

**Electric Vehicle Charging Stations Management Plan  
Per Resolution 3410  
Approved by Red Lodge City Council March 22, 2016**

**Location Information:**

The charger stations are located at 305 North Oakes Avenue. Four parking spaces are designated for charging electric vehicles; however, no fines will be issued to non-electric vehicles for parking in the designated parking spaces.

**Installed Items:**

There are four chargers in total: two Tesla Destination Chargers (1<sup>st</sup> ed.), and two Clipper Creek Universal HCS-40 Chargers. These are installed upon two Clipper Creek Pedestals. NorthWestern Energy installed a transformer behind the shed on the south end of the public restroom. The meter for the chargers is attached to the south side of the public restroom. See attached manuals for more information

**Tesla Destination Chargers:**

Description: Wall Connector, 80A SINGLE PHASE

Tesla PN: 1050067-01-E

Value: \$550.00

<http://shop.teslamotors.com/products/wall-connector-with-24-cable>

**Clipper Creek Universal Charger:**

Description: HCS-40 EVSE, 32 Amp Level 2, 240V, 25ft cable EV Charging Station

Product Code: 0909-00-003

Value: \$565.00

<https://store.clippercreek.com/level2/hcs-40-hcs-40p-ev-charging-station>

**Pedestal Info:**

Description: HCS Pedestal for Clipper Creek EV Charging Station, Single Mount

Product Code: 0300-00-019

Value: \$160.00 each

<https://store.clippercreek.com/ev-charging-station-mounting-equipment-hcs-pedestal?search=hcs%20pedestal>

Description: HCS Pedestal Dual Mount Kit

Product Code: 0300-00-020

Value: \$790.00 each

<https://store.clippercreek.com/hcs-ev-charging-station-pedestal-kit?search=hcs%20pedestal%20dual%20mount>

**Installer Information**

Red Lodge Electric, Mark Brown

Email: redlodgeelectric@gmail.com

Phone: 406-446-1882

25 Shadow Drive

Red Lodge, MT 59068

NorthWestern Energy New Construction, Tim Morton  
Email: Tim.Morton@northwestern.com  
Phone: (406) 655-2520  
1944 Monad Road  
Billings, MT 59102

NorthWestern Energy  
Phone: (888) 467-2669  
1944 Monad Road  
Billings, MT 59102

### **Funding**

In total, the City received a value of \$15,130 in both monetary and infrastructure contributions. Funding for installation at \$11,000 was attained from Tesla Motors and Yellowstone Teton Clean Cities. Tesla Motors contributed \$6,000 in installation funding as prescribed by their policy of \$1,500 per charger. Tesla Motors also contributed two Clipper Creek Universal Chargers, two Tesla Destination Chargers, and two pedestals valued at \$4,130. The City acquired the Yellowstone Teton Clean Cities rebate for Electric Vehicle Charging Stations at \$5,000.

Tesla Motors, Ciaran Doyle, Regional Project Manager - Destination Charging  
Email: cdoyle@teslamotors.com  
Phone: (650) 681-6454  
3500 Deer Creek Road  
Palo Alto CA, 94304

Yellowstone Teton Clean Cities, Alicia Cox, Executive Director  
Email: Alicia@ytcleanenergy.org  
Phone: (810) 955-5811  
185 W Broadway  
Red Lodge, MT 59068

### **Warranty**

The City has a two-year replacement warranty with Tesla Motors, beginning June 1<sup>st</sup> 2016. If issues arise with the chargers themselves, the City is to communicate with Tesla Motors to order new parts. The City is responsible for electrician maintenance if it occurs in the two-year time frame. After the two years have passed, the City will have to purchase replacement parts from Tesla Motors and Clipper Creek at retail price. The unit cost for each charger and pedestal are detailed in Table 1.

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## **Monitoring Usage**

NorthWestern Energy Account Number: 3280944-4

The charging stations have their own meter and Northwestern Energy Account Number. This provides the City with a monthly electricity use for the charging stations. Monitoring mechanisms will be put in place to monitor its usage and determine carbon emission savings as well. This will be available for City personnel to regularly update to monitor costs and carbon savings.

The monitoring spreadsheet is available online via Google Sheets and can be found at the link below:

[https://docs.google.com/spreadsheets/d/1U38HJg8HURPTcXa\\_u0HvRWilcz1HNjBINtpN9AmAPek/edit#gid=0](https://docs.google.com/spreadsheets/d/1U38HJg8HURPTcXa_u0HvRWilcz1HNjBINtpN9AmAPek/edit#gid=0)

## **Community Impact**

With appropriate mechanisms, monitoring carbon emission savings will be possible. In accordance with Department of Energy and National Park Service efforts, the City has become a part of a national effort to attract zero-tailpipe emission vehicles to national parks. In Montana, gasoline vehicles average 11,000 pounds of Carbon Dioxide equivalent whereas an electric vehicle averages around 5,700 pounds of Carbon Dioxide equivalent. As such, these charging stations will comply with the region's effort to reduce carbon.

The charging stations will attract and increase tourism in our region as well. Red Lodge is now tagged on online electric vehicle charging maps via PlugShare and Tesla Motors. The City does not have a login for PlugShare but may find it necessary in the future for managing. Both sites should be monitored on a regular basis to review comments and photos on each site. The Chamber of Commerce also has links to both websites on redlodge.com.

PlugShare cannot be edited but should be monitored on a regular basis:

<http://www.plugshare.com/>

To edit Tesla information on their Find Us Page:

<https://www.teslamotors.com/findus>

Tesla Motors, Ciaran Doyle, Regional Project Manager - Destination Charging

Email: [cdoyle@teslamotors.com](mailto:cdoyle@teslamotors.com)

Phone: 650.681.6454

3500 Deer Creek Road

Palo Alto CA, 94304

## **Charging Times**

Estimated charging time depends on the size of the battery within the car and the amount of electricity supplied. The Tesla Chargers can provide up to 80amps of electricity for their vehicles if the Tesla vehicle has dual chargers to capture 80amps at once. Charging times vary greatly between vehicles. Please visit the link below. <https://www.clippercreek.com/charging-times-chart/>

## **Suggested Maintenance Plan**

The charging stations should be inspected on an annual basis. Funds from the donation box should be gathered on a monthly basis. City staff should regularly check the stations for physical damage. A visual inspection should be done on an annual basis to ensure no physical damage has been done to the units. For example: looking over the charging cable for exposed or cut insulation/wire, damage to the plug itself, damage to the charging unit mounted on the post. If there are any major electrical problems, the breakers or GFCI will trip out and the unit will not function. Charging cords should be securely wrapped around the station and not be dragging on the ground.

**Table 1**

| <b>Project Cost Break Down</b>         |              |                  |                    |
|--|--------------|------------------|--------------------|
| <b>Installation Costs</b>              |              |                  |                    |
| <b>Installed Items</b>                 | <b>Date</b>  | <b>Invoice #</b> | <b>Amount</b>      |
| Red Lodge Electric                     | 4/6/16       | 5590             | <b>\$2,095.05</b>  |
|  | 4/27/16      | 5604             | <b>\$3,203.69</b>  |
|  | 6/6/16       | 5634             | <b>\$778.56</b>    |
| Northwestern Energy install            | 3/22/16      | -                | <b>\$4,267.00</b>  |
| City of Red Lodge                      |              |                  |                    |
| Trenching                              | 4/21/16      | 1037406          | <b>\$95.00</b>     |
| Trenching                              | 4/21/16      | 1037392          | <b>\$150.00</b>    |
| Irrigation                             | 4/26/16      | 1142             | <b>\$759.70</b>    |
| Parking Bumpers                        | 6/2/16       | 50225            | <b>\$180.00</b>    |
| Back Alley Metals- Donation Box        |              |                  | <b>\$200.00</b>    |
|  |              |                  |                    |
| <b>Total Project Cost:</b>             |              |                  | <b>\$11,729.00</b> |
| Subtract NorthWestern Irrigation Break |              |                  | <b>\$10,969.30</b> |
| <b>Funding Sources</b>                 |              |                  |                    |
| <b>Funder</b>                          | <b>Date</b>  | <b>Invoice #</b> | <b>Amount</b>      |
| Yellowstone Teton Clean Cities Grant   | 6/30/16      | -                | <b>\$5,000.00</b>  |
| Tesla Motor Installation               | 6/30/16      | 1234             | <b>\$6,000.00</b>  |
| <b>Total Cash Reimbursements:</b>      |              |                  | <b>\$11,000.00</b> |
| Tesla Motor Items Donated              | 4/26/16      | -                |                    |
| <b>Item Specifics</b>                  | <b>Value</b> | <b>Number</b>    | <b>Cost</b>        |
| Tesla Chargers                         | \$550        | 2                | \$1,100.00         |
| Clipper Creek Chargers                 | \$565        | 2                | \$1,130.00         |
| Clipper Creek Pedestals                | \$790        | 2                | \$1,580.00         |
| Clipper Creek Dual Mount Kits          | \$160        | 2                | \$320.00           |
| <b>Tesla donated items value:</b>      |              |                  | <b>\$4,130.00</b>  |
| <b>Total Funding:</b>                  |              |                  | <b>\$15,130.00</b> |
| <b>Gross Project Revenue</b>           |              |                  |                    |
| <b>Total Funding:</b>                  |              |                  | <b>\$15,130.00</b> |
| <b>Total Project Cost:</b>             |              |                  | <b>\$11,729.00</b> |
| <b>Net Revenue:</b>                    |              |                  | <b>\$3,401.00</b>  |