Water Supply and Treatment Feasibility Study

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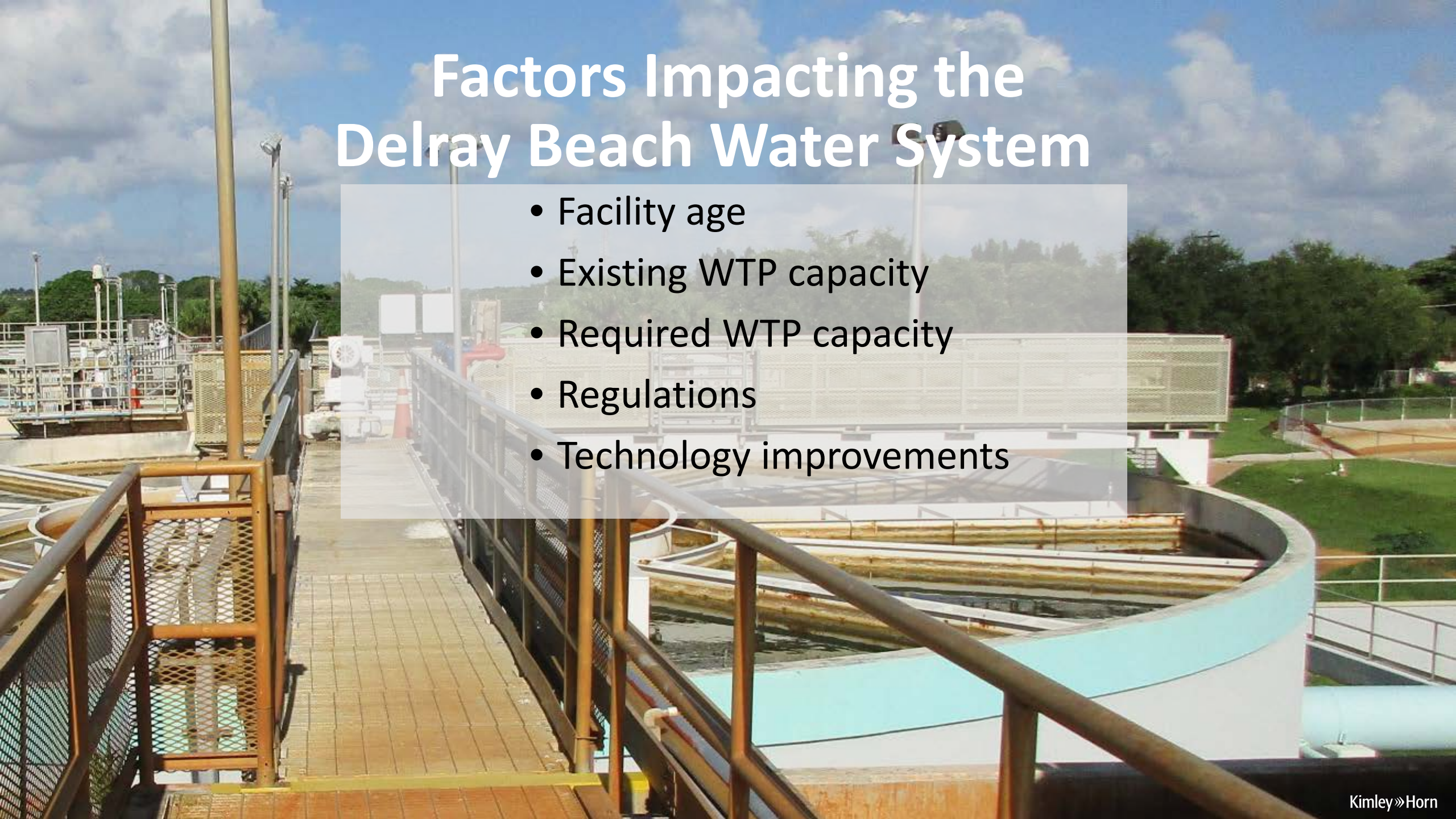
Factors Impacting the Delray Beach Water System

- Facility age
- Existing WTP capacity
- Required WTP capacity
- Regulations
- Technology improvements



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Facility Age

Facility Approaching Useful Life

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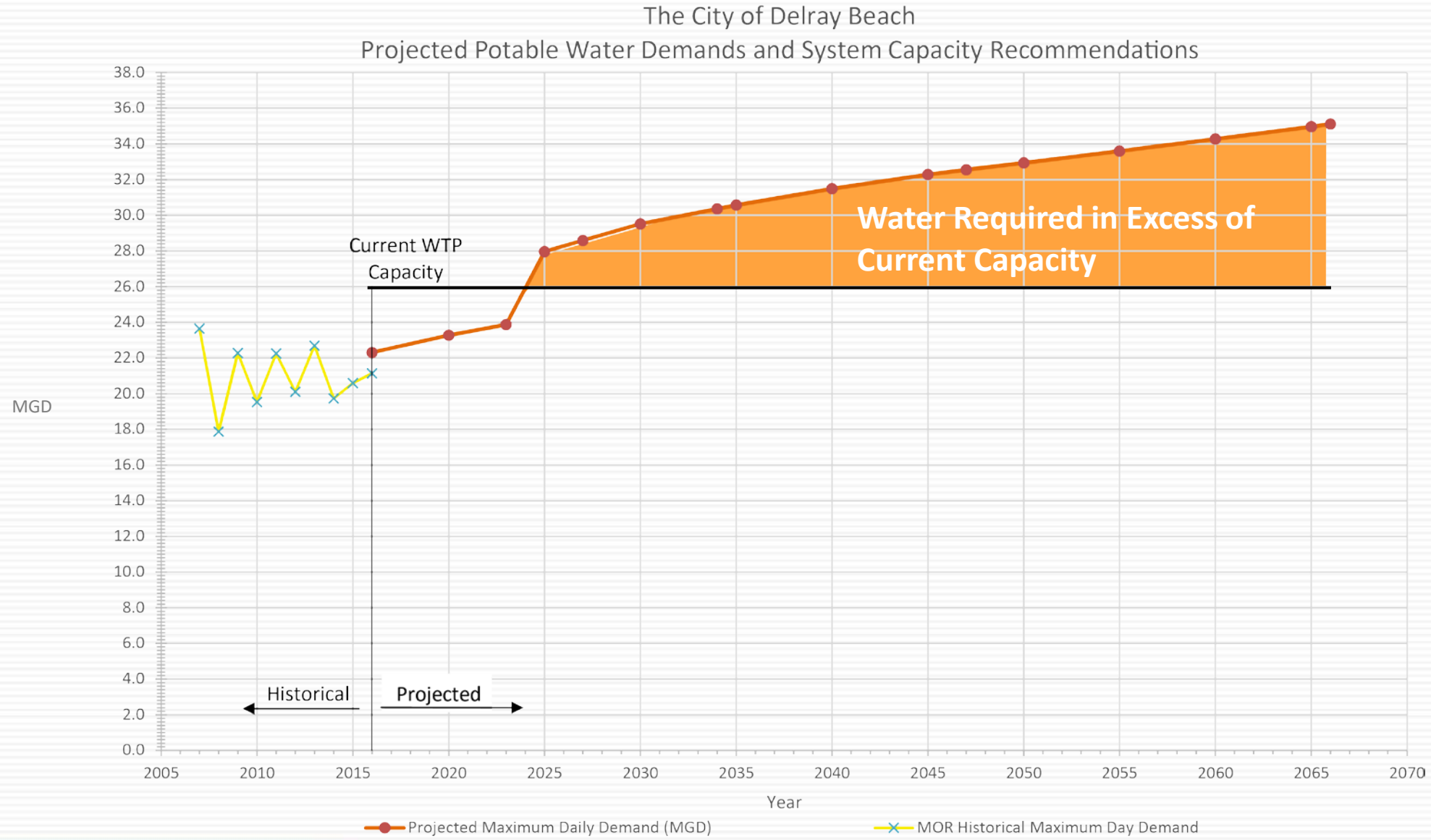
Existing WTP Capacity



Notes: Capacity upgrades shown 2 years before maximum day flow is projected to be reached.
Design Phase shown 5 years before maximum day flow is projected to be reached per F.A.C. 62-555.348.

Required WTP Capacity

Table 5-1: Delray Beach Population Projections

UTILITY SERVICE AREA	POPULATION PROJECTION*												
	2014	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2066
City of Delray Beach	62,628	64,054	67,573	70,441	73,349	75,964	78,243	80,199	81,803	83,439	85,108	86,810	87,158
Town of Gulf Stream	1,097	1,097	1,106	1,126	1,158	1,196	1,232	1,263	1,288	1,314	1,340	1,367	1,372
Unincorporated Palm Beach County/Future Annexed Areas *(with water service)*	1,481	1,506	1,578	1,675	2,756	2,862	2,947	3,021	3,081	3,143	3,206	3,270	3,283
TOTAL POPULATION BEING SERVED WITHIN EXISTING DELRAY BEACH SERVICE AREA**											89,654	91,447	91,813
Unincorporated Palm Beach County/Future Annexed Areas *(with little/no water service)****													
TOTAL POPULATION WITHIN EXISTING DELRAY BEACH SERVICE AREA***	66,790	68,241	71,879	74,944	77,263								

30% INCREASE

Notes:

*Population projections based on Palm Beach County TAZ data from 2014 to 2035, 2010 Census data, and future development areas.

**Population used for water treatment study

***Assumes that all future annexed areas will be connected to City's water by 2030

Required WTP Capacity

Downtown Growth

Required WTP Capacity

Reduced Distribution Pressure

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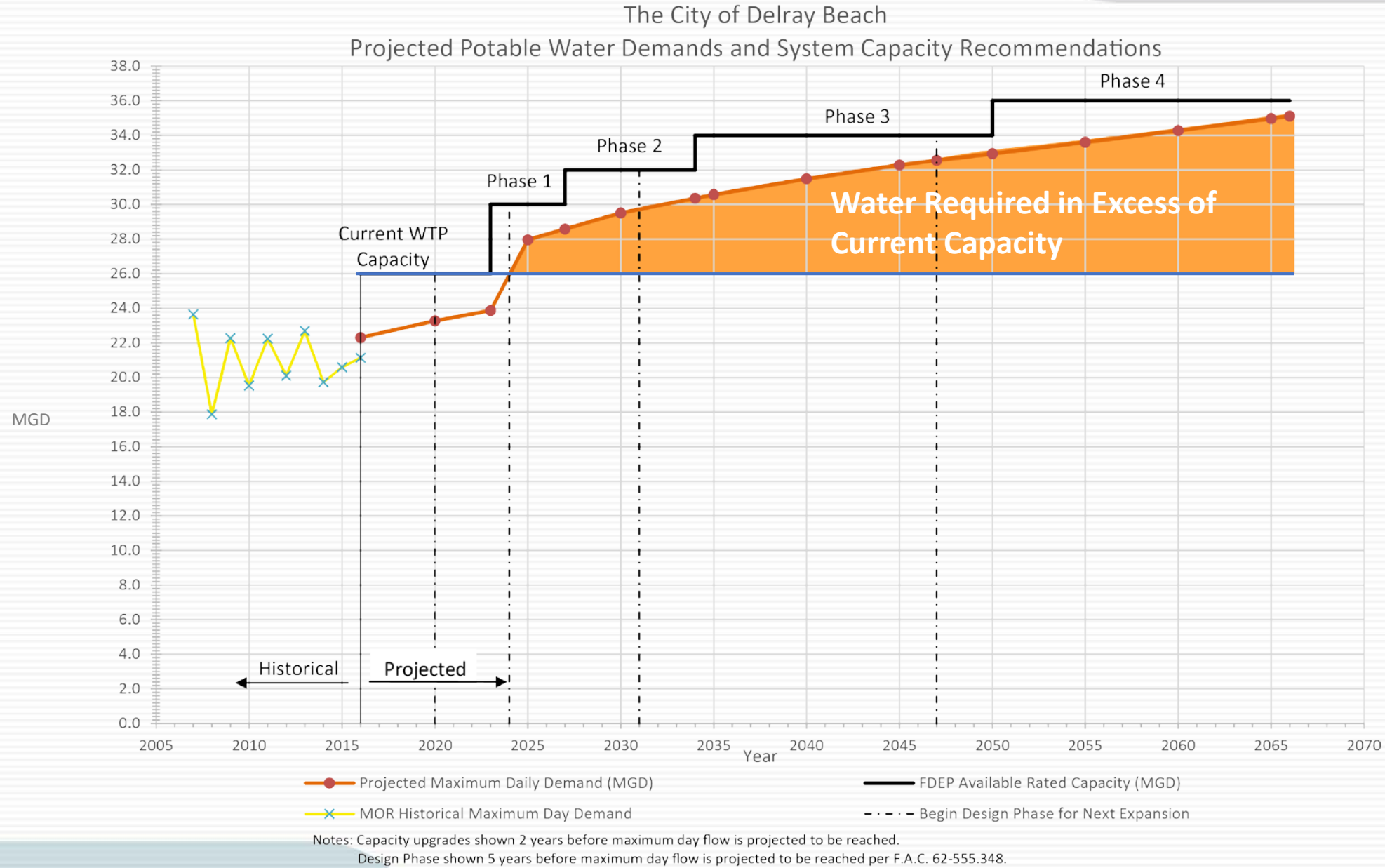
Regulations

- SFWMD limits amount of water City may use
- Health department/FDEP sets water quality requirements
  - Current focus on organic contaminants
- Emerging Contaminants
  - Future regulations will deal with emerging contaminants

PROJECTED WATER REQUIREMENTS



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Technology Improvements

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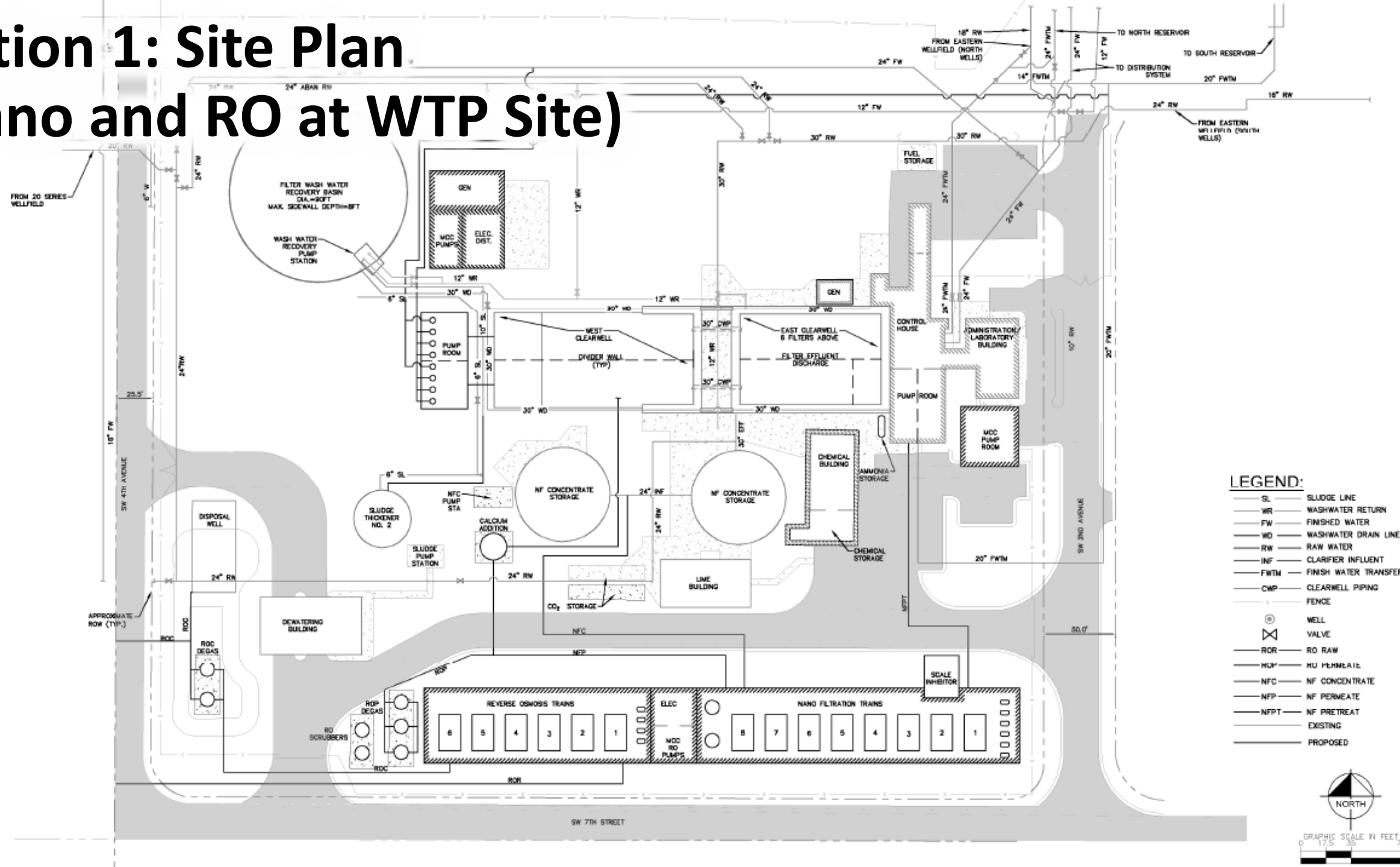
Option 1: Site Plan (Nano and RO at WTP Site)



Option 1 Analysis

- Advantages
  - Does not require additional property
  - Water treatment operating staff is minimized
  - Allows for uniform water quality for the customers
  - Implementation costs and operating costs for this option are slightly less than Option 2
- Disadvantages
  - Existing WTP site will be crowded during 3 to 4 year Phase 1 construction duration

Option 2: Site Plan
(Nano at WTP Site/RO at North Reservoir Site)

Option 2 Analysis

- Advantages
  - Provides redundancy and an alternate water source if there is an emergency at the existing water treatment plant site
  - Relives congestion at existing water treatment plant site and requires less phasing to construct new RO and NF facilities while lime plant is online
- Disadvantages
  - Requires additional operating staff to man two sites
  - Customers will not receive consistent water quality

Recommendations from Study

- Construct new facilities as shown in Option 1 or Option 2 in 4 phases to provide added capacity only when needed
- Option 1 estimated program cost is $100 million for Phase I and $132 million for all 4 phases
- Option 2 estimated program cost is $107 million for Phase 1 and $144 million for all 4 phases
- Conduct the preliminary planning, permitting, and funding studies

Thank You
and Questions