



MEETING DATE: 12/06/10

ITEM NO: 11

COUNCIL AGENDA REPORT

DATE: DECEMBER 1, 2010
TO: MAYOR AND TOWN COUNCIL
FROM: GREG LARSON, TOWN MANAGER

SUBJECT: ELECTRIC VEHICLE CHARGING STATIONS
AUTHORIZE THE TOWN MANAGER TO SUBMIT A LETTER OF INTENT
TO COULOMB TECHNOLOGIES TO OBTAIN UP TO SIX ELECTRIC
VEHICLE CHARGING STATIONS AT NO COST TO THE TOWN.

RECOMMENDATION:

Authorize the Town Manager to submit a letter of intent to Coulomb Technologies to obtain up to six electric vehicle charging stations at no cost to the Town.

BACKGROUND:

The Town of Los Gatos General Plan includes language that provides support for installing Electric Vehicle (EV) charging stations.

Action ENV-14.1 Provide incentives for new and existing commercial and residential projects that provide parking spaces reserved for electric vehicles (EVs) and have a charging connection.

While the General Plan specifically calls for the provision of EV charging stations associated with private development, the Town recognizes the need to provide charging stations in Town-owned parking lots as well, where the charging stations can be made available for visitors, commuters, residents, and municipal fleet vehicles. A key component for the successful adoption of EV technology will be the development of a comprehensive charging infrastructure.

Early acquisition and installation of EV charging equipment will demonstrate that Los Gatos is prepared and ready for the growth in EV market, while at the same time supporting economic vitality and reducing greenhouse gas (GHG) emissions. This activity is consistent with the Town's goal of sustainability.

PREPARED BY: TODD CAPURSO
Director of Parks and Public Works

Reviewed by: 152 Assistant Town Manager 10 Town Attorney
____ Clerk Administrator 9 Finance ____ Community Development

DISCUSSION:

Under the Transportation Electrification Initiative administered by the Federal Department of Energy (D.O.E.), there are government incentives to acquire EV charging station equipment free of charge through designated authorized distributors. One of these opportunities is available through a local (Campbell) company, Coulomb Technologies Inc. Coulomb has proven to be an industry leader in providing EV charging station equipment to municipal governments throughout Washington, Oregon, and California. Using funding from the D.O.E., Coulomb has executed agreements with both San Francisco and San Jose to provide this equipment for public use in municipal parking areas. The Town can enter into a similar agreement with Coulomb, provided that a Letter of Intent (LOI) is delivered to them prior to the end of the calendar year. While it is possible that these incentives may be extended beyond 2010, entering into an agreement prior to the end of the year will assure a funding allocation for the Town. It is also possible that other government incentives such as those from the Bay Area Quality Management District (BAAQMD) may be available beyond 2010. These additional incentives may apply to installation and retrofitting work as well.

In order to qualify and get approval for granted equipment, the Town must commit to the following conditions:

- Make EV charging stations available for public use.
- Identify the EV charging station location(s) in good faith.
- Submit the LOI as an order to Coulomb before the end of 2010.

Furthermore, installation of the charging stations must occur before September 30, 2011. If these conditions are met, Coulomb agrees to secure EV charging station units, valued at approximately \$5,000 each, and submit an invoice to the Town for \$0.

While the charging stations themselves will be available at no cost, the acquisition of the equipment represents approximately 50% of the overall project expenses. Coulomb's representatives will provide a quotation for an extended warranty, support and maintenance costs associated with the charging stations. The complete installation of the charging stations will also require providing appropriate electrical service (220 volt, 40 amp) to each of the installation locations. Staff estimates that this will cost approximately \$5,000 per location, depending on panel upgrades required, trenching, and other site conditions.

It should also be noted that there will be ongoing operational charges and fees associated with each charging station. Coulomb Technologies will develop a billing rate structure – in conjunction with Town staff – that will cover not only the cost of electricity but all operational charges as well.

DECEMBER 3, 2010

MAYOR AND TOWN COUNCIL

SUBJECT: ELECTRIC VEHICLE CHARGING STATIONS

DISCUSSION (cont'd):

EVadvise, a partner of Coulomb Technologies, has performed an assessment of the Town's parking facilities and has recommended thirteen potential locations for installation. (See Attachment 1) While all locations are reasonable candidates for an installation, many of these locations would require electrical panel upgrades well above the \$5,000 average and would commit the Town to making such improvements at a time when it is not clear where the resources to fund the improvements will come from.

Staff concurs that six of the sites are good candidates for immediate consideration of inclusion in an initial program because the retrofit and installation work is relatively low and the sites can accommodate the required timeline. Staff recommends that the Town pursue installations at the following locations (in approximate priority order):

Tier 1

- Library/Civic Center site – new parking area
- Balzer Field / PPW Corp Yard
- Northside Parking Lot

Tier 2

- Parking Lot 5 – between Elm and Main
- Parking Lot 3 – between Royce and Grays Lane
- Oak Meadow Park

For the Library/Civic Center location, the necessary infrastructure can be included in the current construction project for approximately \$2,000. The remaining five sites will require retrofitting in the amount of approximately \$5,000 per site. The Creekside Sports Park site is also a good candidate for consideration because, like the Library site, the required infrastructure improvements can be included in the development project; however, the time requirement removes this site from further consideration at this time.

The retrofitting costs identified pertain to electrical and trenching work and do not include other costs such as signage, parking lot reconfiguration, or additional PV solar and other overhead structures installations.

DISCUSSION (cont'd):

In addition to the site selection and assessment, EVadvise also makes the following recommendations to the Town for future consideration:

- In addition to EV parking space signage, it is recommended that the Town install two signs along Highway 17 to notify EV drivers that Los Gatos is EV “friendly” and offers public EV charging stations. More signs throughout the town should be considered as demand increases.
- It is likely that businesses and owners of commercially owned parking spaces will begin to adopt a similar EV charging station strategy for their parking lots. This should balance the overall supply/demand, and distribution spread without burdening the Town to offer more public locations within the next five years.

CONCLUSION:

Staff recommends that the Town Council authorize the Town Manager to submit a letter of intent to Coulomb Technologies to obtain six electric vehicle charging stations at no cost to the Town.

ALTERNATIVES

Besides rejecting the staff recommendation and taking no further action at this time, the Council may also direct staff to:

1. Withhold submission of the application until late in the month to determine if delaying this application into 2011 may be possible;
2. Reduce, expand, or exchange proposed sites, with corresponding cost and budget impacts for the remainder of fiscal year 2010/11 and 2011/12;
3. Limit the Town’s participation to a no-cost option - for all equipment, installation, maintenance, warranty, and electricity, other than the provision of the specified parking spaces; or
4. Explore private development/private employer opportunities for the installation of privately funded charging stations.

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DECEMBER 3, 2010
MAYOR AND TOWN COUNCIL
SUBJECT: ELECTRIC VEHICLE CHARGING STATIONS

ENVIRONMENTAL ASSESSMENT:

This is not a project defined under CEQA and no further action is required.

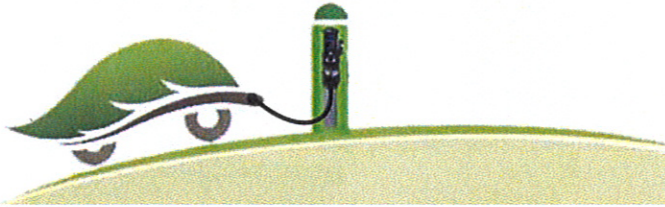
FISCAL IMPACT:

There is no cost to the Town for submitting the letter of intent or for the acquisition of the six charging stations. However, the acquisition of these EV charging stations will require that the Town commit to funding improvements in the amount of approximately \$27,000. It is anticipated the costs for any installation associated with new construction would come from the appropriate project budget. Additionally, any installation costs associated with downtown parking lots would come from the Parking Fund. If Council concurs, these funding needs will be addressed either at the mid-year budget review or as part of the FY 2011/12 budget process. Operational costs should be negligible if an appropriate rate structure can be developed and there is adequate usage of the charging stations.

Attachments:

1. Proposal from EVadvise dated November 24, 2010

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Michael J. Calise
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Los Gatos, CA
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408 966 8500

November 24, 2010

To: Los Gatos Town

The Town of Los Gatos is joining many local, state, federal and international governments in showing interest in Electric Vehicles (EVs) and EV Charging Stations, and how they impact and integrate within the community.

On behalf of the Town of Los Gatos and members of its community, this report was prepared by EVadvise, a Los Gatos based independent EV Charging Station advisory service. It was completed as a public service and is intended to assist Todd Capurso, on behalf of Greg Larson and the Town Council for planning and acquiring EV Charging Stations, and provisioning the installation and usage for likely parking space locations. The report serves to expedite the process, and assist the Town in making an informed decision. The deadline for qualification for free EV charging equipment is December 2010. The intent is for the Town Council to approve the acquisition in the next Town Council meeting scheduled for Dec 6th, 2010.

The following report recommends a plan of action, a list of proposed Los Gatos EV Charging Station locations, information to implement a Los Gatos EV Readiness plan, and EV Infrastructure Guide Documentation references used as best practice for municipal installation procedures. I've also included a ChargePoint America Grant Application for Town signature execution.

Best regards,

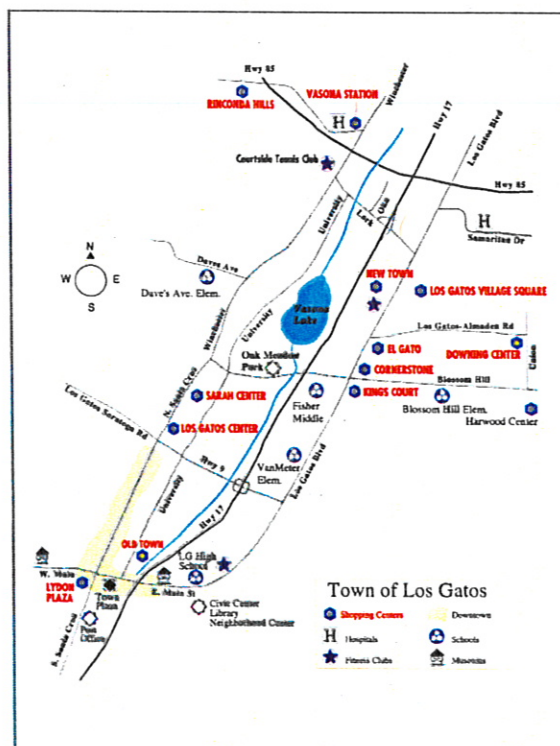
Mike Calise
President
EVadvise

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EV Readiness Plan for Los Gatos Public Electric Vehicle Charging Infrastructure

(Preliminary report 11/24/2010)



Prepared by: Mike Calise - EVadvise

www.EVadvise.com

Introduction

The Town of Los Gatos General Plan includes language that provides support for installing Electric Vehicle (EV) Charging Stations.

Action ENV-14.1 Provide incentives for new and existing commercial and residential projects that provide parking spaces reserved for electric vehicles (EVs) and have a charging connection.

The Town has recognized the need to offer public use of Town owned parking lots with EV charging stations made available for visitors, commuters, residents, town employees and future fleets. Opportunities exist, with the support of the community, to prepare and execute an EV Readiness Plan. The term “Readiness” is commonly used to refer to available charging locations, policy and incentives that support and encourages EV usage.

Early acquisition and installation of EV charging equipment between now and Q3 2011 makes a strong statement to Bay Area communities that Los Gatos is **prepared**, and is **ready** for the growth in EVs, supporting sustainability, reduced greenhouse gas (GHG) emissions, economic vitality, reduction in doctor and hospital visits, and quieter streets. This activity fully supports the Towns overarching objectives as a California Leader in Sustainability.

Summarized Case for Los Gatos Charging Stations

1. Widespread Bay Area EV adoption is imminent, and based on industry projections, there will be at least ten's of thousands of EVs being driven in the South Bay in a few short years.
2. For the first time, practical Electric Vehicles such as the Nissan LEAF, Chevy Volt and many others are beginning to ship this month.
3. Support for EV owners is important for business vitality, quieter streets, and to keep Los Gatos a preferred destination center.

4. Los Gatos is an ideal EV Charge destination for commuters and visitors due to its inherent geographic location as a gateway to and from the Santa Cruz coastline and the Bay Area Peninsula.
5. Government incentives exist for free EV charging station equipment presently identified through the D.O.E. sponsored ChargePoint America Program in partnership with Coulomb Technologies.
6. It is possible that some installation costs can be reimbursed by grants made through the California Energy Commission (CEC) and sponsored by Coulomb Technologies.
7. The Town need not incur additional electricity expenses because the technology allows for user billed electricity.
8. Saratoga and Cupertino have taken action for EV Charge Station adoption. Los Gatos prefers not to lose business to neighboring towns if EV drivers need to charge while dining, shopping, working or commuting.

EV Charging Station Plan

UL approved, Networked Charging Station equipment is available that solves user billed electricity issues, safety concerns, easily found charging locations, energy monitoring, and user and Town ongoing support.

Government grants exist in 2010 that may expire in 2011, motivating the Town to review acquisition this year to save money on implementation and take advantage of the incentives for free equipment. In order for the Town to act, it should review a recommended plan, and vote to agenda this plan on Dec 6th, for acquisition and charging site locations this year. Additional consideration may be made for installation, ongoing maintenance, warranty, ongoing support and service fees, parking space signage and constructions, and resource requirements.

According to Todd Capurso, he will make an EV charging station acquisition request to the Town, and attach this report to his formal request on December 6th at the Town Council meeting.



EV Charging Station Equipment manufactured by Coulomb Technologies and delivered as part of the ChargePoint America Program.

EV Charging Station Equipment Acquisition Requirements

Under the Transportation Electrification Initiative administered by the D.O.E., government incentives exist today for free charging station equipment sponsored by a local South Bay company Coulomb Technologies Inc., under the ChargePoint America program. In order to receive EV charging station equipment, an application request is required and contractual agreements need to be executed. It is possible that these

incentives may expire in 2010, or be extended into 2011 and beyond. It is also possible that other government incentives such as those from the Bay Area Air Quality Management District (BAAQMD) may be available after 2010. The incentives outcome beyond 2010 is still an unknown however.

In order to qualify and get approval for granted equipment, the Town must ensure that they will execute on the following stipulations:

- 1. Decide to make EV Charging Stations available for public use,**
- 2. then stipulate the EV Charging Station locations in good faith,**
- 3. and submit an application consisting of two executable grant documents to ChargePoint America representatives within the Coulomb management team in calendar year 2010,**
- 4. agree to install them by the end of Q3 2011**

If so, representatives of the ChargePoint America program within Coulomb management will assess the application, determine the unit allocation request, and likely respond favorably to approve, secure and ship EV Charging Station Units (**equipment only**) for the Town to have installed, a significant portion of the overall expense.

If approved, the units need to be installed by Q3 2011. Support and maintenance is included and covered until calendar year 2013. Coulomb's representatives will quote an extended warranty, support and maintenance costs beyond 2013 but that can be considered as additional expense in the 2014 budget and can be pushed out until then. Electrical installations can be quoted through an accredited Coulomb electrical contractor such as R.E.J. or the town can opt to do it themselves if strongly desired with additional paperwork waivers approved by Coulomb management.

Additional fees for maintenance beyond 2013, networking support, warranty and installations are not offered for free under the ChargePoint America Program and the town will investigate the additional charges, budget and resource requirements that will be included in Coulomb's quote.

EVadvise estimates that a typical cost of equipment (only) is approx 50-70% of the total costs of implementation including equipment, installation, support and warranty for **new constructions**.

Typical cost of equipment (only) is approx 30-50% of the total costs including equipment, installation, support and warranty for **existing structures**. This is a rough estimate and costs vary depending on trenching, panel upgrade, and unforeseen retrofitting problems. Additional parking space related costs may include signage, and parking space upgrading, and additional PV solar and overhead structures implementations.

It is EVadvise's opinion that a "rule of thumb" suggests that by receiving free charging equipment, the Town would save approximately 40% of the total costs of implementation across the board, not including additional parking space improvements and signage. Costs will vary and EVadvise can not be held responsible for cost overruns.

Additional Installation Grants

It is possible that the California Energy Commission (CEC) or other agencies will offer additional reimbursement grants to offset some installation costs of EV Charging Stations. EVadvise will inform the Town of these cost savings programs as soon as they are better defined. There is no guarantee that these will exist, or that the Town will qualify for installation cost grants, but it is likely there may be additional ways the Town can cover its installations costs through extended government grants. This program may be offered very soon, and thus the town may consider the resource requirements for these grant requests if deadlines are imposed for this year.

Proposed Site Locations

This is a list of proposed EV charging Station parking space locations to assist the Town as part of Coulomb's DOE requirement for qualification. It is intended to get things moving. In addition to the sites listed, the Town may take its own views that may support or contradict these proposed locations.

Approach taken:

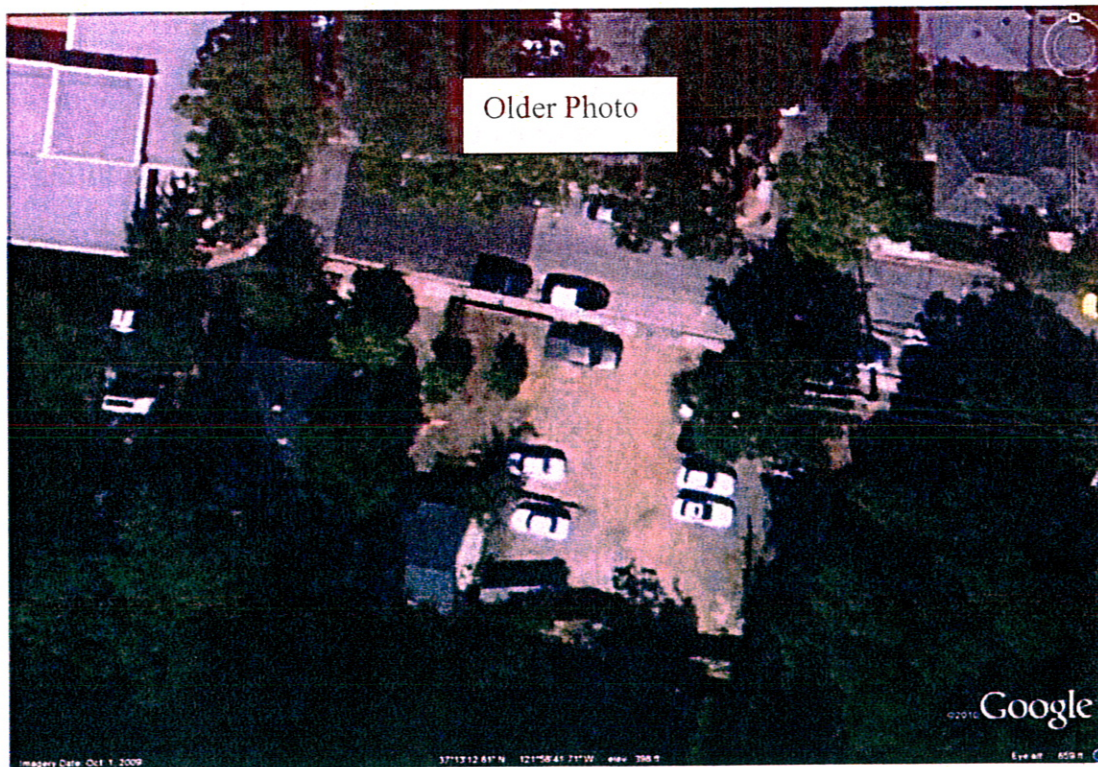
According to expert consultant Jim Helmer of Lightmoves, Ben Lomond, a consulting organization that worked closely with EV charging installations within Santa Cruz County, The Puget Sound Regional Council, Washington Dept of Commerce, and Monterey County, ideal parking lot locations with EV chargers should adhere to the following priorities:

1. **Selecting high demand/visible locations (especially on the first few)**
2. **Inexpensively getting electrical supply to provide for Level 2 (240V/30-40A)**
3. **ADA issues (reach, accessibility, barrier free route, slope of pavement, etc.)**
4. **Lighting/Shelter (trying to provide the customer with a good day or night charging experience in dry or wet weather)**
5. **Signage regulations - If signage will be posted, ensuring that signs comply with MUTCD**
6. **Selecting a site that would benefit Town's fleet as well as General Public**

The proposed mapping below was done in a relatively objective manner by EVadvise with some input from some Town residents and Todd Capurso during a feedback session. My aim was to adhere to the above priorities whenever possible, but also take into account strategically advantageous locations that would support local commerce. I tried to spread the charging stations locations out for good coverage, but also chose locations that could be high visibility. The List includes some initial notes on rationale and challenges. The list is in no particular order of preference in order to save time in documenting it, but installation priorities should be placed on those locations that are designated as **(IDEAL)**. The arrow colors were chosen for visibility and have no significance.

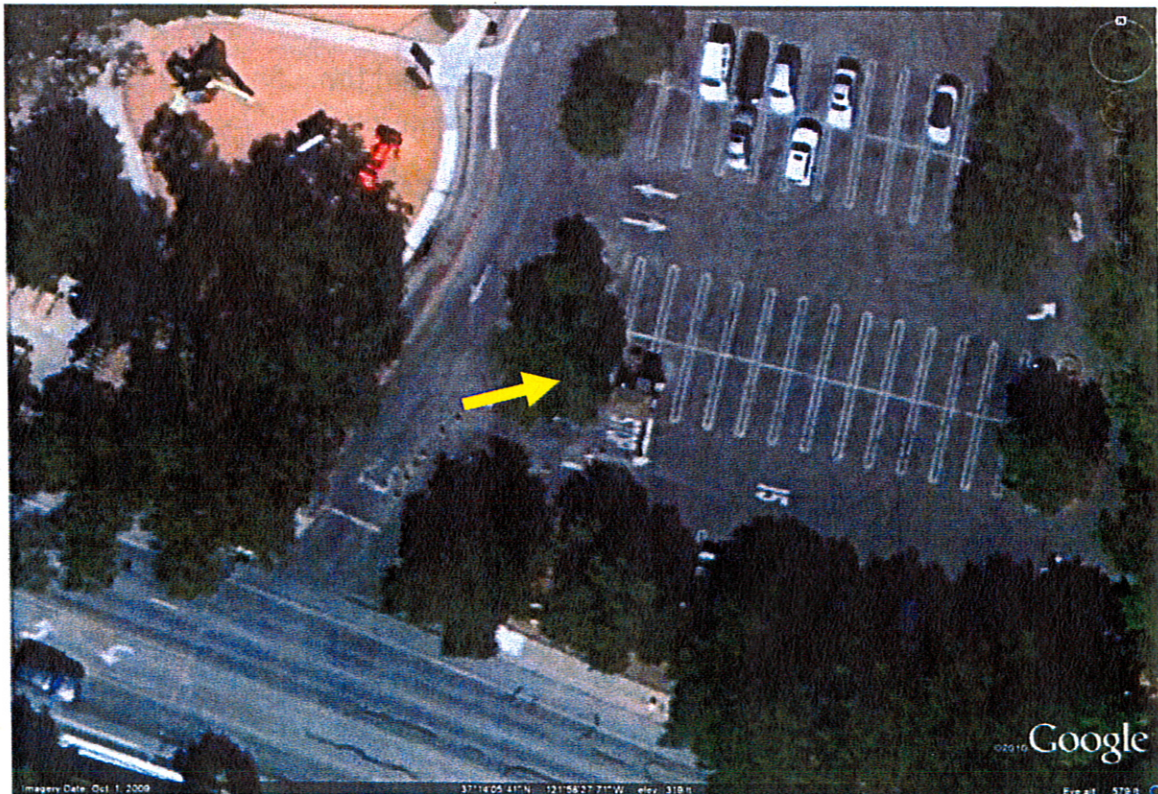
1. The New Los Gatos Public library (**IDEAL**) - 2 Units

- Suggestion for two EV Charging Stations supporting 4 parking spaces.
- Low cost installation due to new construction
- Ideal – Typical stays beyond one hour and dual use for Town Civic Center
- Good access and lighting expected
- Makes a strong statement with good PR
- Good for Town employees and future fleets
- Suggesting more than one EV parking space allocation here as it may serve the Town Hall as well
- Budget allocation can be taken for the Library vs additional EV budget requirements
- Consider overhead structure for weather protection
- Consider addition of PV Solar on overhanging structure



2. Oak Meadow Park (IDEAL) – 1 Unit

- Good for out of town visitors and residents
- Ideal – Typical stays beyond one hour during playing, hiking, biking
- Good access and lighting expected
- Excellent opportunity for users to *Stop, Charge and Hike* the Creek Trail during the day
- Likely access to power. May be beneficial to tie into that if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhead structure for weather protection.
- Low activity at night may present a security problem

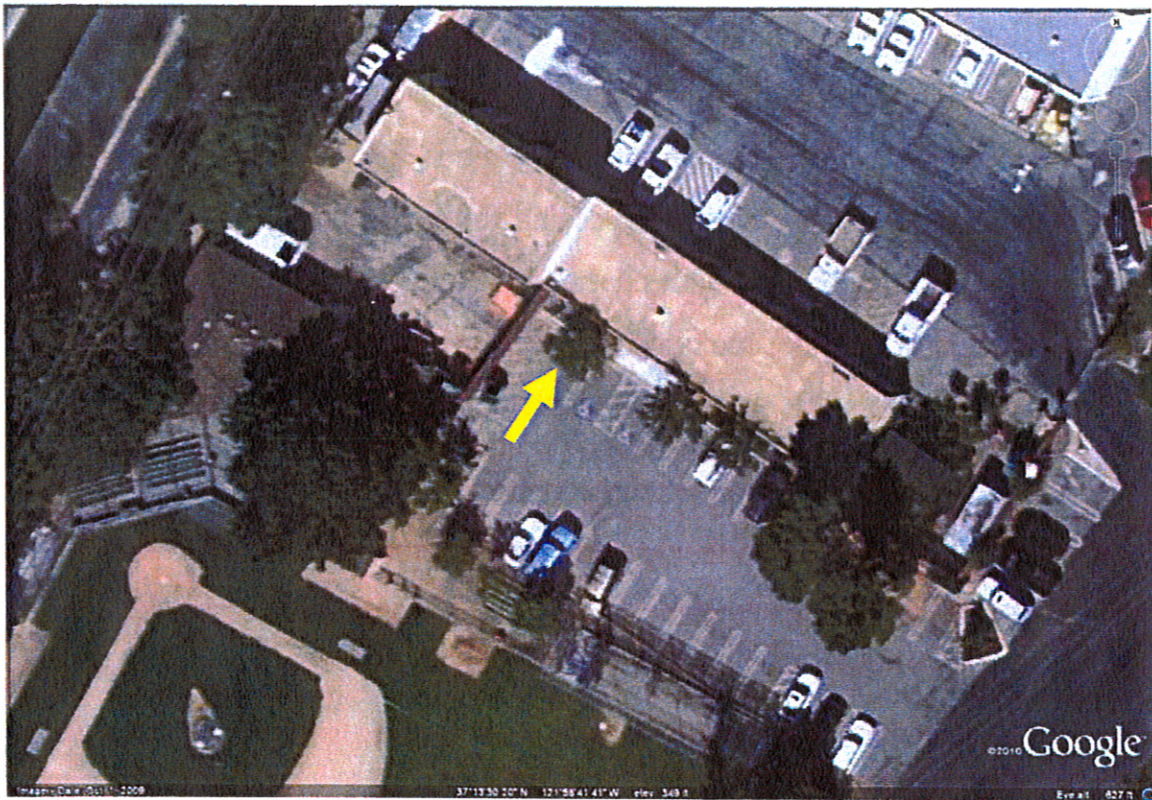




Oak Meadow Park – first space

3. Town Engineering Building at Balzer Field Lot (**IDEAL**) – **1 Unit but expandable**

- Ideal for dual use between the public and the Town's Fleet vehicles. Possible expansion to more units
- Ideal – Typical stays beyond one hour during games, hiking, biking
- Good access and lighting expected
- Excellent opportunity for users to ***Stop, Charge and Hike*** the Creek Trail during the day
- Likely access to power. May be beneficial to tie into that if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.
- Low activity at night may present a security problem but offset by future Fleet charging may be beneficial
- **Unclear of service upgrade requirement for 208-240V/30-40A**
- **No overhead structure for weather protection.**



Engineering Building at Balzer Field

4. The Town Civic Center – 1 Unit

- Good access and lighting expected
- Makes a strong statement with good PR
- Good for Town employees and future fleets
- Advantage for visitors at night, when Town Hall activity low
- End cap spot looks good.
- There's a 110 receptacle on the end cap space. May be beneficial to tie into that if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhead structure for weather protection, but may be suitable for PV Solar overhead construction
- Night time security low
- Perhaps redundant with Library



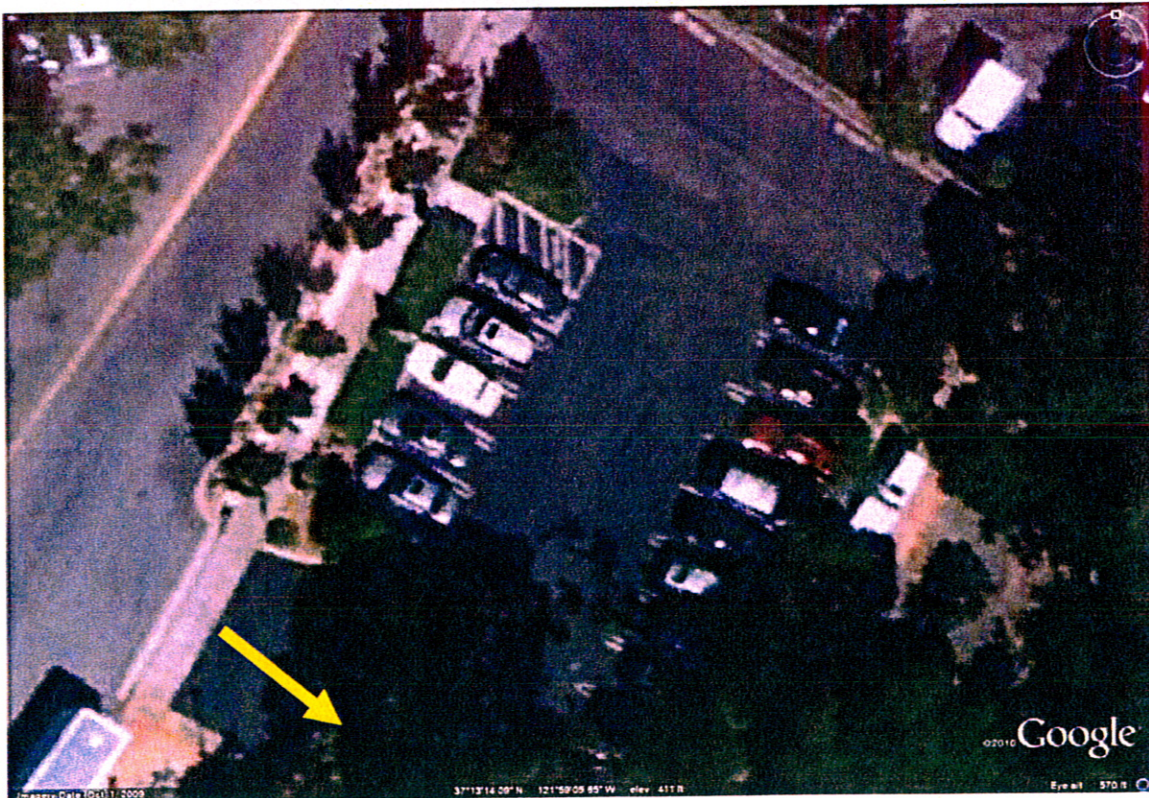
5. The Creekside Sports Complex– 930 University (**IDEAL**) -1 Unit but **expandable**

- Low cost installation due to new construction
- Ideal – Typical stays beyond one hour
- Good access and lighting expected
- Makes a strong statement and good PR
- Good opportunity for PV Solar overhead construction
- Excellent opportunity for users to *Stop, Charge and Hike* the Creek Trail if/when connected
- Minimum downside risk here.
- Budget allocation can be taken for Sports complex vs additional EV budget requirements



6. The Southside Lot on South Santa Cruz (**IDEAL**) 1 Unit but expandable

- Ideal for immediate exit access from Northbound 17 traffic
- Promotes access to shopping in South side of town.
- Makes a strong statement as entry point for Santa Cruz entry/commuters
- All day parking avail promotes *Park, Charge, and Ride*
- Easily expandable as demand increases
- Very interesting location as a potential Marquee Charging Station Area considering the South portion has three spaces next to a service meter.
- Decent Lighting
- May be suitable for PV solar overhead construction
- **Retrofit and possible panel upgrade.**
- **No overhead for weather protection.**





Southside Lot space 1



Expandable Southside
Lot spaces 2 and 3

7. Northside Parking Lot off Highway 9 (**IDEAL**) 1 Unit but expandable

- Ideal for *Park, Charge and Ride* commuters
- Makes a strong statement, immediate access upon Hwy 17 exit
- Easy access from Highway 17 in either direction
- Serves local businesses North of Hwy 9 (South too)
- Easily expandable as demand increases
- Good traffic and busy location, suggest corner spot to Hwy 9
- Expandable as demand increases
- Apparent good power access from close pole line power supply
- Well lit from Overhead street lighting
- Possible money saved for Pole mounted charge unit vs. pedestal
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhead structure for weather

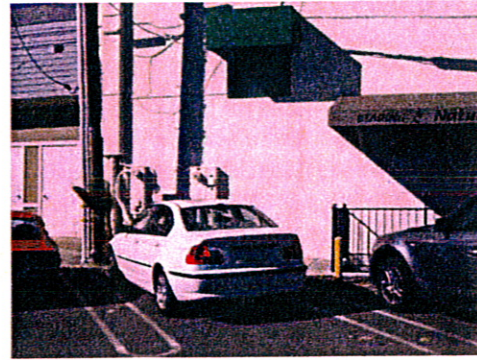


Northside Lot 1st space - then expandable

8. Town Parking Lot #5 - Lot between Main St and Elm St – **1 or 2 Units**

- A number of possible locations - Adjacent to Napa Style or Natural Expressions
- Limited parking time promotes more turnover
- Good access and lighting expected
- Makes a strong statement with good PR
- Good for local business employees, downtown commerce
- Advantage for visitors at nighttime activities
- Active area so minimum security requirement
- Possible commercially owned power. May be beneficial to tie into that if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhead structure for weather protection.





Lot 5 near Napa Style (and/or) Lot 5 near Expressions

9. Town Parking Lot #4 Top Ground Level Adjacent to Royce St
behind Williams Sonoma - **1 Unit but expandable**

- Corner spot makes for easy access
- Limited parking time promotes more turnover
- Good access and lighting expected
- Good for local business employees, center of downtown commerce
- Advantage for visitors at nighttime activities
- Active area so minimum security requirement
- Possible problem with power. May be beneficial to tie into light post if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhang structure for weather protection.

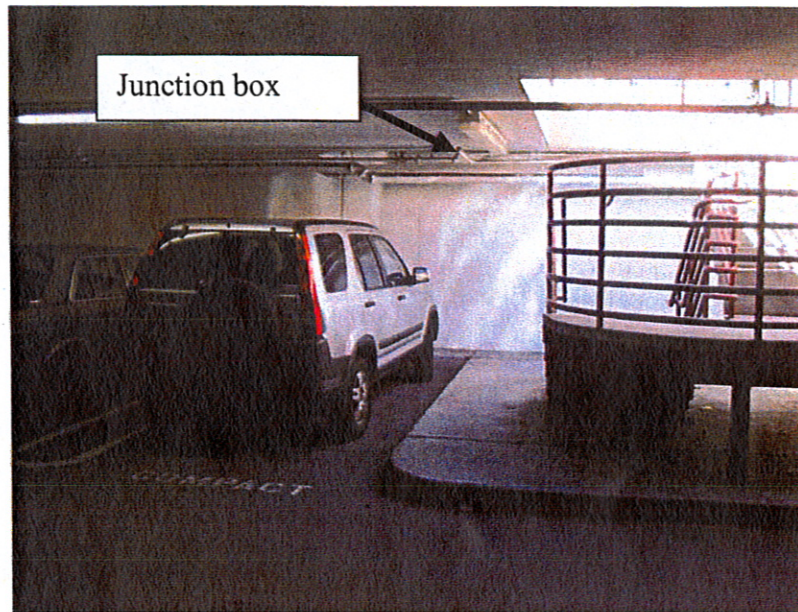


Lot 4 Top Corner space

10. Town Parking Lot #4 Below Ground Level at Exit Entrance stairway behind Purrsnikity Business, Between Grays Lane and Royce - **1 Unit but expandable**

- Ideal location due to overhead coverage
- Limited parking time promotes more turnover
- Good access and lighting expected
- Easily expandable to meet demand increases
- Good for local business employees, center of downtown commerce
- Advantage for visitors at nighttime activities
- Active area so minimum security requirement
- Unclear of service upgrade requirement for 208-240V/30-40A
- Possible problem with power. May be beneficial to tie into junction box if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.





Lot 4 underground

11. Town Parking Lot #3 next to Los Gatos Brewery - 1 Unit but expandable

- One ideal location next to service meter
- Limited parking time promotes more turnover
- Good access and lighting expected
- Good for local business employees, center of downtown commerce
- Advantage for visitors at nighttime activities
- Active area so minimum security requirement
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhead structure for weather protection.



Lot 3 near LGB Company

12. Town Parking Lot #6 - West Main St near Lyndon **1 or 2 Units**

- A couple of possible locations
- Good access and lighting expected
- Good for local business employees, center of downtown commerce
- Advantage for visitors at nighttime activities
- Active area so minimum security requirement
- Possible access to power. May be beneficial to tie into that if it can be upgraded to 208 - 240V/30 - 40A and the panel can accommodate.
- Unclear of service upgrade requirement for 208-240V/30-40A
- No overhang structure for weather protection.



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