



Planning a Sustainable Fleet Facility

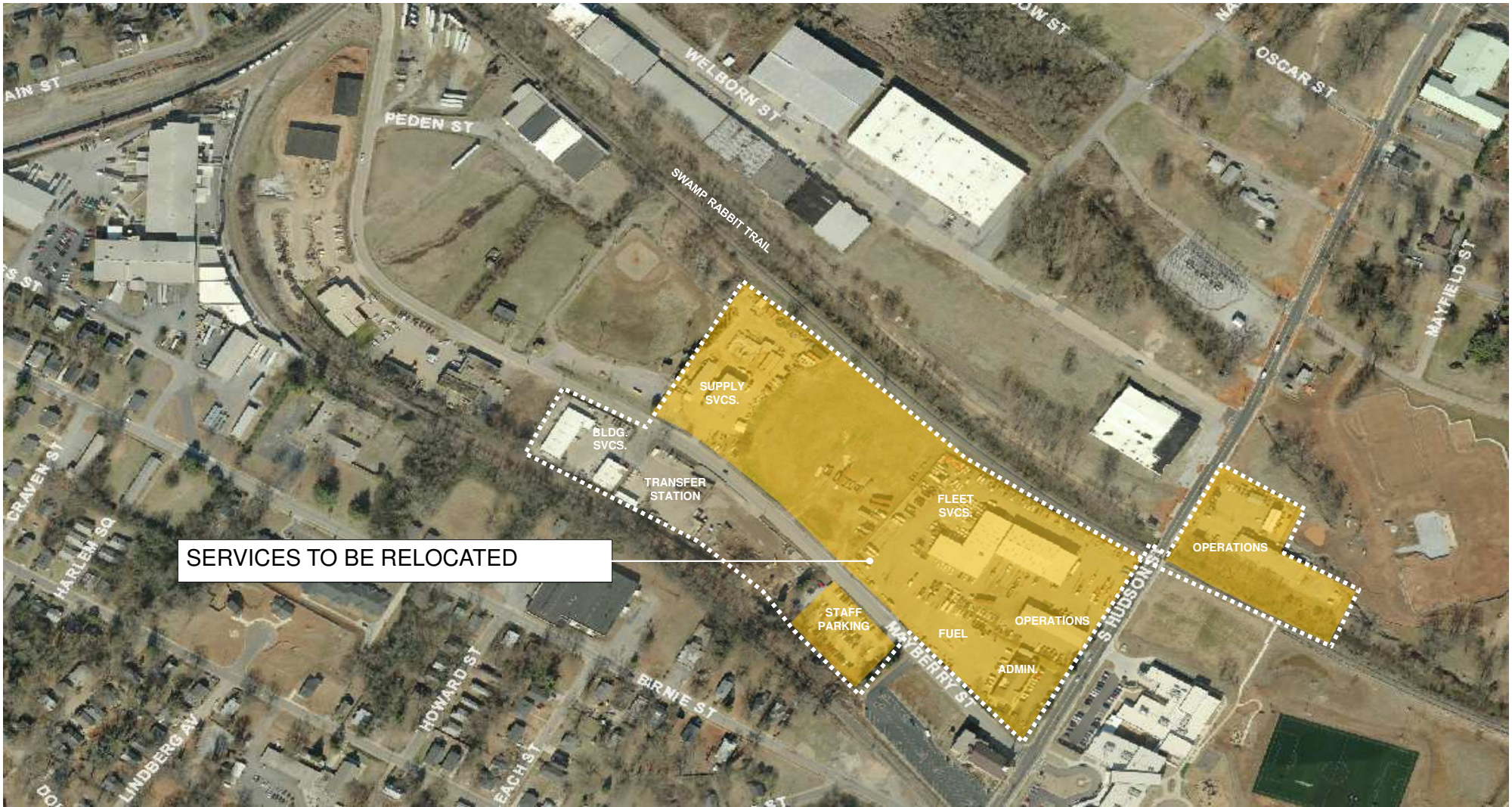
New Public Works Campus
City of Greenville, SC



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GENERAL CONTRACTORS ARCHITECTS



Existing Public Works Campus

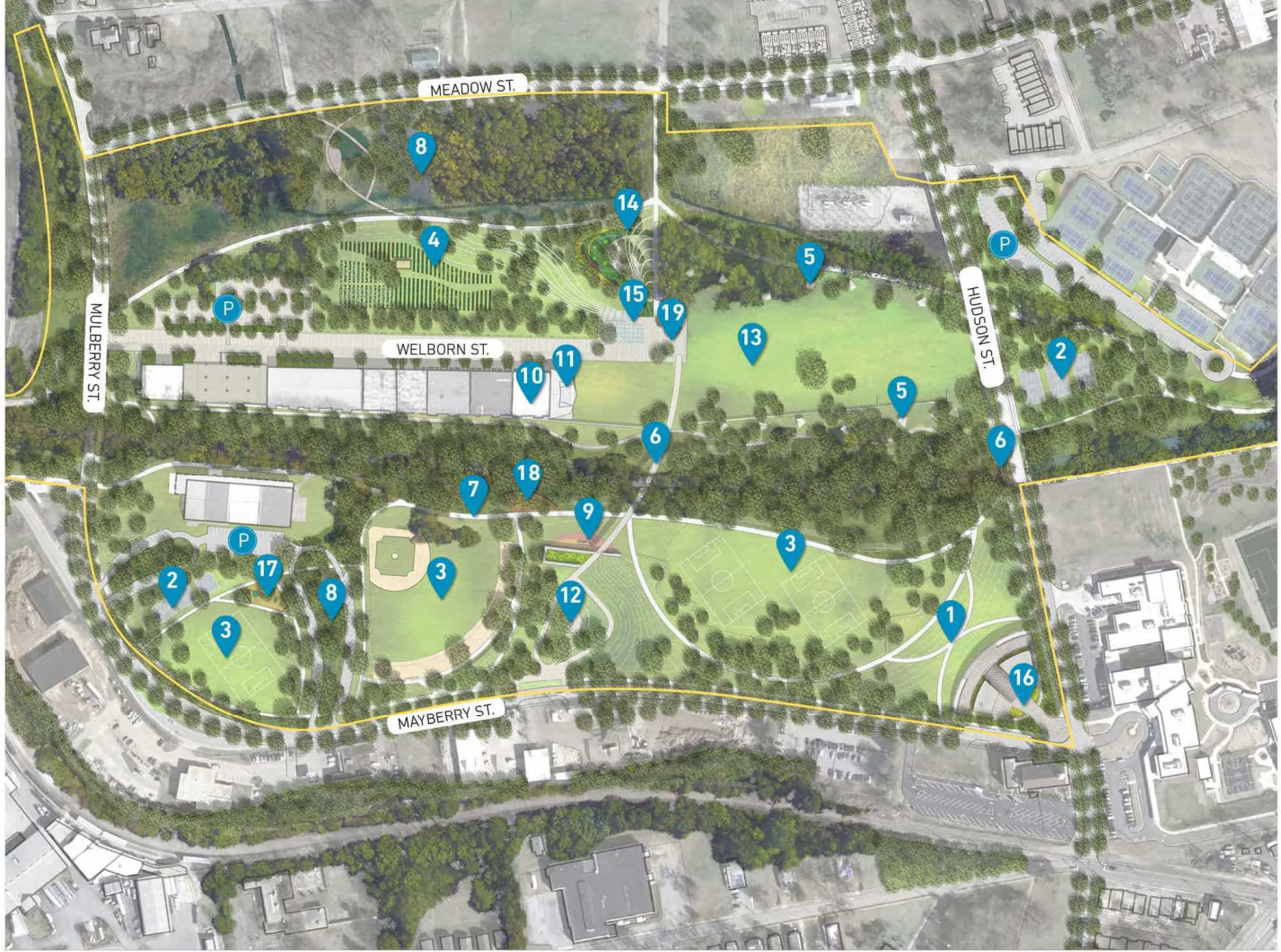


Existing Public Works Campus

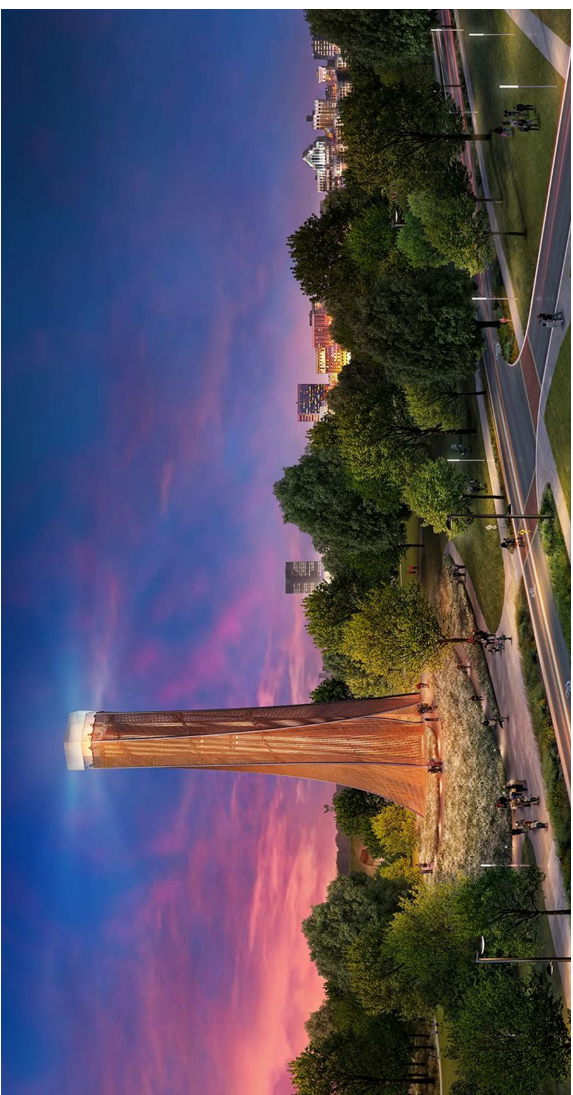
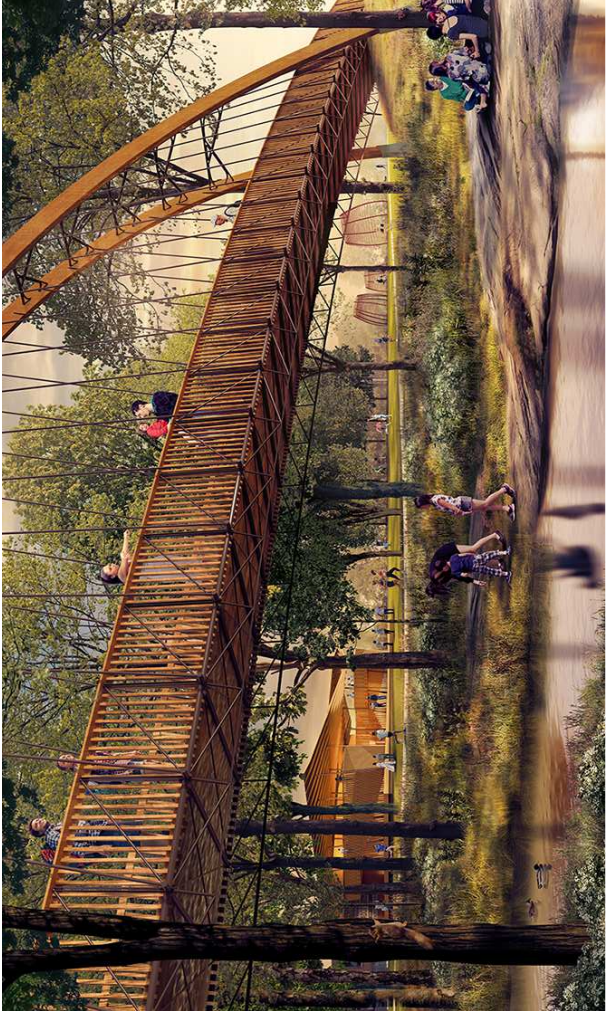


Existing Public Works Campus

- 1| Garden Walk
- 2| Basketball Courts
- 3| Multi-purpose Fields
- 4| Community Gardens
- 5| Picnic Pavilions
- 6| Pedestrian Bridge
- 7| Swamp Rabbit Trail
- 8| Bioswale & Wetland
- 9| Adult Fitness/Climbing Wall
- 10| Visitor's Center
- 11| The Gathering Hall Stage
- 12| Observation Area
- 13| Great Lawn
- 14| Destination Playground
- 15| Sprayground Water Feature
- 16| Promenade + Park Cafe
- 17| Neighborhood Playground
- 18| Natural Play
- 19| Welborn Square



New City of Greenville Signature Park





<u>Divisions</u>	<u>Current SF</u>	<u>Proposed SF</u>
Administration/EOC	6,345	10,450
Operations & Supply Yard	23,390	26,610
Fleet Services	29,800	33,563
Supply Services	6,340	0
Vehicle Wash	2,800	3,888
Fuel Island Canopy	0	5,543



Project Components

- Project should have a **life span of at least 50 years**.
- Administration, Operations, Supply Yard, Fleet, and Fuel Island/Vehicle Wash must be relocated at the same time to **maintain operational efficiency**.
- Buildings should be **sustainable** and as **energy efficient** as financially feasible.
- Buildings should **minimize long-term life-cycle costs**.

Project Assumptions





Proposed Site



Site Plan



Site Aerial





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- Omni Block Walls
- Insulated Roof Panels
- Clerestory for Natural Lighting
- Exhaust fans and large fixed fans versus HVAC in bays
- Low Flow Fixtures in Restrooms
- LED Lights
- Occupancy Sensors
- Earth Lifts versus In-ground Lifts

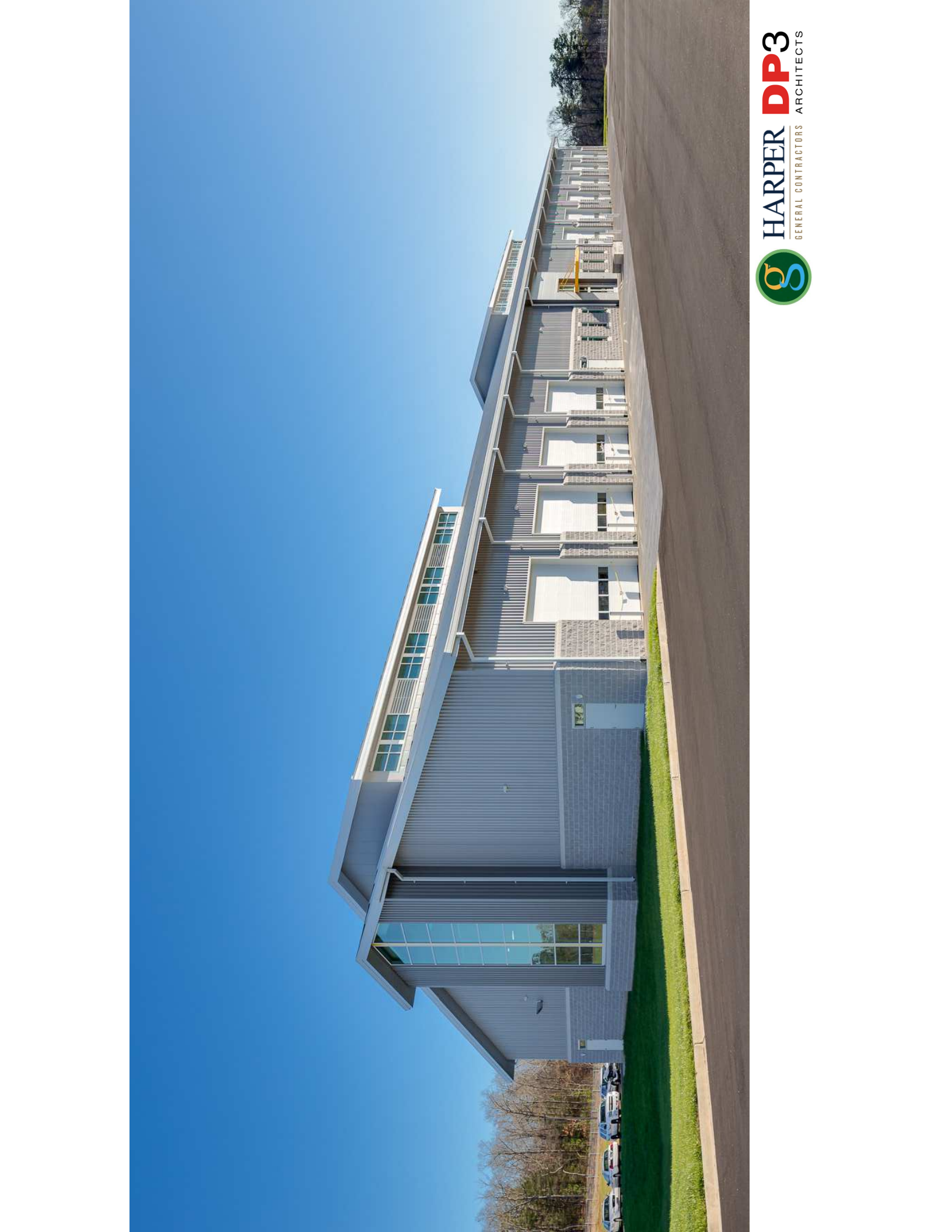
Sustainable Elements of New Fleet Facility





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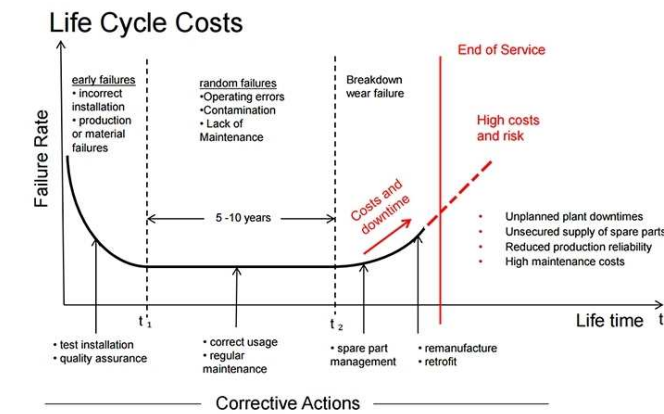
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Sustainable Objectives of City Of Greenville Fleet Services:

- Improve Fuel Efficiency
- Lower Fuel Purchase Costs
- Lower Vehicle Lifecycle Costs
- Lower Purchase Price
- Higher Resale Price
- Lower Vehicle Maintenance Costs
- Fewer Repairs
- Lower Parts Prices
- Reduce Fleet Size
- Reduce Vehicle Miles



- Annualized Capital Costs Fall as the Fleet Ages
- Annualized Operating Costs Rise as the Fleet Ages
- Total Costs = Capital + Operating
- Total Costs Generally Fall till a Vehicle Age of 8 – 12 Years, Then Begin to Rise



Economic Theory of Fleet Replacement

- Fleet Reduced from 875 Vehicles to 675 (23% Reduction) over past 5 Yrs
- Average Fleet Age Reduced from 9.6 Yrs to 6.1 Yrs
- Goal of Reaching Average Fleet Age of 4.5 Yrs on track to be realized in another 2 Yrs



Right-sizing of City of Greenville Fleet

- Surplus Vehicle Sales in the Past 3 Years in Excess of \$1 Million
- Fuel Consumption, Vehicle Parts Cost, and Outside Repair Costs Are All Declining
- Removing 300 Vehicles from the Comprehensive Replacement Schedule Results in a Lifetime Cost Savings of \$21 Million



Cost Savings of Fleet Right-sizing

- Elimination of 300 Vehicles Results in an estimated Reduction in Greenhouse Gas Emissions of 1,400 Tons of Carbon Dioxide per Year



Resulting Reduction in Fleet Emissions



- Named #7 Best Fleet in the Americas by Government Magazine's 100 Best Fleets
- Named #9 Leading Fleet by APWA in Government Fleet Magazine
- Named #1 Mid-Size Fleet by APWA's Leading Fleets

Award Winning Fleet Facility





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