

**Resiliency and
Sustainability
Advisory
Committee
Meeting**

February 2, 2023

Welcome and Moment of Silence

By: Mayor John Tecklenburg, Chairman

Agenda

1. Welcome, Moment of Silence Mayor John Tecklenburg
2. Resilience Status Updates: Dale Morris
 - Fill / Slab Policy in 100-year Floodplain
 - USACE CSRM Authorization
 - Comprehensive Integrated Water Plan progress
 - Zoning Ordinance Rewrite (Planning in lead)
 - Rosemont Resilience Plan
 - Flooding and Sea Level Strategy
3. Climate Action Plan Progress Report Katie McKain
and 2023 Priorities
4. Review and Discuss Draft of Electric Vehicle Katie McKain and Aspen Caffee
Infrastructure Policy in New Construction
5. Public Comment Period*

Resilience Status Updates

By: Dale Morris, Chief Resilience Officer

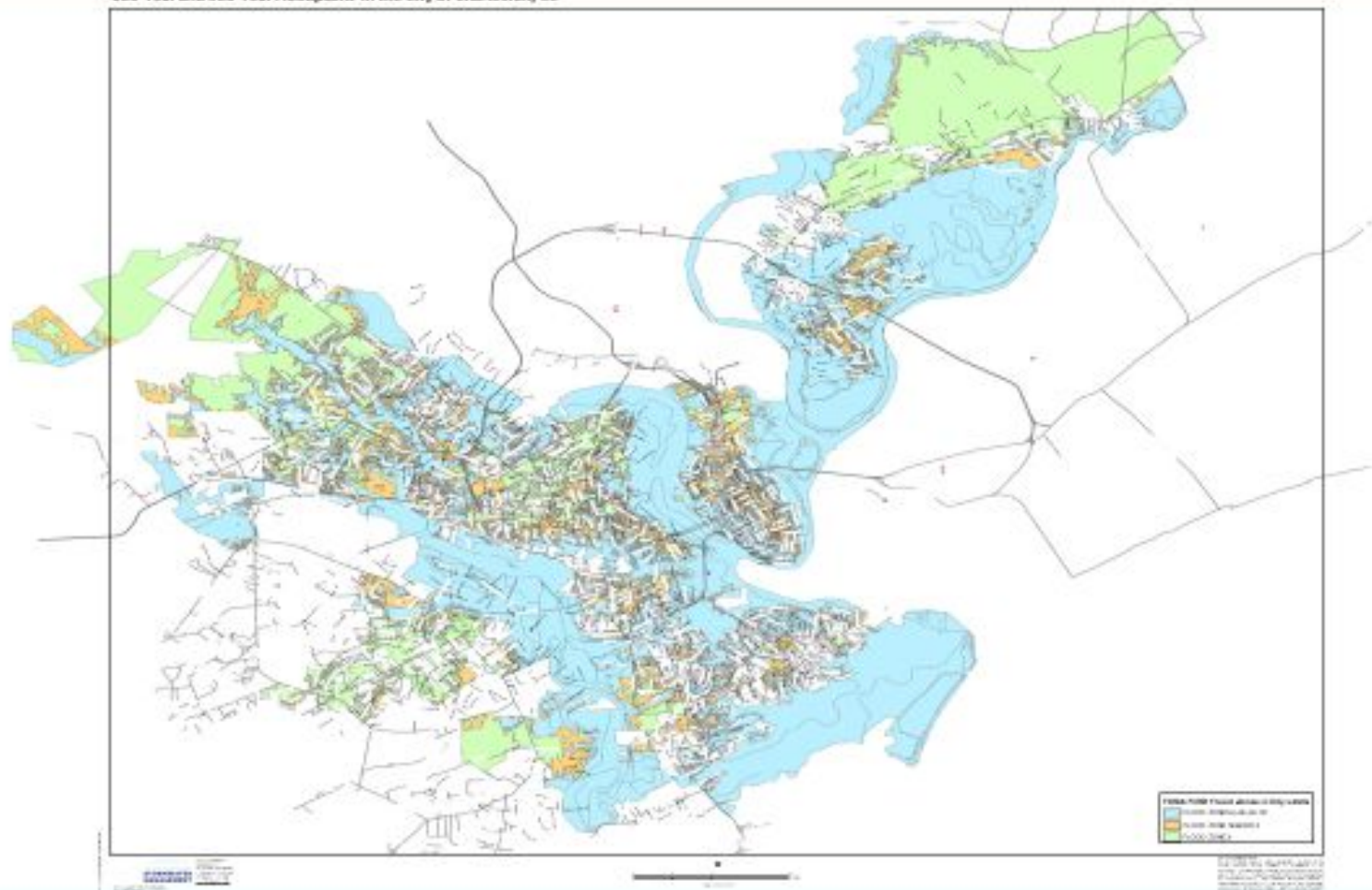
Resilience Status Updates

1. Fill / Slab Policy in 100-year Floodplain
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6. Flooding and Sea Level Rise Strategy

Fill / Slab: Process to Date

- 2019 – 2020 City Council considers rigorous restrictions on fill, City-wide. Proposed ordinance(s) not adopted.
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- 2020 Stormwater Design Standards Manual addresses the quantity of fill within certain development sites.
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- 2020 – 2021: Stormwater starts informal discussions with key stakeholders to increase regulation of / further reduce volumes of fill in key (higher flood risk) areas.
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- Stakeholder Workgroup (Spring – Summer 2022)
 - City Stormwater/Affordable Housing/Planning, Preservation and Sustainability/Resilience and Sustainability/Public Services/Legal
 - Charleston Homebuilders Association
 - Charleston Trident Association of Realtors
 - Coastal Conservation League of SC
 - Southern Environment Law Center
 - Historic Charleston Foundation
 - MetroChamber of Commerce
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100-Year and 500-Year Floodplains in the City of Charleston, SC

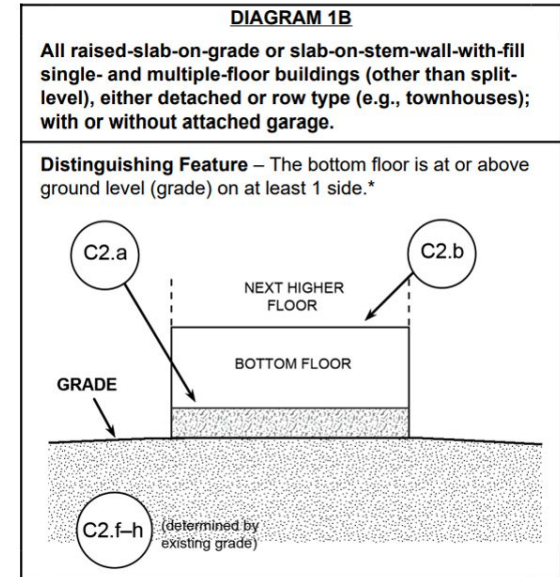
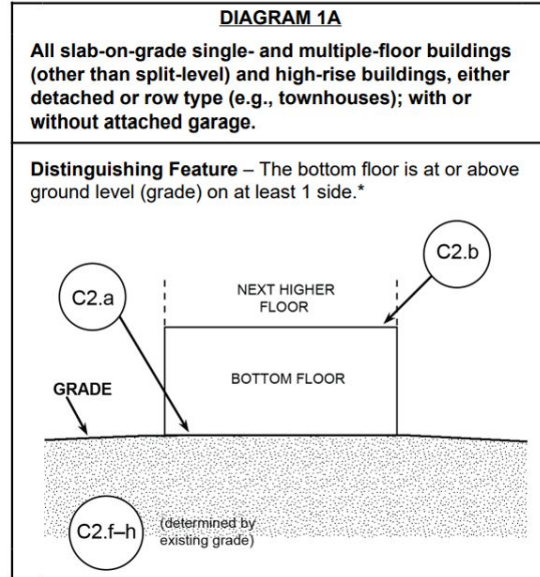


Single Family Detached Residential –
New Foundations cannot be
slab-on-grade or elevated slab

Single Family Attached Residential –
New Foundations cannot be
slab-on-grade

Provide a Clear Timeframe for
Adoption of Requirements –
Recommendation 12 months

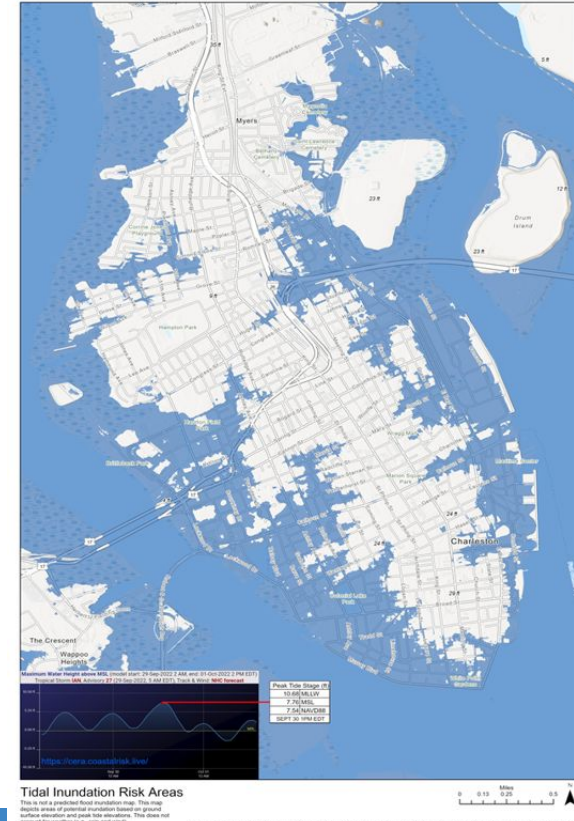
12 month post adoption review
whether to extend to 500 yr
floodplain



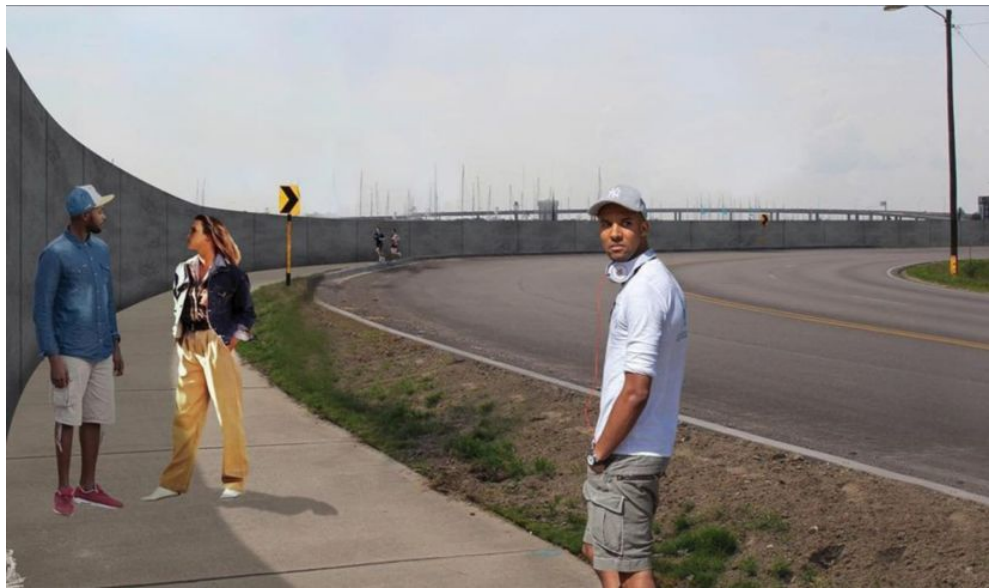
USACE CSRM Authorization: WRDA 2022

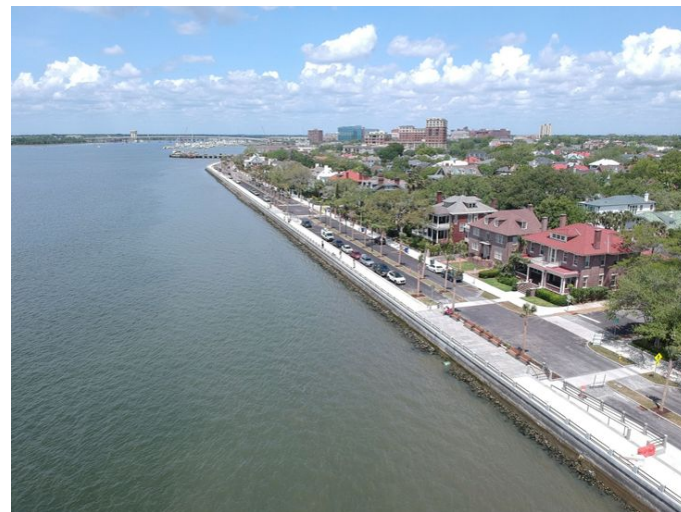
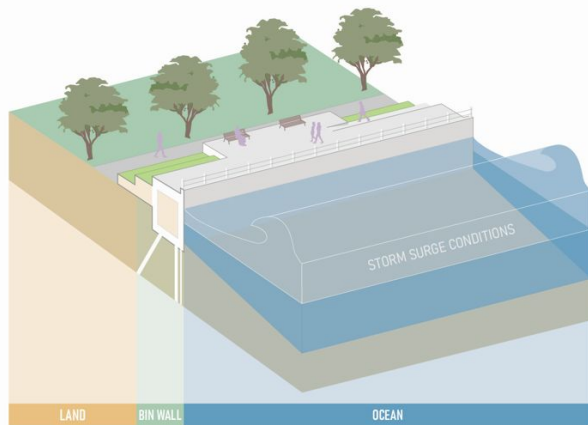
Pre Construction, Engineering and Design (PED)

Design Agreement / control



No thanks...





Comprehensive Integrated Water Plan progress

Zoning Ordinance Rewrite (Planning in lead)

Rosemont Resilience Plan, w LAMC

Flooding and Sea Level Rise Strategy

Climate Action Plan Progress Report and 2023 Priorities

By: Katie McKain, Director of Sustainability

CAP is a 5 Year Plan, adopted May 2021

CITY OF CHARLESTON

CLIMATE ACTION PLAN

PROGRESS REPORT AS OF DECEMBER 31, 2022

CAP Progress Highlights



WASTE

- OVER 50 TONS OF FOOD SCRAPS COMPOSTED, 1,100 HOUSEHOLDS COMPOSTING, AND 100 METRIC TONS OF CO₂E ELIMINATED*
- 426 MATTRESSES RECYCLED DIVERTING 11 TONS FROM THE LANDFILL, 15,000 CUBIC FEET LANDFILL SPACE SAVED, 15 METRIC TONS OF CO₂E ELIMINATED (2021 Data)

CAP Progress Highlights



TRANSPORTATION

- 63,185 TRIPS (119,561 MILES) IN BIKE SHARE
PREVENTING 50 METRIC TONS OF CO₂E*
- \$7M LOWLINE GRANT TO SUPPORT UP TO 120M
LESS VEHICLE MILES TRAVELLED (Lifetime of project)
- 25% OF LEAF BLOWER FLEET IS ELECTRIC,
ELIMINATING 80 METRIC TONS OF CO₂E*
- 7,358 REMOTE STAFF WORK DAYS, ELIMINATING
90 METRIC TONS OF CO₂E FROM COMMUTE*

CAP Progress Highlights



CARBON SINKS

- 37 RAIN GARDENS INSTALLED AND 750,000 GALLONS OF WATER INFILTRATED AND DIVERTED FROM STORMWATER SYSTEM (Total as of 12/31/2022)
- 102.7 ACRES OF LAND RESTORED AND PRESERVED AS PERMANENT GREEN SPACE ABSORBING WATER AND CARBON (Total as of 12/31/2022)
- 1,335 TREES PLANTED ON PUBLIC PROPERTY*
- 384 STORM DRAINS ADOPTED (Total as of 12/31/2022)

CAP Progress Highlights



BUILDINGS

- BOARD OF ARCHITECTURAL REVIEW ENCOURAGES SOLAR PERMITS WITH POLICY STATEMENT
- 2 NEW CAPITAL PROJECTS PLANNED TO HAVE SOLAR, AND ALL NEW CITY CONSTRUCTION PLANNED TO INCLUDE ELECTRIC VEHICLE READY INFRASTRUCTURE
- PROGRESS PLANNING TO EXPAND ELECTRIC VEHICLE INFRASTRUCTURE CITYWIDE

CAP Progress Highlights



EDUCATION AND COMMUNITY ENGAGEMENT

- 22 CLIMATE AMBASSADORS GAVE 43 PRESENTATIONS, INSPIRING 1,178 PEOPLE TO TAKE CLIMATE ACTION (Total as of 12/31/2022)
- 150 RESIDENTS AT ELECTRIC LAWN CARE EXPO TESTED EQUIPMENT AND PURCHASED OVER 50 PIECES OF BATTERY POWERED TOOLS (April 2022)
- 470 RESIDENTS REACHED ABOUT COMPOSTING AT WEST ASHLEY FARMERS MARKET (April - June, 2022)
- 12 MONTHLY COMMUNICATION CAMPAIGNS WITH HUNDREDS OF SOCIAL MEDIA POSTS*
- 100+ VOLUNTEERS

2023 CAP Priorities

Composting

1. Expand to 3 new food scrap drop sites in City limits
2. Host training workshops & kitchen bin giveaways
3. Add more regional local government partners and drop sites
4. Pilot vendor composting at both City farmers markets
5. Create sponsorship program
6. Organize a Pumpkin Smash and more options for pumpkin composting



2023 CAP Priorities

Electric Vehicles

1. Pilot first electric vehicles in fleet
2. Education with City staff to deploy vehicles
3. Fleet Transition Plan and securing EECBG funding
4. Seek Federal grant opportunity to implement Fleet Transition Plan

EV Charging Infrastructure

5. Upgrade 8 existing EV Stations in garages to 16 networked ports
6. Creating EV parking policy
7. BCDCOG Regional Electric Vehicle Infrastructure Plan (public parking)
8. Make Ready EV Policy for new construction

2023 CAP Priorities

- Greenhouse Gas Inventory for 2022
- Sustainable Events Manual
- Communication and Community Engagement Manager
 - Improve social media presence
 - Organize more frequent public engagement events
 - Train a new Climate Ambassador Program cohort
 - Pursue creation of a Green Business Challenge
- Rainproof Mini Grant Program (needs funding)
- Planning for Renewable Energy and a Facilities Management Plan
- Zoning Code Rewrite- many CAP actions (2 year project, Planning in lead)
- Street Tree Inventory (Parks Dept in lead)
- Tree Planting in underserved community

Seeking Assistance

1. Volunteers to support composting at farmers markets
2. Research, plant and test super sink plants
3. Explore partnerships to create an urban forestry workforce training program with local school programs, such as Trident Tech Horticulture Program
4. Support with state advocacy efforts

Review and Discuss Draft of Electric Vehicle Infrastructure Policy in New Construction

By: Katie McKain, Director of Sustainability
and Aspen Lee Caffee, Sustainability Intern



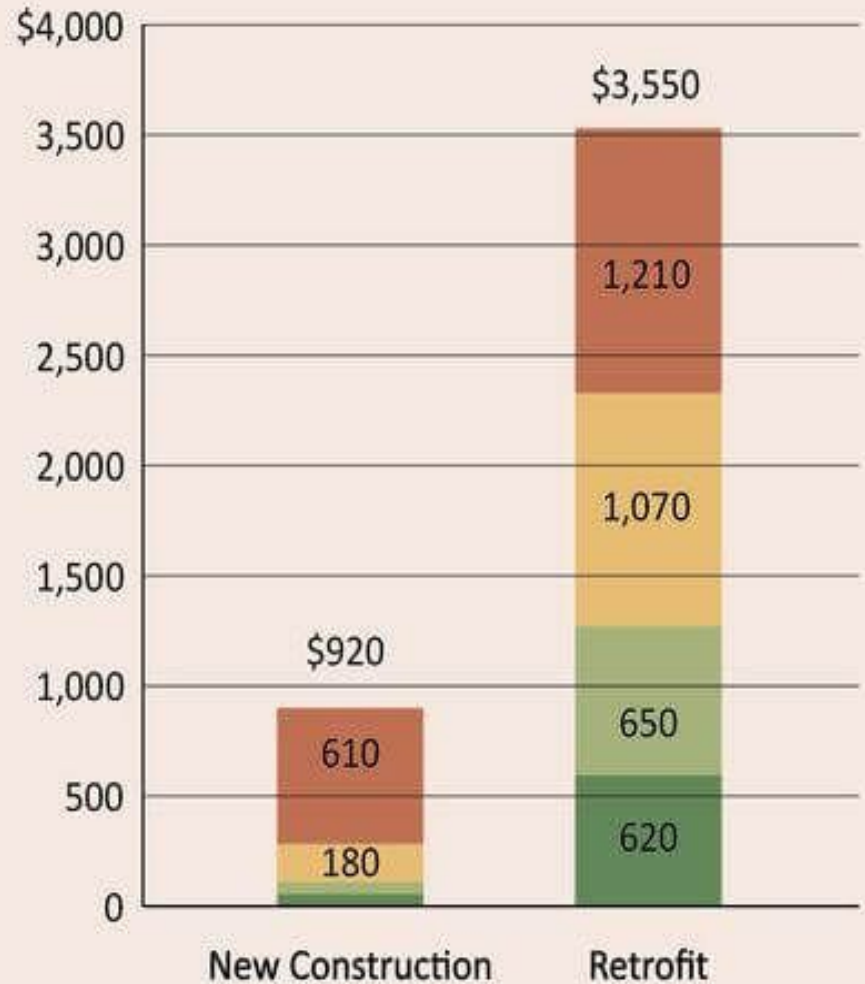
Goals and Reasoning

The goal of this ordinance is to promote increased charging infrastructure, which will support the growth of the EV industry.

Benefits of enacting a baseline Level 2 EV Ready requirement now

- Prepares for increased reliance on EV in the future
- Saves money preparing upfront rather than retrofitting
- Aids flexibility in growth and adaptation

Savings in New Construction of EVSE



Levels of Charging

Level 1



Standard 120V Outlet



**Averages about 5 miles
per hour of charge**

Level 2



240V Outlet



**Averages about 20-60
miles per hour of
charge**

Level 3



**480V DC Fast
Charging**



**Averages about
60-100 miles per
hour of charge**

Electrical Capacity

Types of Installation

EV-Capable:

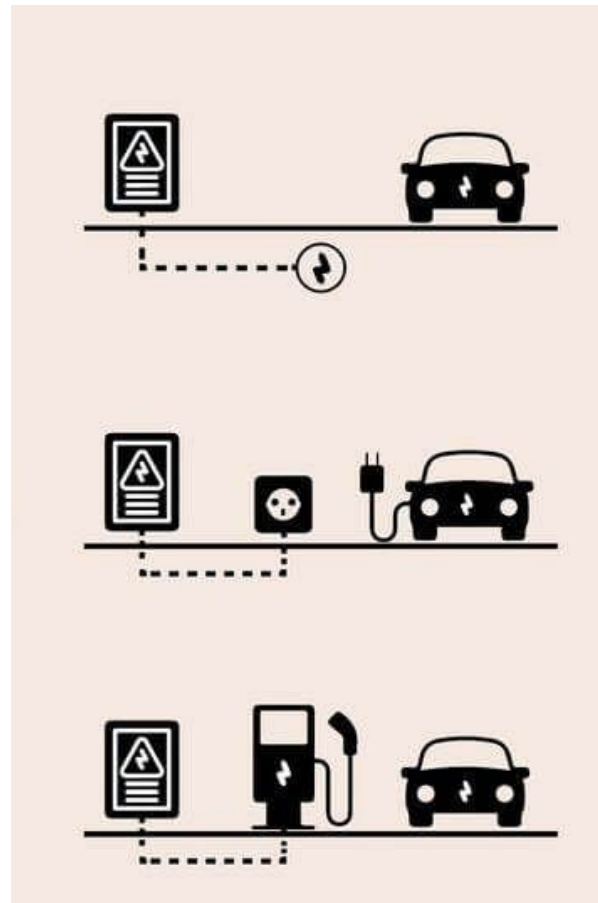
- Electrical panel capacity
- Conduit from panel to parking space
- Not ready for use

EV-Ready:

- All EV-Capable requirements plus...
- Wiring installed with termination in junction box or outlet at parking space
- Sometimes can be used by drivers with portable chargers

EVSE-Installed:

- All EV-Ready requirements plus...
- Fully connected Level 2 chargers or DCFC
- Ready to charge any EV (*sometimes requires adaptors)



Types of Installation

SC EV Investment Booming

SC Executive Order no. 2022-31

- SC EV Economic Development Initiative
- EV liaison in state government
- EV workforce

- BMW \$1.7B
- Envision AESC \$810M
- Volvo/Polestar: \$118M
- Mercedes Benz Sprinter: \$59M
- Proterra: \$76M
- ABB E-Mobility \$4M



TOTAL: more than \$2B

SC Incentives

- Berkeley Electric Cooperative
- Duke DCFC installation along highways/interstates
- Alternative Fuel Infrastructure Tax Credit:
 - 30% tax credit up to \$100,000 through December 31, 2032



Applicability

- New construction projects
- Major external renovation projects (with parking modifications) on existing establishments



General Requirements

Land Use	Required EV-Capable spaces	Required EV-Ready spaces	Required EVSE-Installed spaces
1 or 2 dwelling units:		1 space per dwelling unit	
3 or more dwelling units:		1 space per 8 spaces	1 space per 25 spaces
3 or more dwelling units of Affordable Housing:	1 space per 4 spaces		
Office and workplace: (greater than 25 spaces)		1 space per 10 spaces	1 space per 40 spaces
Retail: (greater than 25 spaces)		1 space per 10 spaces	1 space per 50 spaces
Accommodations:		1 space per 15 spaces	1 space per 25 spaces
Public parking facilities:	1 space per 10 spaces	2 spaces per 10 spaces	1 space per 30 spaces

Examples of Project Requirements

Land Use	Total Parking Spaces Required	EV Capable Requirements	EV Ready Requirements	EVSE Installed Requirements
Mixed use residential and office: 100 residential units + 20,000 sq ft office not on peninsula	184 spaces		21 spaces	6 spaces
Affordable housing: 100 residential units + 20,000 sq ft office not on peninsula	109 spaces	28 spaces	9 spaces	3 spaces
Affordable housing: 100 residential units	25 spaces	7 spaces		
Single family home: 1 unit	2 spaces		1 space	

Examples of Project Requirements

Land Use	Total Parking Spaces Required	EV Capable Requirements	EV Ready Requirements	EVSE Installed Requirements
Public parking facilities: 300 space parking garage	300 spaces	30 spaces	60 spaces	10 spaces
Office: 30,000 sq ft office not on peninsula	125 spaces		13 spaces	4 spaces
Retail: 50,000 sq ft retail not on peninsula	250 spaces		25 spaces	5 spaces
Accommodations: 60 room hotel	40 spaces		3 spaces	2 spaces

January 27th Meeting at Chamber of Commerce



Public Comment Period