

# West Point Treatment Plant Power Quality Improvement Project

Seattle City Council  
Land Use and Neighborhoods  
Committee  
December 3, 2021



**King County**

Department of  
Natural Resources and Parks  
**Wastewater Treatment  
Division**

# Project Background and Importance<sup>2</sup>

- Electric power is provided by Seattle City Light (SCL)
- A ‘bypass’ event occurs when wastewater is discharged to Puget Sound with either partial or no treatment
- In the last 21 years, there have been 17 bypass events caused by SCL voltage sags, with 9 of those in the past 5 years
- Seven bypasses of the secondary treatment system between 2018 and 2021 were caused by power problems
- Frequency of power quality and reliability issues from the Seattle City Light system is increasing
- Department of Ecology issued an Administrative Order in February 2021 requiring King Co to correct power quality issues



# Emergency Declaration

- County Executive declared Emergency on February 25, 2021
  - Correct power quality and voltage sags to protect employee and public safety and prevent environmental harm
- Directed Wastewater Treatment Division (WTD) to quickly implement actions
- Declaration waives requirements for procurement to expedite design and construction



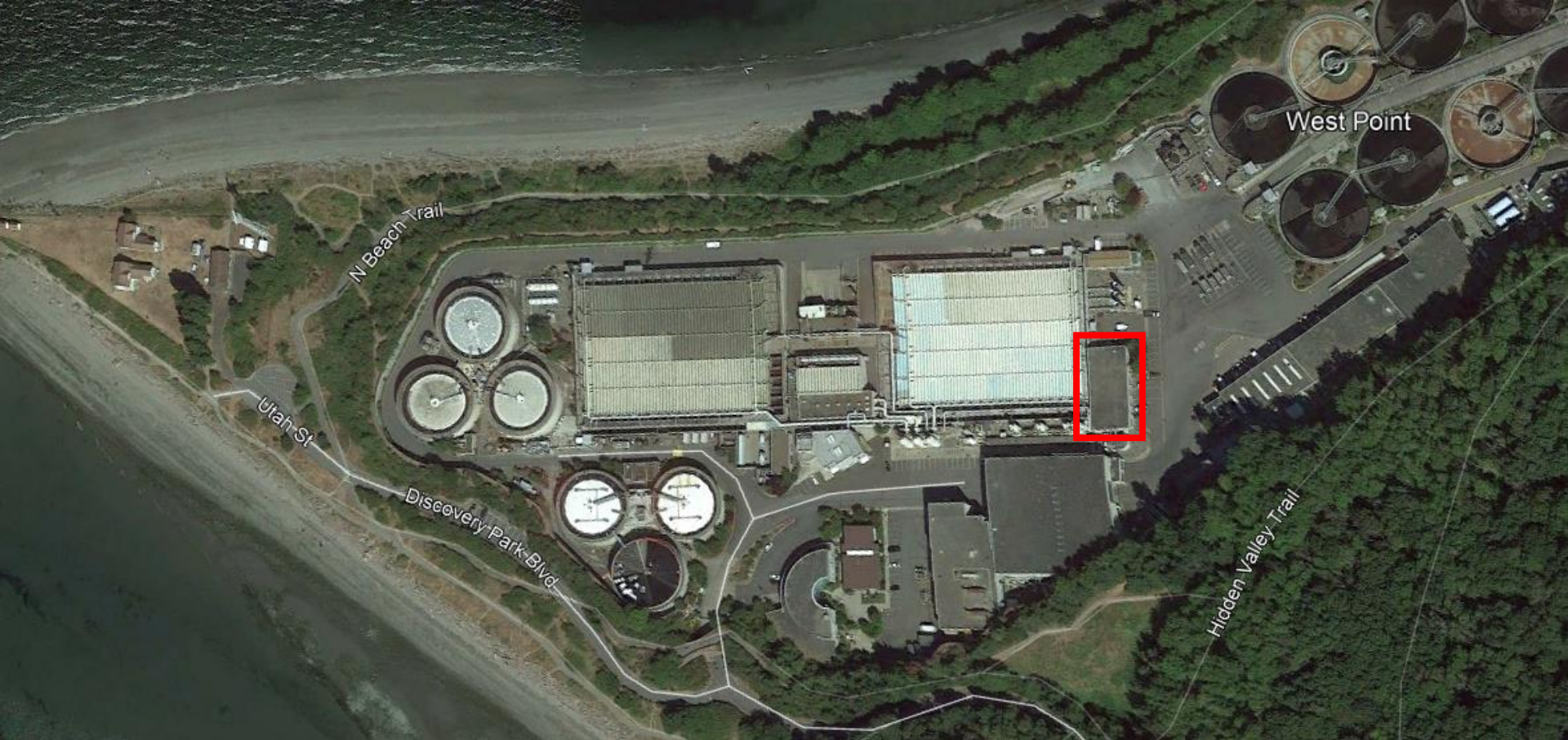
# Power Quality Improvement Project<sup>4</sup>

## Online Uninterruptible Power Supply (UPS)

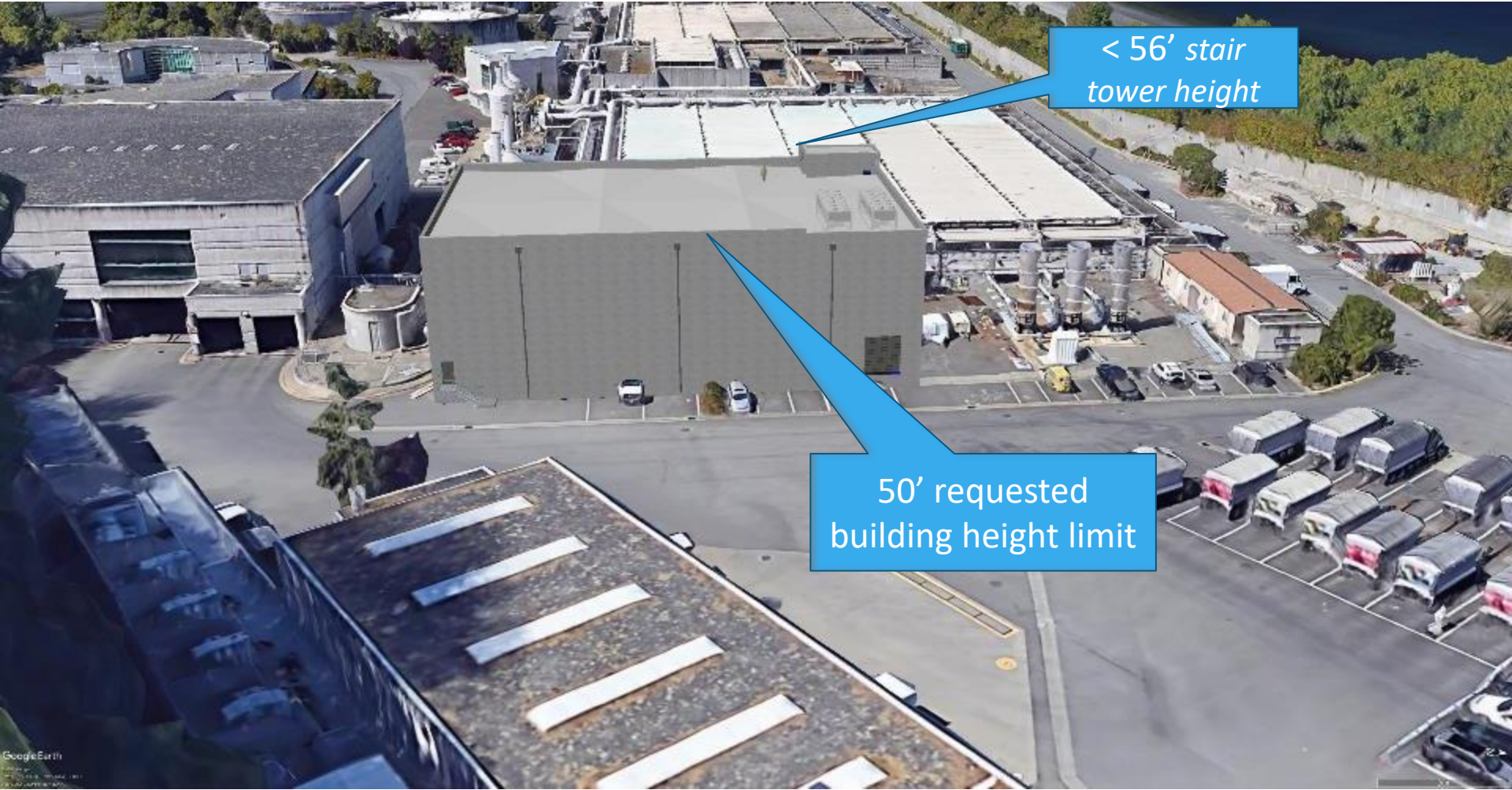
- Examined 5 alternatives to improve power quality
- Selected battery energy storage technology to condition power feed and improve power quality
- Connected to each of the critical pump motors to maintain continuity of pumping operations
- Highly effective at mitigating voltage sags
- Can ride-through minor (~1 min) power outages
- Electrical equipment and batteries to be housed in replacement building



# Existing Building



# Replacement Building



*< 56' stair tower height*

50' requested building height limit



# Shared Goals

- Seattle and King County share goals to reduce risk of future bypass events, reduce environmental impacts, and help keep employees and public safe
- Proposed ordinance will streamline the permit process and help us stay on schedule
- Reduces delay in completing this project and other critical projects at West Point Treatment Plant
- Helps us comply with Ecology orders



# Community Outreach

- Regular and on-going communication with groups and individuals in Magnolia area
- Sharing information on this project via email, webpage, and social media since spring 2021, including:
  - Project schedule
  - Chosen battery solution
  - Size, location and shape of building including renderings
  - Minimal neighborhood impacts during construction and operations (e.g., no odors, no noise, no additional traffic)
  - Briefings offered to community groups





# Questions?

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