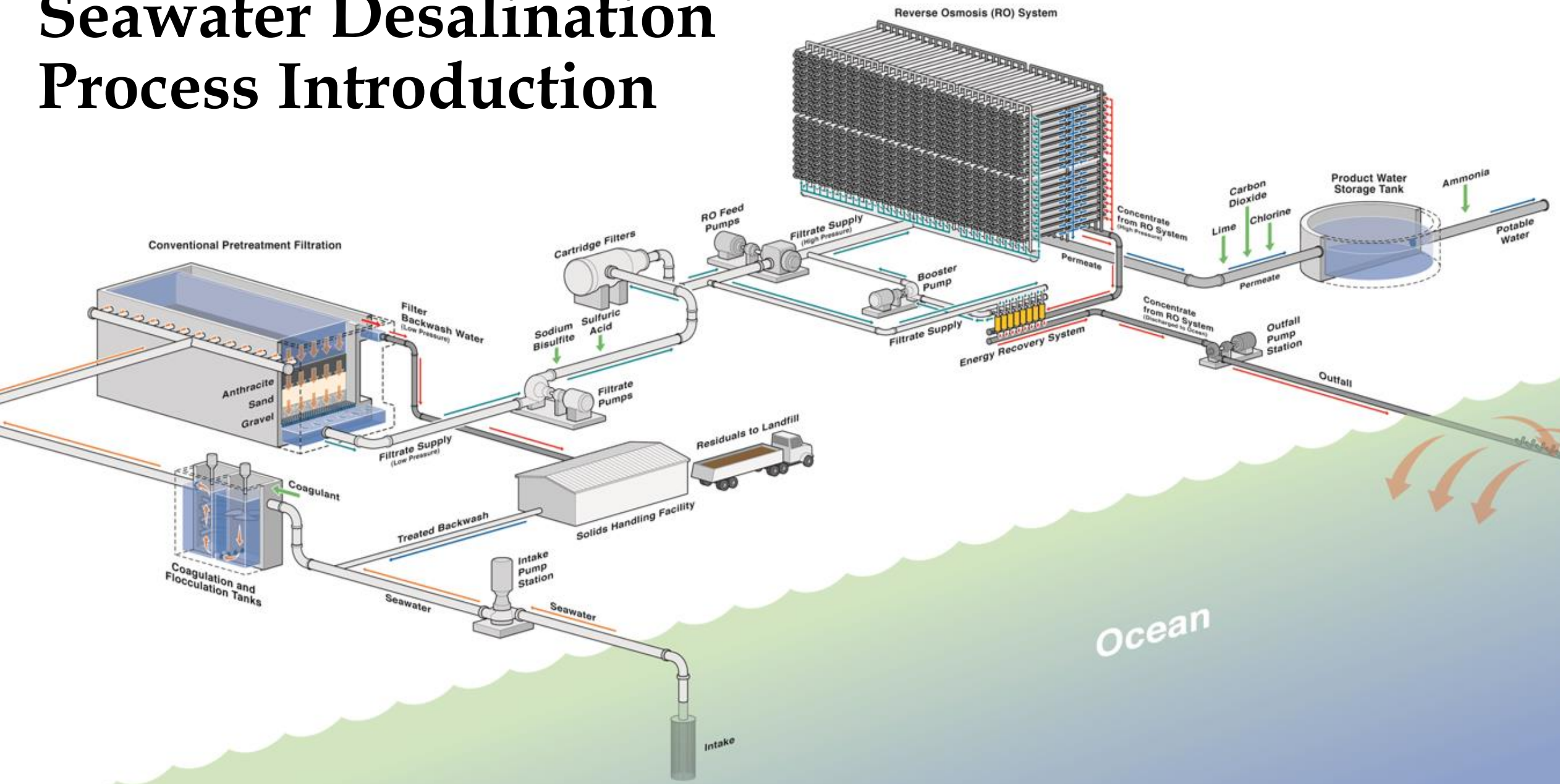
City of Corpus Christi

Seawater Desalination Project
Siting and Permitting

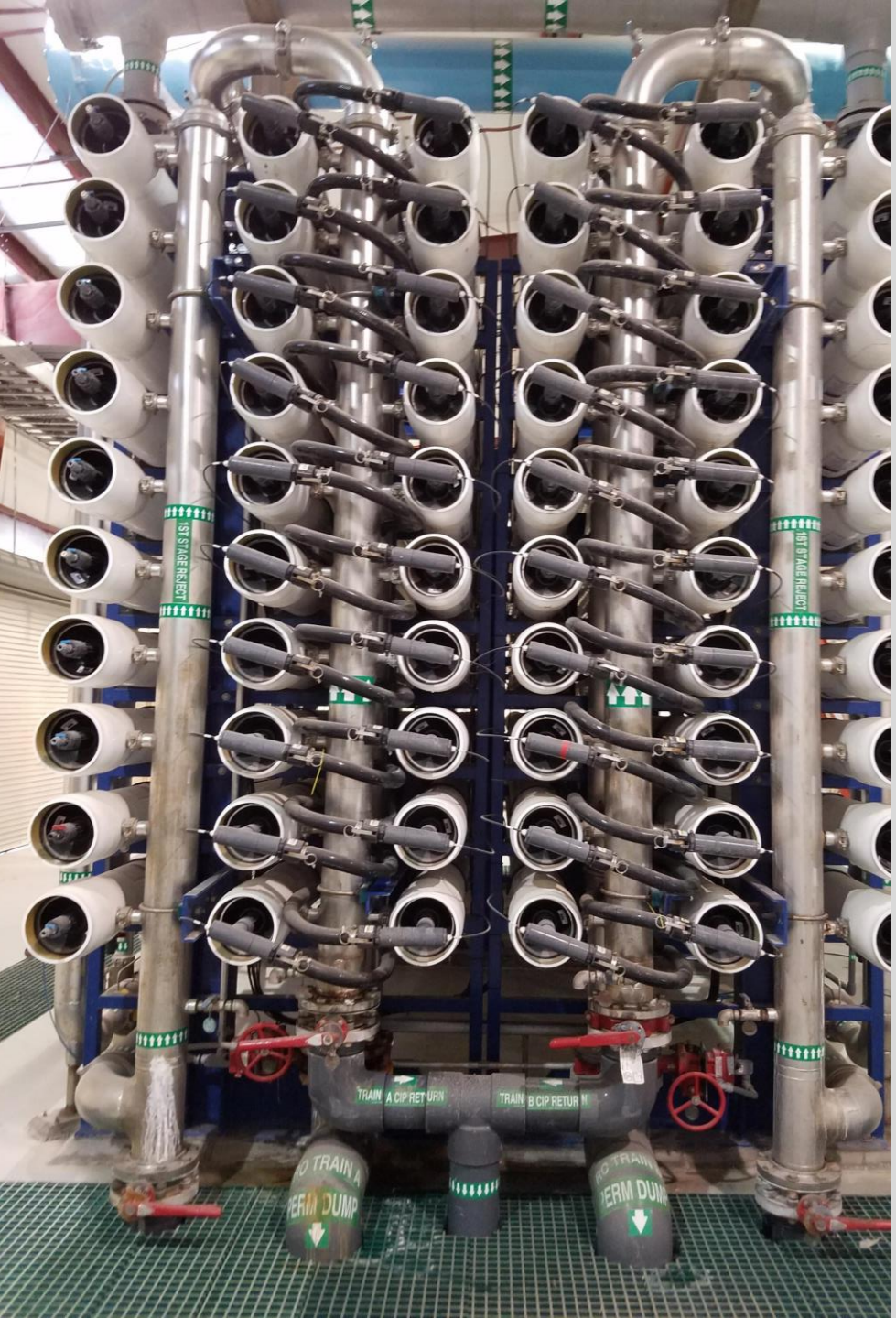
Council Presentation

January 22, 2019

Seawater Desalination Process Introduction



Examples Around the World



Seawater Desalination Update Objectives

- Provided update to City Council in Sept. 2018 with plan to do so quarterly
- Second update today
  - Provide some history
  - Report on activities
  - Provide roadmap for future activities

Seawater Desalination – Siting & Permitting Project Overview

- **Goals**
  - Lowering Risks, Reducing Unknowns;
  - Provide Drought Resistant Water Supply
- **Major Tasks**
  - Facility Siting
  - Permit Applications
  - Expand Communications/Outreach

Seawater Desalination – History

- Began as result of drought conditions (2011-13)
- Group formed with Port Industries and others (2014)
- FNI selected as Owner's Representative (2015)
- Feasibility confirmed through development of Project Definition, Profiles, Cost Model (2015-2017)
- Application for Texas Water Development Board Funds with City execution of contract (2017)
- Funding from large volume users – Non-curtailment agreement approved (Sept 11, 2018)
- Task Order signed for next phases with FNI – July 30, 2018

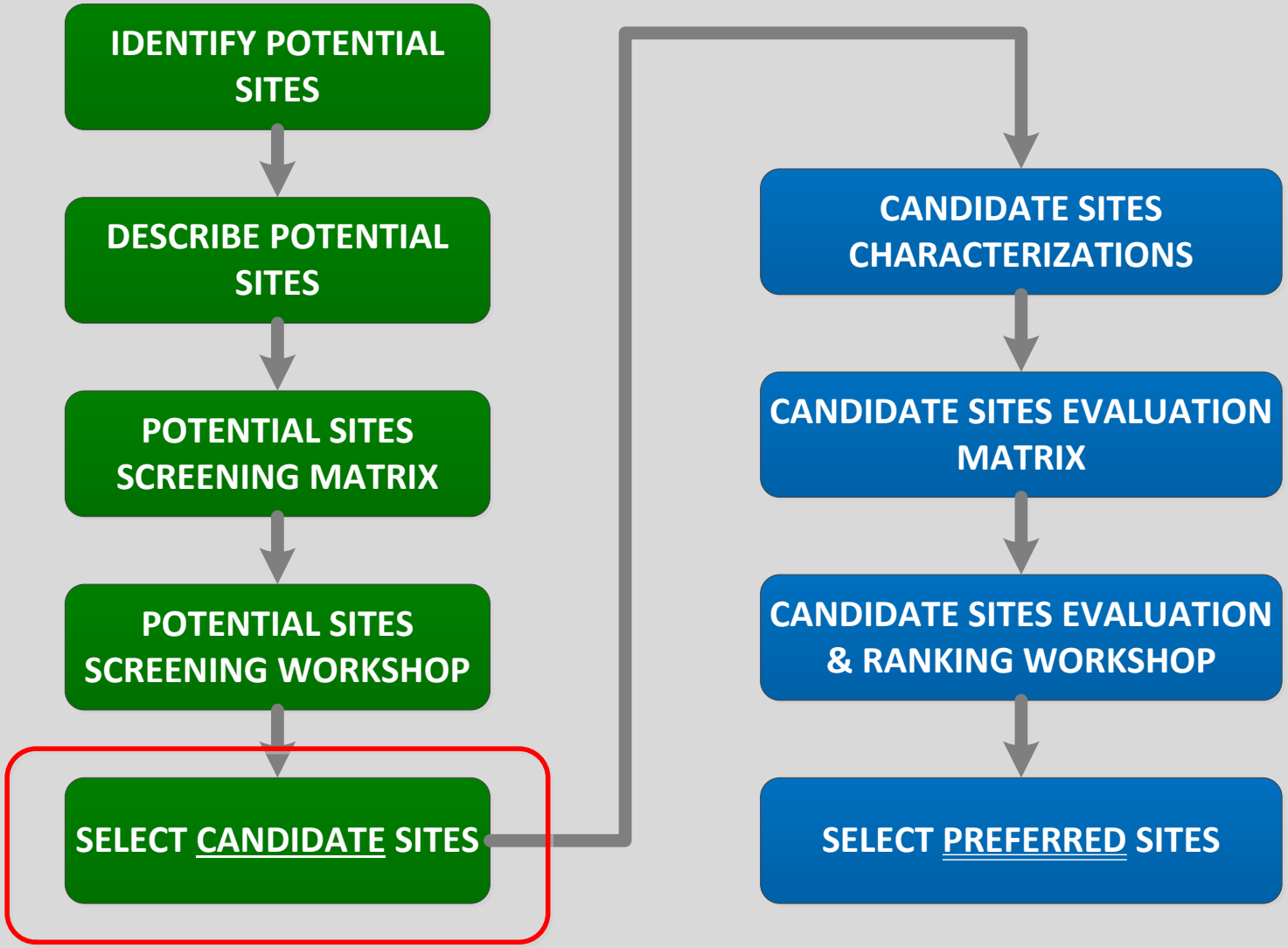
Seawater Desalination – Tasks and Schedule

Major Events/Milestones	Start	End
Notice to Proceed MSA-Task One	Jul 30, 2018	
Confirm Project Definitions	Sep 2018	Nov 2018
Site Selection		
Screening Potential Sites	Dec 2018	Feb 2019
Evaluate Candidate Sites	Feb 2019	Jul 2019
Identify Preferred Sites	Jul 2019	
Source Water Characterization	Jul 2019	Jun 2020
Concentrate Modeling	Aug 2019	Oct 2019
Conceptual Design of Intake/Outfall Facilities	Aug 2019	Nov 2019
Permitting		
TPDES Applications	Jul 2019	Oct 2019
Joint Evaluation Meeting	Sep 2019	
Marl, Sand, Gravel Shell, or Mudshell Permits	Nov 2019	
Texas Land Application Permit	Sep 2019	Oct 2019
Water Rights	Aug 2019	Dec 2019
New Source Water Approval	Aug 2019	Dec 2019

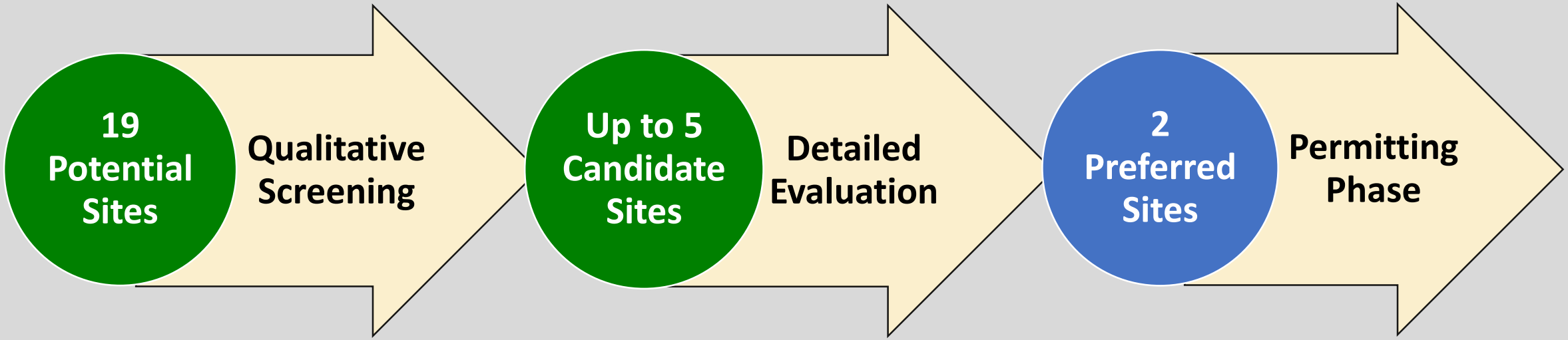
Seawater Desalination – Project Definitions

Production Capacities in MGD	
Production Phase	**Product Flow Average/Maximum**
Inner Harbor Plant	
Initial Capacity	10/12
Expandable Capacity	20/24
Ultimate Capacity	30/36
North Bay Plant	
Initial Capacity	20/24
Expandable Capacity	30/36
Ultimate Capacity	40/48

Seawater Desalination - Site Selection Process



Seawater Desalination – Screening Steps

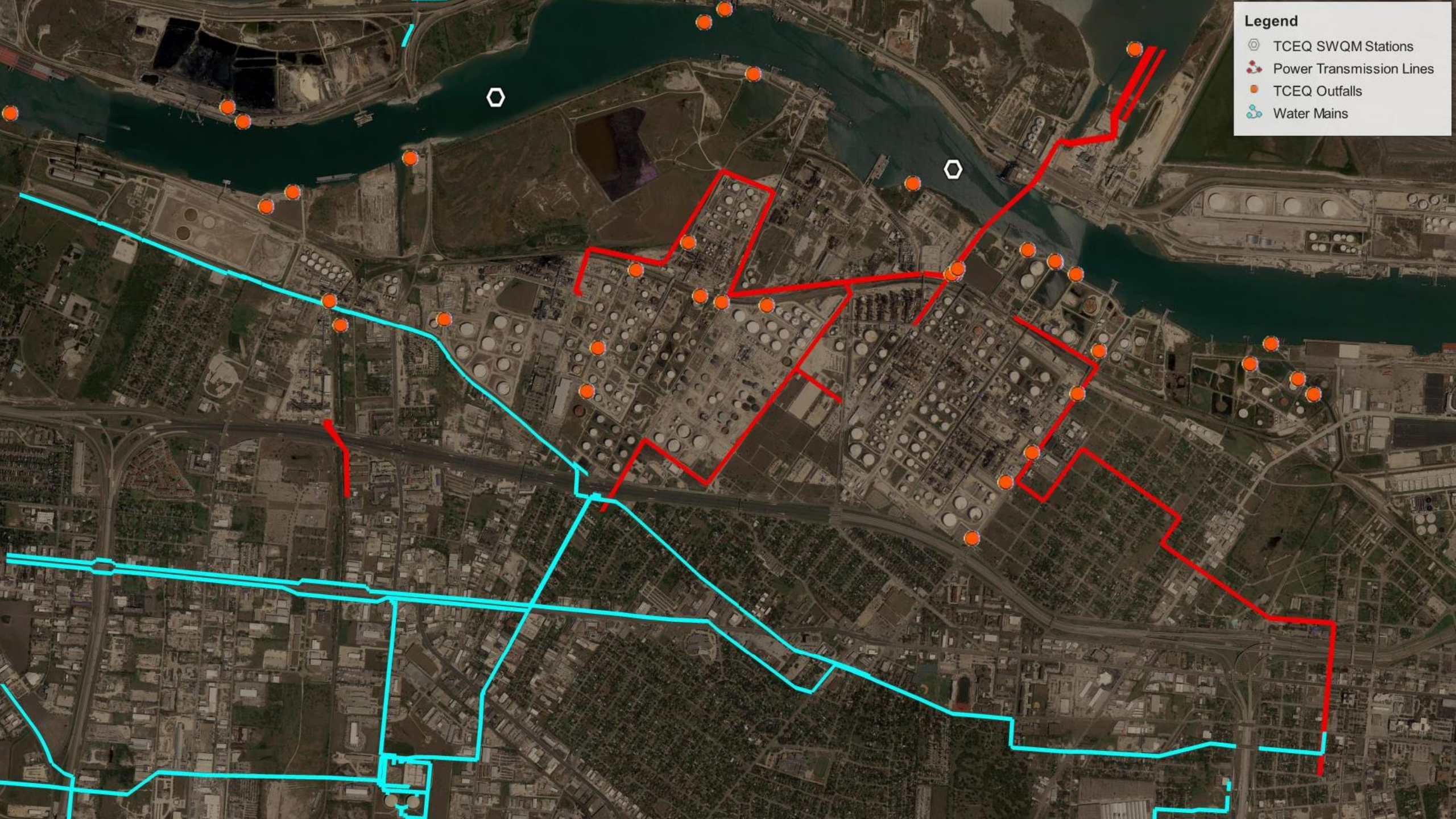


Screening Parameters

- Tract
- Water Quality
- Intake
- Discharge
- Product Water Delivery
- Power
- Social & Environmental

Record Data for Qualitative Screening

- **Water Distribution System**
- **Power Transmission Lines**
- **Existing TCEQ Permitted Discharges**
- **Water Quality Data from TCEQ Monitoring Stations**


Legend
TCEQ SWQM Stations
Power Transmission Lines
TCEQ Outfalls
Water Mains

Seawater Desalination – Outreach / Key Meetings To Date

- Environmental Stakeholder Discussions (Proactive Approach)
  - Harte Research Institute (TAMU-CC)
  - UT Marine Science Institute (UTMSI)
  - Coastal Bend Bays & Estuaries Program
  - Coastal Bend Bays Foundation
- Permitting Agencies and Texas Water Development Board
- AEP and SPMWD/City Water Distribution Staff
- Land Owners
- San Patricio Officials

Seawater Desalination – Next Steps

- Documentation of Candidate Site Selection
- Landowner Agreements
- Detailed Evaluation of Candidate Sites
  - Permitting & Environmental Entities Coordination
    - Texas Commission on Environmental Quality
    - US Army Corps of Engineers
    - General Land Office
    - Harte Research Institute & UTMSI
  - Raw Water Sampling
  - Initial Concentrate Dispersion Modeling
  - Site Visits, Habitat Assessments, Environmental Surveys
- Selection of 2 Preferred Sites
- Permit Applications

Seawater Desalination – Summary

- On Schedule
- Good Progress
- Plan Regular Briefings and More Robust Public Communications

Questions?