Alicia Cox PO Box 11756 Jackson, WY 83002	
Alex Norton, OPS Strategies PO Box 1349 Jackson, WY 83001	
Please respond by: August 2, 2022 (with Comments)	

The applicant is submitting a request for LDR Text Amendment to sec. 6.2.2 to require electric vehicle infrastructure in parking lots in the Town of Jackson.

For questions, please call Tyler Valentine at 733-0440, x1305 or email to the address shown below. Thank you.

RESPONSE: For Departments not using Trak-it, please send responses via email to:
alangley@jacksonwy.gov



PLANNING PERMIT APPLICATION
Planning & Building Department

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | www.townofjackson.com
Jackson, WY 83001

For Office Use Only

Fees Paid _____

Date & Time Received _____

Application #s _____

Please note: Applications received after 3 PM will be processed the next business day.

PROJECT.

Name/Description: _____

Physical Address: _____

Lot, Subdivision: _____ PIDN: _____

PROPERTY OWNER.

Name: _____ Phone: _____

Mailing Address: _____ ZIP: _____

E-mail: _____

APPLICANT/AGENT.

Name: _____ Phone: _____

Mailing Address: _____ ZIP: _____

E-mail: _____

DESIGNATED PRIMARY CONTACT.

_____ Property Owner _____ Applicant/Agent

TYPE OF APPLICATION. Please check all that apply; review the type of application at www.townofjackson.com/200/Planning

Use Permit

Basic Use

Conditional Use

Special Use

Relief from the LDRs

Administrative Adjustment

Variance

Beneficial Use Determination

Appeal of an Admin. Decision

Physical Development

Sketch Plan

Development Plan

Design Review

Subdivision/Development Option

Subdivision Plat

Boundary Adjustment (replat)

Boundary Adjustment (no plat)

Development Option Plan

Interpretations

Formal Interpretation

Zoning Compliance Verification

Amendments to the LDRs

LDR Text Amendment

Map Amendment

Miscellaneous

Other: _____

Environmental Analysis

PRE-SUBMITTAL STEPS. To see if pre-submittal steps apply to you, go to www.townofjackson.com/200/Planning and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.

Pre-application Conference #: _____

Environmental Analysis #: _____

Original Permit #: _____

Date of Neighborhood Meeting: _____

SUBMITTAL REQUIREMENTS. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to www.townofjackson.com/200/Planning and select the relevant application type for submittal requirements.

Have you attached the following?

Application Fee. Fees are cumulative. Go to www.townofjackson.com/200/Planning and select the relevant application type for the fees.

Notarized Letter of Authorization. A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at <http://www.townofjackson.com/DocumentCenter/View/845/LetterOfAuthorization-PDF>.

Response to Submittal Requirements. The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at www.townofjackson.com/200/Planning under the relevant application type.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.

Alicia Cox

Signature of Property Owner or Authorized Applicant/Agent

Name Printed



July 9, 2022

Town of Jackson Planning Department
150 E Pearl Ave
P.O. Box 1687
Jackson, WY 83001

Greetings,

Attached please find an application to amend the text of the Land Development Regulations to require electric vehicle infrastructure in parking lots in the Town of Jackson.

Pursuant to the second provision of the Fee Waiver policy that allows for the waiver of fees for projects that “provide extraordinary charitable, civic, educational, or similar benefits to the community,” Yellowstone Teton Clean Cities respectfully requests waiver of the application fee of \$1,803 given the alignment of this project with Council’s strategic priorities. Yellowstone Teton Clean Cities understands if the Town would prefer to find the extraordinary benefit through the application review process and refund the application fee upon approval.

Thank you for your consideration,

Alicia Cox
Executive Director
Clean Cities Coordinator
Yellowstone-Teton Clean Cities

Request

Amend the text of the Land Development Regulations pursuant to Sec. 8.7.1 to:

1. Require that the following spaces in off-street parking lots include electric vehicle supply equipment (EVSE Installed) and conduit and circuit capacity for future installation (EVSE Capable) at the following ratios.

Use	EVSE Capable	EVSE Installed
Residential	30%	5%
Lodging	30%	5%
Other Nonresidential	10%	5%

Project Description

Background

Ground transportation accounted for about 63% of greenhouse gas (GHG) emissions in 2021.¹ Ground transportation emissions are a function of miles driven and the fuel efficiency of the vehicle driving those miles. While the Integrated Transportation Plan and other efforts focus on reducing per capita vehicle miles traveled, this proposal is focused on enabling fuel efficiency by making electric vehicles (EVs) more feasible. Because the electricity we use in Jackson is predominantly low-emission hydropower, an EV emits 97% less GHG than a typical internal combustion engine vehicle. Electrifying our ground transportation is an opportunity to significantly reduce our GHG emissions without asking for significant changes in behavior.

There are currently 146 electric vehicles and 88 plug-in hybrid electric vehicles registered in Teton County. If EV adoption follows recent trends in Teton County and the United States, there will be over 3,500 EVs registered in Teton County by 2030. To fully reduce the greenhouse gas emissions associated with travel on local roads in the Town of Jackson, 5,500 gasoline vehicles need to be replaced by electric vehicles. Utilizing the Department of Energy's Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite (calculation attached), the following infrastructure is needed to support 5,500 EVs.

¹ 2022 Jackson/Teton County Comprehensive Plan Indicator Report

Electric Vehicle Infrastructure to Support 5,500 EVs			
	Needed	Existing	Gap
Public DC Fast Charging Plugs	69	10	59
Public Level 2 Charging Plugs	214	21	193
Workplace Level 2 Charging Plugs*	266	0	266

*A workplace level 2 charging plug is only available to fleet vehicles and employees of the workplace.

The parking inventories completed by the Town of Jackson in 2017 and 2019 counted about 5,900 public parking spaces and 6,100 off-street parking spaces in the Town of Jackson. If 4% of these spaces included EV charging plugs we could accommodate 5,500 EVs. However, retrofitting an unprepared, existing parking space with electric vehicle supply equipment (EVSE) is at least 4-times as expensive as if the parking space was built with EVSE in mind.

Home is an EV owner's preferred charging location. After the home, the workplace is considered to be the next most likely location for EV owners to charge, especially those who do not have access to Level 2 Charging Stations at home.² Deployment of charging stations in multi-unit residential structures, lodging structures, and workplaces will make EV ownership viable for a broader set of drivers and decrease range anxiety for those worried about having enough charge. This amendment focuses on preparing parking lots for EVs upon construction or major reconstruction because retrofitting a parking lot to support EV charging can be far more difficult and costly than retrofitting a single-family home. The primary challenge in retrofitting is finding the necessary circuit capacity in the existing building. Finding capacity for one charger in an existing single-family home is far easier than finding capacity for a parking lot full of chargers in an existing multi-unit building and then coordinating the metering to be equitable for all users. If considered in the initial design, the challenges are greatly reduced.

Local governments have a critical role to play in the development of both public and private charging infrastructure due to their authority over zoning, parking and signage, building codes, and permitting and inspection processes. Local ordinances can also present opportunities to support and offer incentives for charging station installations. On April 6, 2020, the Town Council adopted Resolution 20-05, committing to carbon neutrality by 2030. To reach that goal, it is essential to implement strategies like this text amendment.

Installation of EVSE has 4 main components.

1. The first component is the electrical supply. The building has to have enough service (transformer and wire) to provide the needed amperage to accommodate the EVSE. To add service, a developer coordinates with Lower Valley Energy on design and then pays LVE to provide the needed service.

² In 2016, the Department of Energy found that an employee with access to workplace charging was 6-times more likely to drive an EV.

2. Next is the circuit, each EV plug will require electrical panel capacity and a dedicated branch circuit.
3. From the electrical panel, a raceway must be run to the parking space to accommodate the wiring for the eventual plug, or the wiring itself must be run through the wall.
4. The final component is the plug itself where the electricity is conveyed to the vehicle.

There are a variety of plug options for the owner to choose from, and installation of the plug and wiring it to the panel costs about the same whether it is done at initial construction or later.

Installing the raceway and dedicated service is relatively inexpensive at construction but costly to retrofit.

Proposed Requirement

1. Require that the following spaces in off-street parking lots include electric vehicle supply equipment (EVSE Installed) and conduit and circuit capacity for future installation (EVSE Capable) at the following ratios.

Use	EVSE Capable	EVSE Installed
Residential	30%	5%
Lodging	30%	5%
Other Nonresidential	10%	5%

EVSE Capable Requirement

The proposed amendment defines that, “a parking space is EV capable if it is provided with conduit sized for a 40-amp, 208/240-volt dedicated branch circuit from an electrical panelboard with sufficient physical space to accommodate a 40-amp, dual-pole circuit breaker.” In other words, it has the service, circuit, panelboard space, and raceway to accommodate the future installation of a charging station. An EVSE-capable space can accommodate a simple 240-volt outlet (typical dryer outlet) to be used with the portable charging equipment that comes with the EV. Alternatively it can accommodate a networked Level 2 charging station that can be shared and managed.

If a minimum of 30% of spaces in a residential parking lot are EVSE Capable, shared charging would allow for 100% of the vehicles in a residential parking lot to be electric without inducing range anxiety in their owners.³ A multi-unit residential or lodging building with dedicated parking

³ The average daily vehicle miles traveled per capita in 2019 was 33. (610,742,864 VMT / 365 days / 50,977 average effective population, Source: Jackson/Teton County Indicator Report) A typical plug-in electric vehicle has a range of about 250 miles. Without allowing any vehicle to drop below half charge, 26.4% of spaces would need EV charging on a given night. (125-mile half-range / 33 miles per day = 3.8 days per charge. 1 charge every 3.8 days = 26.4%)

spaces might consider making all of the spaces EVSE Capable in order to accommodate an outlet for all future vehicles, in which case the EVSE Installed spaces requirement is waived. The 10% requirement for other non-residential spaces is derived from the International Council on Clean Transportation's suggestion that a public or workplace charging station be provided for every 10-15 vehicles on the road.

EVSE Installed Requirement

The LDRs define a parking lot as 4 or more adjacent parking spaces. As a result, this amendment would apply to almost any development more intense than a single-family home. Because the LDRs require that minimum requirements be fulfilled to the next whole number, any residential or lodging parking lot this applies to would have to make at least 2 spaces EVSE capable ($4 * 0.3 = 1.2$, requiring 2 EVSE capable spaces). The definition of minimum requirement would also mean that every parking lot would have to install a level 2 charging station ($4 * 0.05 = 0.2$, requiring 1 EVSE installed space). To limit the impact on small (2, 3, and 4 unit) multifamily, the EVSE Installed space requirement doesn't trigger until a parking lot has 10 spaces.

Not Included: On-street Parking

While on-street parking can serve to meet parking requirements and is a significant part of our current street designs and parking inventory, this amendment purposefully omits a requirement that EVSE infrastructure be added to the street front adjacent to on-street parking. This ensures consistency between the goal of accommodating electric vehicles while also shifting toward active transportation. Additional coordination is needed to understand the best place to provide public charging and whether that is the best use of the curb. Other "active curb" uses such as bike parking, ride-share stops, transit stops, and parkettes may better serve the overall goal of net-zero emissions by supporting a reduction in vehicle miles traveled.

Proposed Amendment

6.2.2. Required Parking and Loading

E. Require Electric Vehicle Charging

All nonresidential uses and residential uses served by a parking lot shall provide infrastructure for electric vehicle supply equipment (EVSE).

1. Amount of Off-Street Infrastructure. The table below specifies the minimum percentage of off-street parking spaces that shall include EVSE. See subsection E.3 for infrastructure specifications.

Use	EVSE Capable	EVSE Installed
Residential	30%	5%

<u>Lodging</u>	<u>30%</u>	<u>5%</u>
<u>Other Nonresidential</u>	<u>10%</u>	<u>5%</u>

2. **Counts Toward Required Parking.** EVSE spaces shall count toward fulfilling the total parking requirement of this Division.
3. **Required Facilities**
 - a. **EVSE Capable.** A parking space is EV capable if it is provided with conduit sized for a 40-amp, 208/240-volt dedicated branch circuit from an electrical panelboard with sufficient physical space to accommodate a 40-amp, dual-pole circuit breaker.
 - b. **EVSE Installed.** A parking space is EVSE installed if it is equipped with a Level 2 charging station, networked with hardware that uses the Open Charge Point Protocol (OCPP) version 1.6 or higher.
 - i. An EVSE Installed space counts toward the EVSE Capable space requirement.
 - ii. The EVSE Installed requirement only applies to parking lots of 10 or more spaces.
 - iii. The EVSE Installed requirement is waived in residential and lodging parking lots where all spaces are EVSE capable.

E-F. Required Loading

Proposed Findings

The advisability of amending the text of these LDRs is a matter committed to the legislative discretion of the Town Council and is not controlled by any one factor. In deciding to adopt or deny a proposed LDR text amendment the Town Council shall consider factors including, but not limited to, the extent to which the proposed amendment:

1. Is consistent with the purposes and organization of the LDRs;

Complies. The purpose of the LDRs is to implement the Jackson/Teton County Comprehensive Plan and promote the health, safety, and general welfare of the present and future inhabitants of the community. The proposed amendment achieves that purpose by implementing Policy 2.1.c of the comprehensive plan within the existing organization of the parking standards in the LDRs. The proposed amendment would add a requirement to the existing parking standards to allow the community to use more renewable energy in its ground transportation.

2. Improves the consistency of the LDRs with other provisions of the LDRs;

Not applicable. The proposed amendment introduces a new provision to address changing conditions. It does not introduce inconsistency but is not intended to improve consistency within the LDRs.

3. Provides flexibility for landowners within standards that clearly define desired character;

Complies. The proposed amendment is primarily focused on ensuring that parking lots are ready for future electric vehicle infrastructure. This creates a clear definition of the desired shift toward electric vehicles while providing landowners with flexibility in when they actually install that infrastructure.

4. Is necessary to address changing conditions, public necessity, and/or state or federal legislation;

Complies. Electric vehicles are becoming more and more popular. Vehicle manufacturers are committing to all-electric goals, the federal government is investing in electric vehicle infrastructure, federal NEVI guidance is going to require open, non-proprietary standards, and Teton County vehicle registration records show rapid growth in local electric vehicle adoption. The proposed amendment will ensure that the parking lots and buildings we create today will have the infrastructure necessary for the vehicles of tomorrow. Retrofitting a parking lot for electric vehicle (EV) infrastructure is far more costly than preparing it for EV infrastructure when it is first built.

5. Improves implementation of the Comprehensive Plan; and

Complies. Policy 2.1.c calls for an increase in local use of renewable energy. Because the energy mix purchased from Bonneville Power Administration by Lower Valley Energy (LVE) is largely renewable, electrification of our vehicles represents a significant shift toward use of renewable energy. An electric vehicle charged on the LVE grid emits about 5% of the carbon emitted by a vehicle powered by non-renewable gasoline. The proposed amendment ensures that as the community and country shift to electric vehicles the community will have the infrastructure and open access to accommodate a more renewable use of energy.

6. Is consistent with other adopted Town Ordinances.

Complies. The proposed amendment is not inconsistent with any Town Ordinances.

Attachments

- EVI-Pro Lite calculation

Your Results

In Wyoming, to support 5,500 plug-in electric vehicles you would need:

266 Workplace Level 2 Charging Plugs

214 Public Level 2 Charging Plugs
There are currently 94 plugs with an average of 2.0 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).

69 Public DC Fast Charging Plugs
There are currently 83 plugs with an average of 5.2 plugs per charging station per the Department of Energy's [Alternative Fuels Data Center Station Locator](#).

Where Do I Start?

Planners may want to prioritize installation of fast charging infrastructure above Level 2 charging.

Build DC Fast First: Establishing fast charging networks that enable long-distance travel, serve as charging safety nets, and provide charging for drivers without home charging is critical to support all-electric vehicles that have no other alternative for quickly extending their driving range.

Build Level 2 Second: EVI-Pro typically simulates the majority of Level 2 charging demand coming from plug-in hybrid electric vehicles, which have the ability to use gasoline as necessary for quickly extending driving range.

Change Assumptions

Plug-in Electric Vehicles (as of 2016): 150
Light Duty Vehicles (as of 2016): 619,100
Number of vehicles to support 5,500

Vehicle Mix	Plug-in Hybrids 20-mile electric range	15 %
	Plug-in Hybrids 50-mile electric range	25 %
	All-Electric Vehicles 100-mile electric range	15 %
	All-Electric Vehicles 250-mile electric range	45 %
	Total	100%

How much support do you want to provide for plug-in hybrid electric vehicles (PHEVs)?

Full Support
Most PHEV drivers wouldn't need to use gasoline on a typical day.

Partial Support
Calculate using half of full support assumption.

Do not count PHEVs in charging demand estimates.

Percent of drivers with access to home charging 77 %

Recalculate

[See all assumptions.](#)