Church Street, Edgartown Public Review

JULY 30, 2020 VIA ZOOM Electrification:
the Future of
Island Public
Transportation



Reliable, Efficient and Clean 2017 – 2025

- Focus on Service Reliability
 - ► Emissions standards impacting reliability of diesel vehicles
 - ► Electric buses will improve reliability
 - Lower maintenance and fuel costs
 - Resiliency when the power goes out
- Improved Rider Experience & Community Benefits
 - Zero operating emissions
 - ► Energy to power buses from locally generated solar
 - Quieter
 - Increased rider comfort and conveniences
 - Rider perceptions essential to successful transit

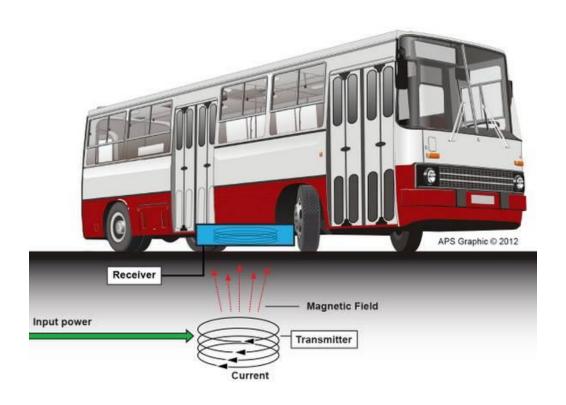


VTA's Vision Future of Island Public Transit

- All Electric Transit Vehicles
 - Buses, vans and service vehicles
- Charging Infrastructure
 - ▶ Plug-in vehicle chargers at VTA Base
 - ► In-ground on route inductive charging
- Photovoltaic (PV) Solar construction to begin Sept 2020
 - Generate energy for system
 - Installed at VTA Operations Center
- Energy Storage Systems
 - ▶ Back-up source of power
 - Makes grid connection optional



In-Route
Charging: An
Integral Part of
the Plan



Why it's Necessary

- Maintain service operations
 - VTA service demands require on-route fast charging
 - PV will power chargers when there's a power outage (at VTA base)
- Cost Savings
 - Maximizes investment in electric vehicles, increases time in service
 - ► Allows for more flexible management of fuel costs
 - ► Battery Storage will curb demand charges
- Less Rider Inconvenience
 - Allows buses to stay in service on route longer without having to detour to charge

Facts

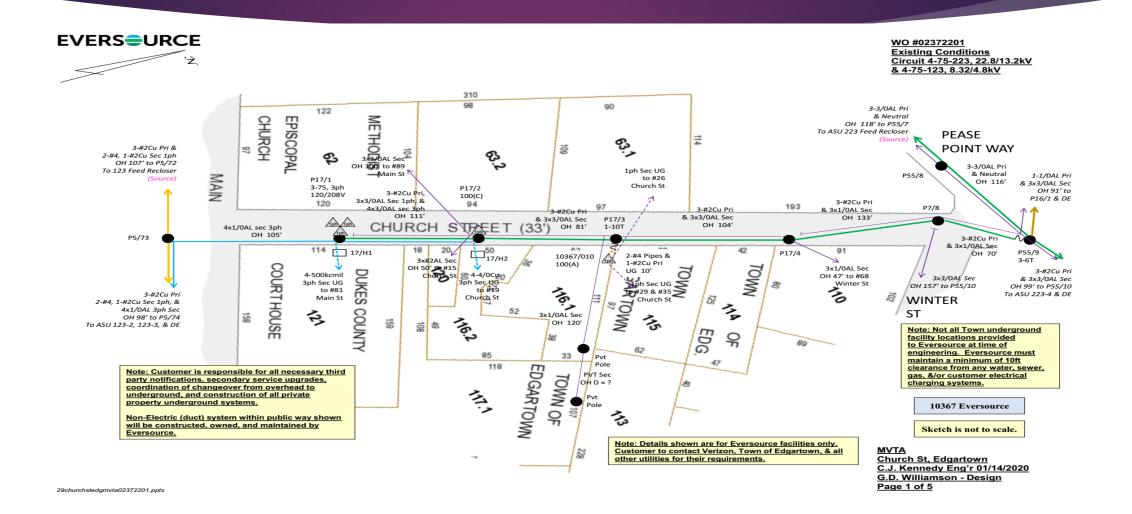
- ▶ Transit operations on Church St. will remain the same
- Buses will not be charging overnight on Church St.
- Current diesel fleet is 30, 35 & 40 feet long and 96" or 102" wide VTA electric buses will never exceed these dimensions
- Twelve electric buses in current fleet
- Emissions from inductive charging are less than:
 - ▶ Home and business electronic security systems
 - ▶ Induction cooktops
 - Transformers on the electrical grid
- ► Chargers are compliant with International Commission on Non-Ionizing Radiation (ICNIRP)
 - ▶ ICNIRP emissions levels are exceeded ONLY within 18" of the pads
- ▶ Emissions from inductive charging are less than:
 - ▶ Home and business electronic security systems
 - Induction cooktops
 - ▶ Transformers on the electrical grid

Overhead Vs. Inductive Charging

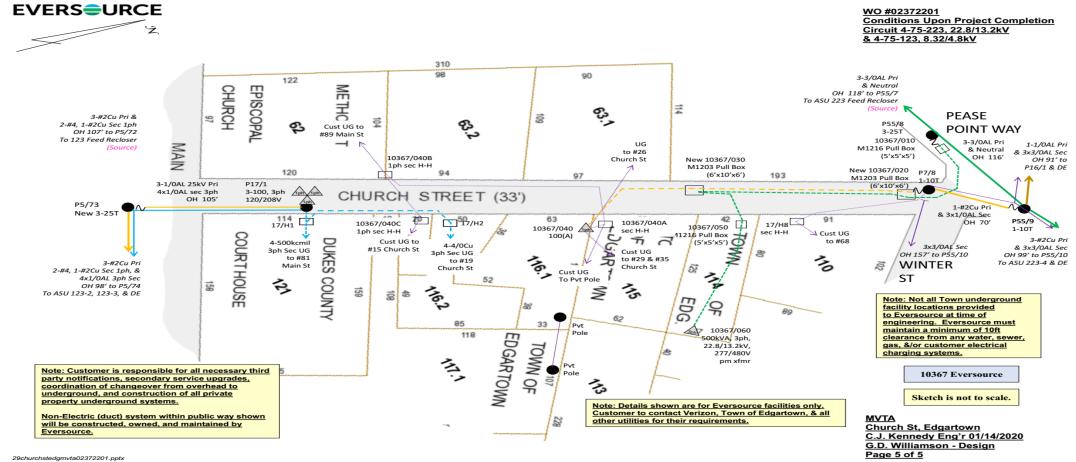




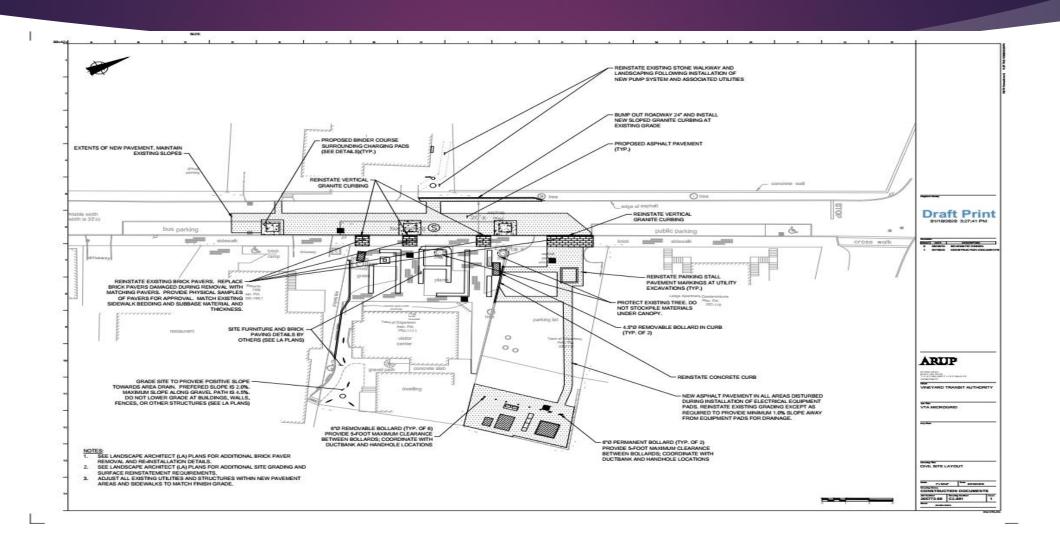
Existing Conditions, Electrical



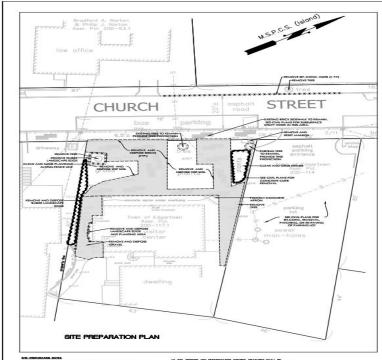
Electrical Conditions Upon Project Completion



Civil Drawing - Draft



Site Prep Plan



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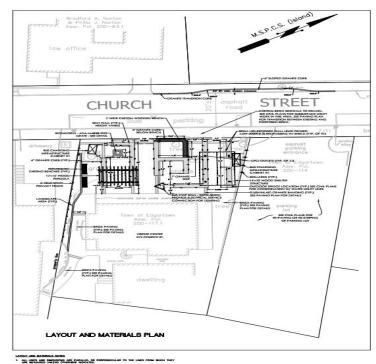
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Martha's Vineyard Transit Authority

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IN PROGRESS 3/13/20

CHURCH STREET VISITOR'S CENTER

ALE: 1" - 10" DATE: HOVEMBER xx, 201

SITE PREPARATION AND LAYOUT AND MATERIALS PLAN

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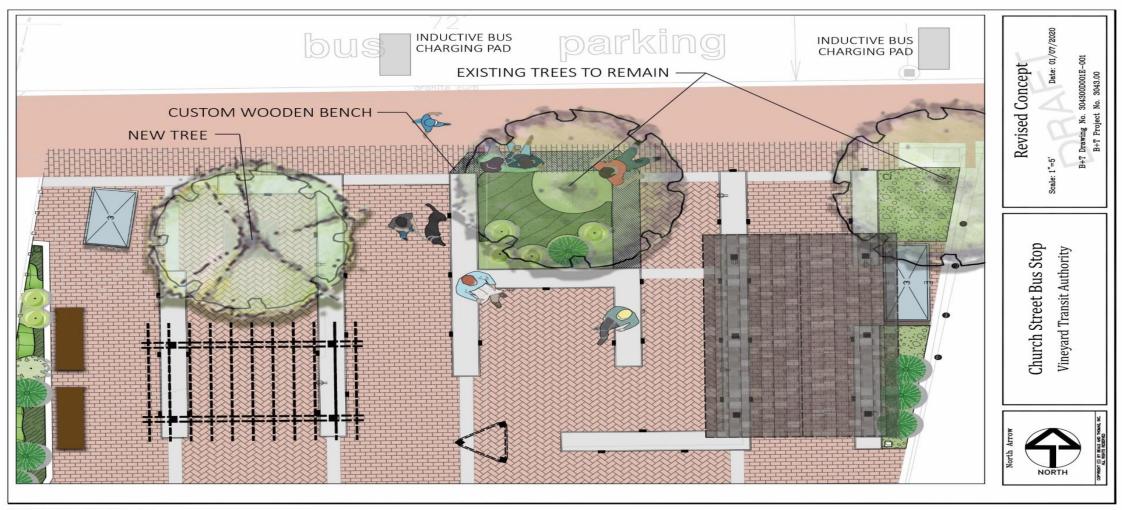
Edgartown Visitors Center – Electrical Cabinets



Edgartown Visitors Center - Existing



Edgartown Visitors Center – Proposed Change – Overhead view



BEALS AND THOMAS, INC.

Edgartown Visitors Center – Improvements

Existing Trees to Remain



29 Church St – Edgartown Visitors Center – Site Improvements

- BRICK PAVERS
- GRANITE PAVERS
- BRICK SEAT WALLS WITH DOWN LIGHTING & GRANITE TOPS
- WOOD PERGOLA
- WOOD COVERED SEATING AREA, SHELTER FOR BUS RIDERS
- LIGHT POSTS TO MATCH EXISTING ONES ALONG CHURCH ST
- WATER REFILL STATION
- NEW SHADE TREES
- NEW FENCE
- LANDSCAPING ALONG PROPERTY LINE & UNDER LINDEN
- WOODEN TREE BENCH, REMOVABLE

Additional Resources

TCRP 219: Guidebook for Deploying Zero Emissions Transit Buses

https://viriciti.com/blog/electric-bus-range-influence/