



City of Clearwater Water Reclamation Facilities (WRF) Master Plan

City Project Number: 17-0007-UT
February 27, 2023

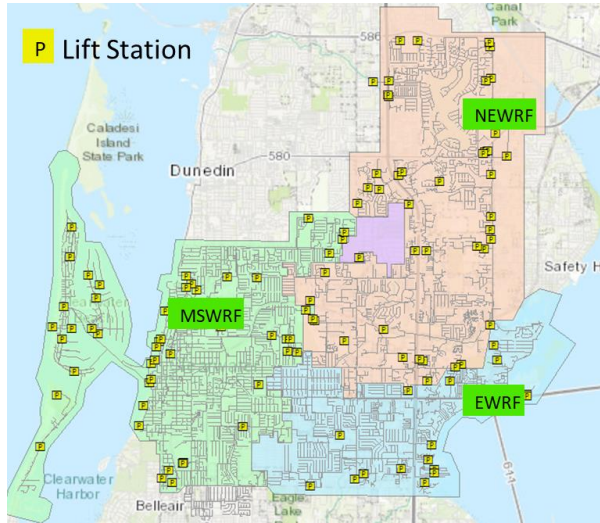


CLEARWATER
BRIGHT AND BEAUTIFUL • BAY TO BEACH

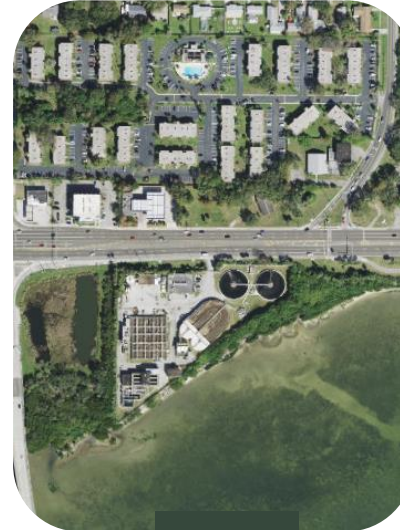
100 S. Myrtle Ave. | Clearwater, FL 33756
www.myclearwater.com

PROJECT OBJECTIVE

To develop a 30-year Master Plan and implementation strategy for the city's three Water Reclamation Facilities.



Northeast



East



Marshall Street

WRF MASTER PLAN GOALS AND OBJECTIVES

Service Reliability and
Resiliency



Sustainability



Financial
Responsibility



Safety

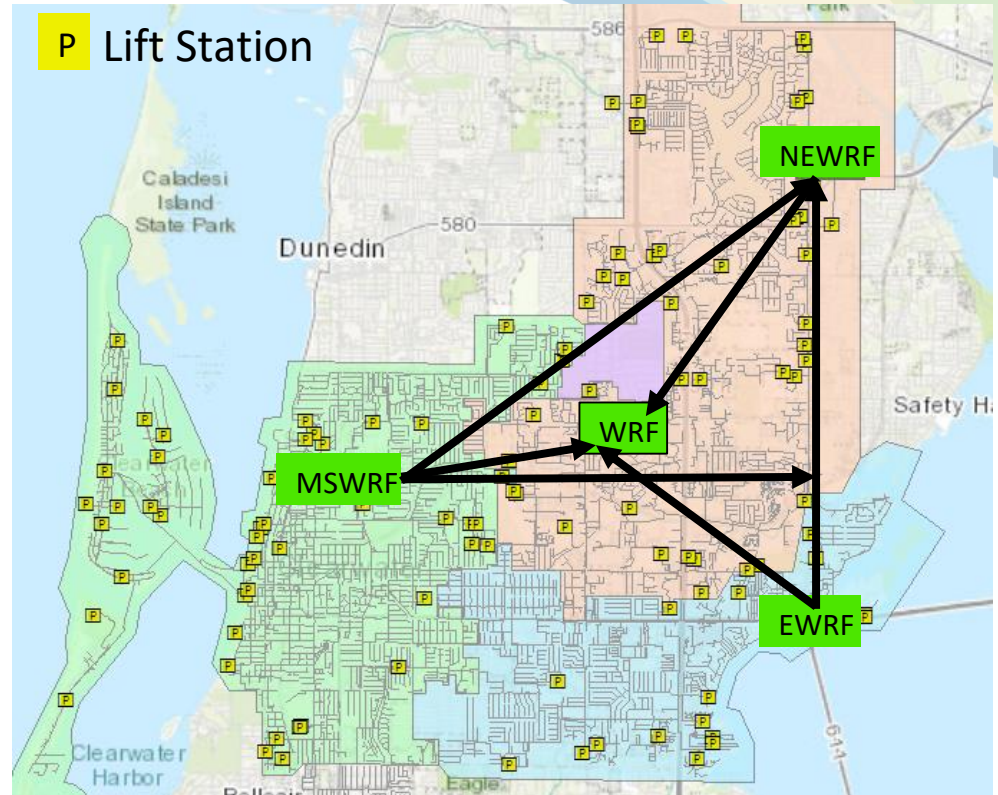


Quality



CONSOLIDATION SCENARIOS

No.	Scenario Name
1	Maintain Existing WRFs
2	All at NEWRF
3	MSWRF to NEWRF
4	EWRF to NEWRF
5	MSWRF + EWRF to New WRF
6	All at New Regional WRF

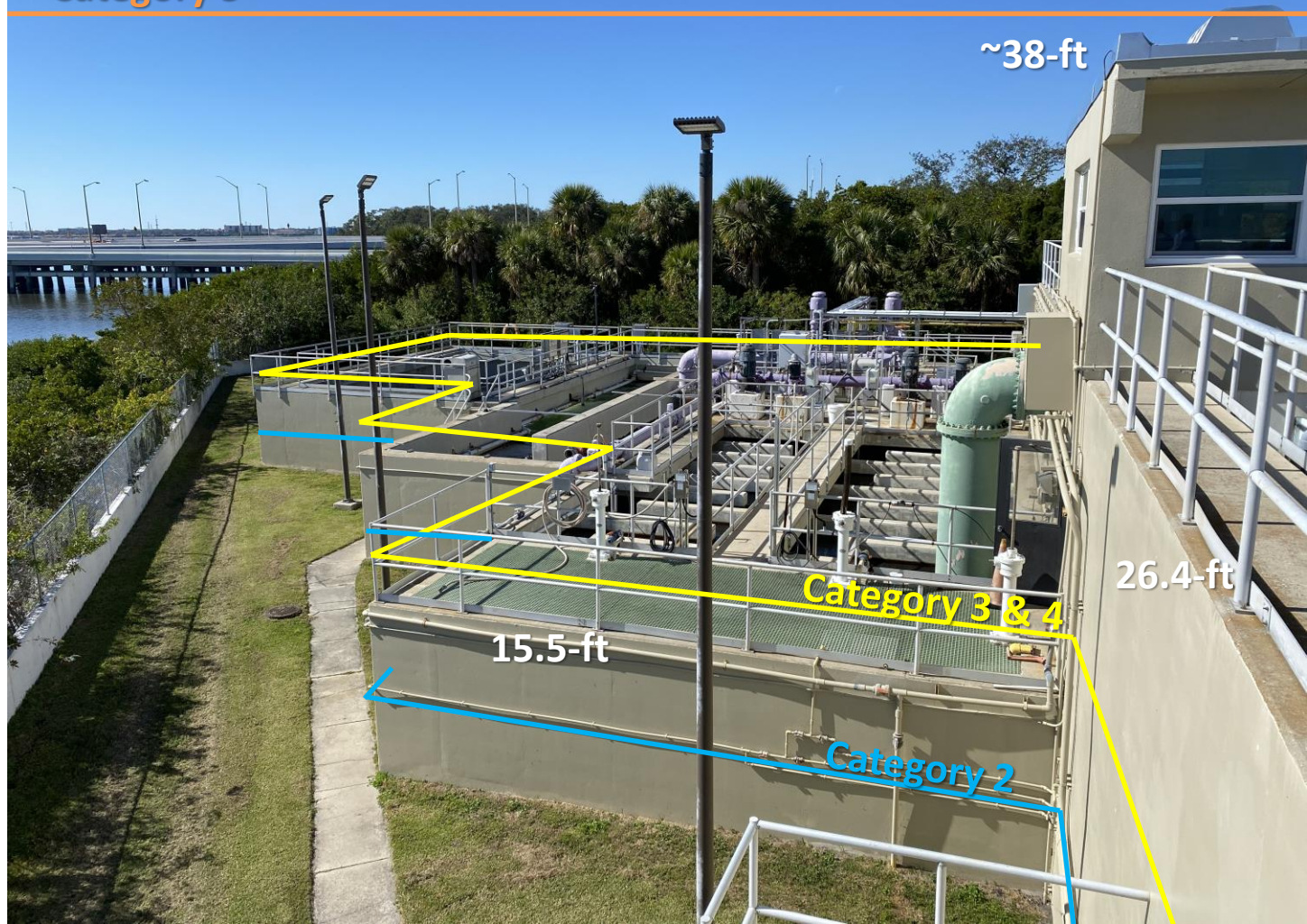


EVALUATION CRITERIA

Scoring Criteria	Weight	Definition
1. System Reliability and Resilience	22%	Reliability and resilience of the collection and treatment systems.
2. Maintenance Reliability and Resilience	21%	Maintenance reliability and resilience of the treatment systems.
3. Ease of Operations	17%	Complexity of system configuration.
4. Climate and Environmental Vulnerability	14%	Potential impacts by climate hazards, flood events, sea level rise and storm surge.
5. Sustainability (Greenprint 2.0)	11%	Energy consumption and greenhouse emissions.
6. Financial Responsibility	9%	Net present value (30-yr horizon Capital, renewal and replacement, operations and maintenance).
7. Public Perception	6%	Community concerns and planning and zoning approval process.

EAST WRF STORM SURGE

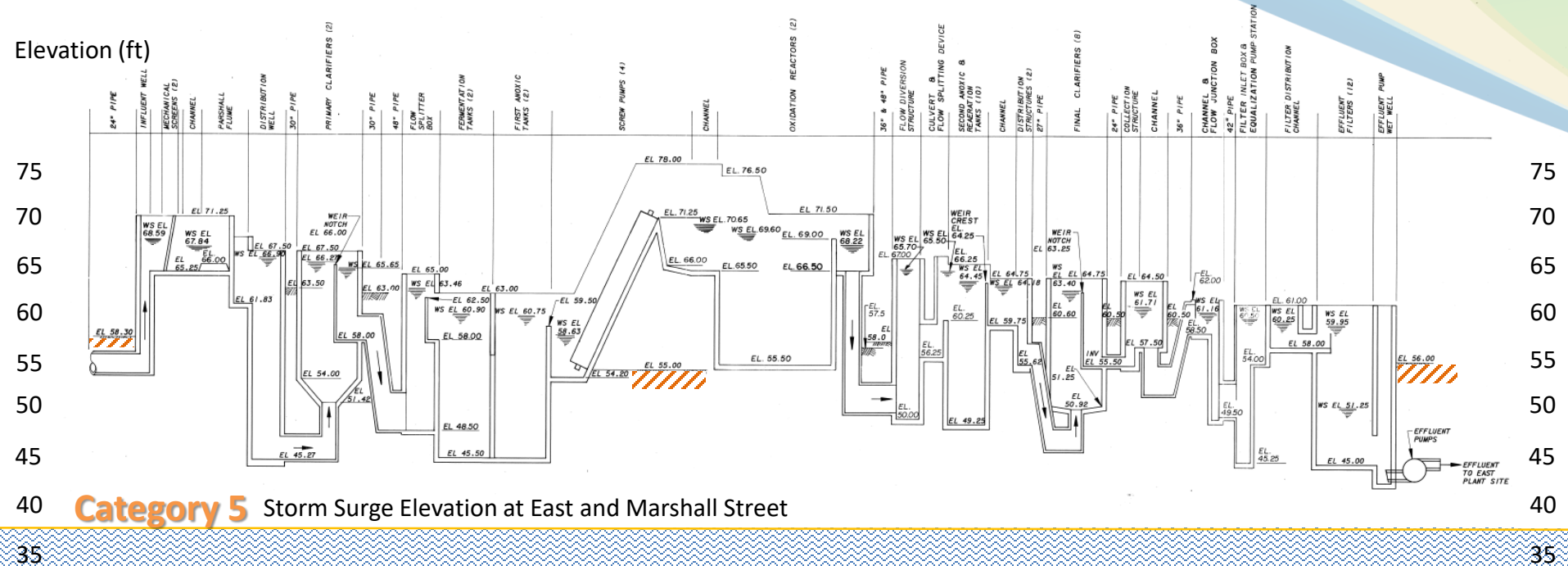
Category 5



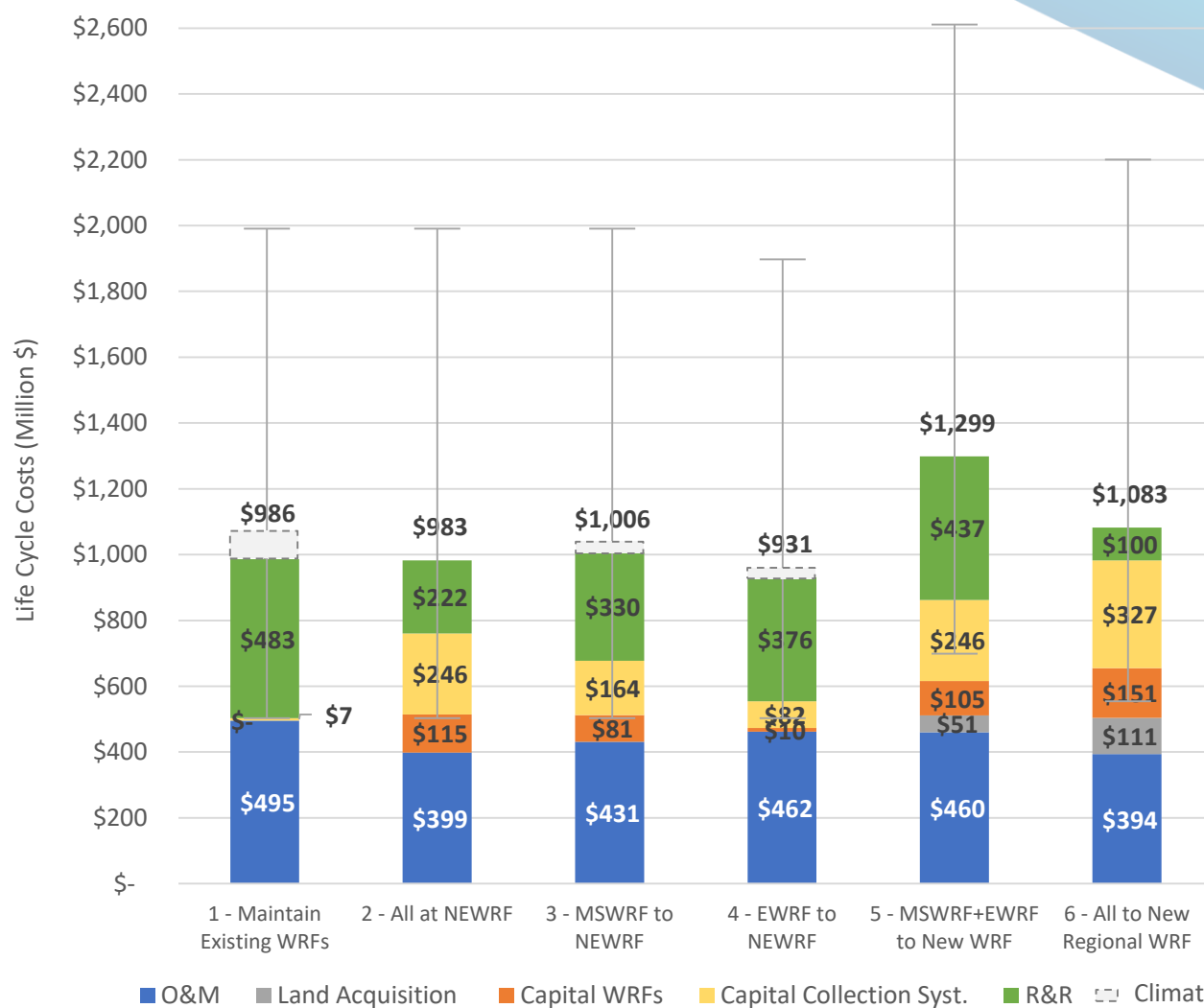
MARSHALL STREET WRF STORM SURGE



NORTHEAST WRF STORM SURGE



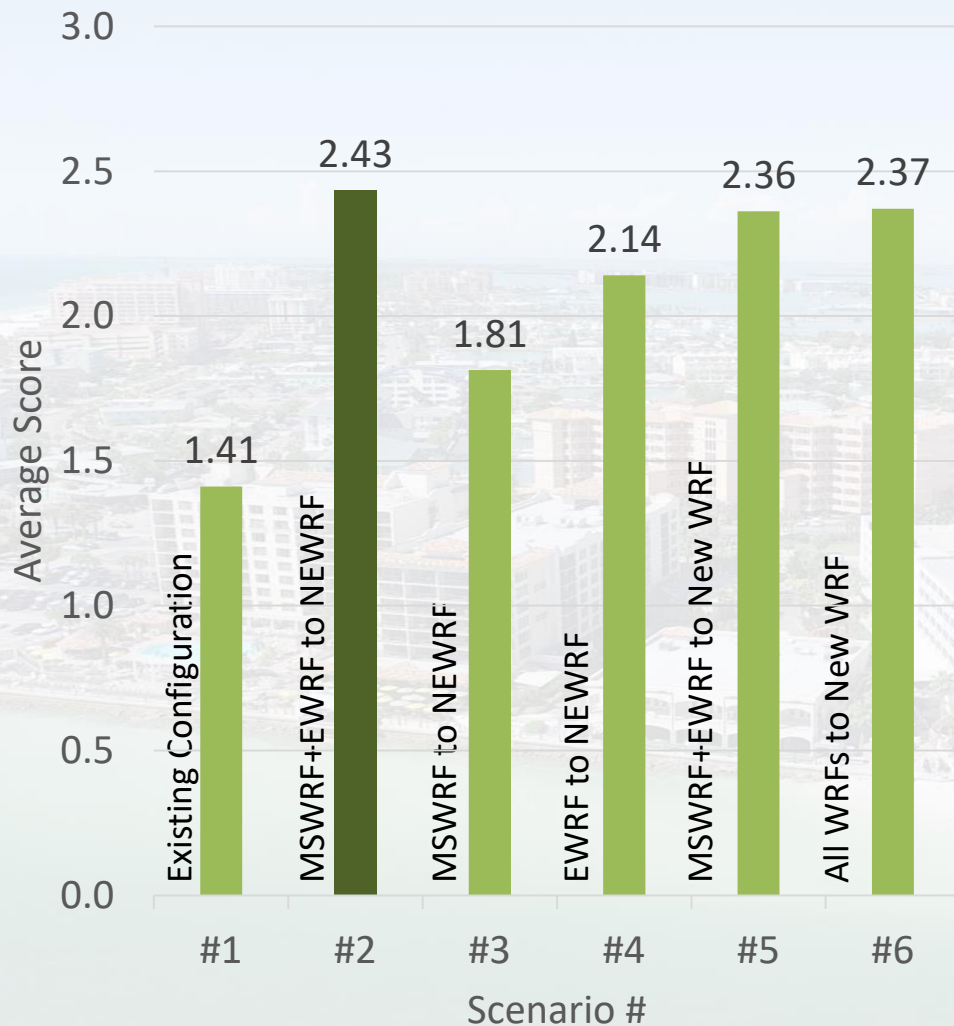
Storm Surge Not Applicable – Zone X



Preliminary Cost Estimates

Class 5 NPV life cycle costs were developed to include:

- Capital costs
- Land Acquisition
- Renewal & Replacement (R&R)
- Annual Operations & Maintenance (O&M)
- Climate Hardening



FINAL RESULTS

- Scenario #2 – Consolidating the East WRF and Marshall Street WRF to the Northeast WRF is the highest scored scenario
- Scored the highest in 4 of the 7 criteria
- **Recommendation:** Consolidate all flow to the Northeast Water Reclamation Facility.

CONSOLIDATION DISCUSSION

CAUTIONS

- Increased consequences if catastrophic failures occur at plant
- Higher short-term capital costs
- Short-term increase in construction along roadways

BENEFITS

- Reduced risks due to storm surge
- Lower overall costs over the next 30 years
- Ability to optimize energy consumption and greenhouse gas reduction
- Opportunity to change use of city properties

QUESTIONS