

Bombay Beach Wetland Project

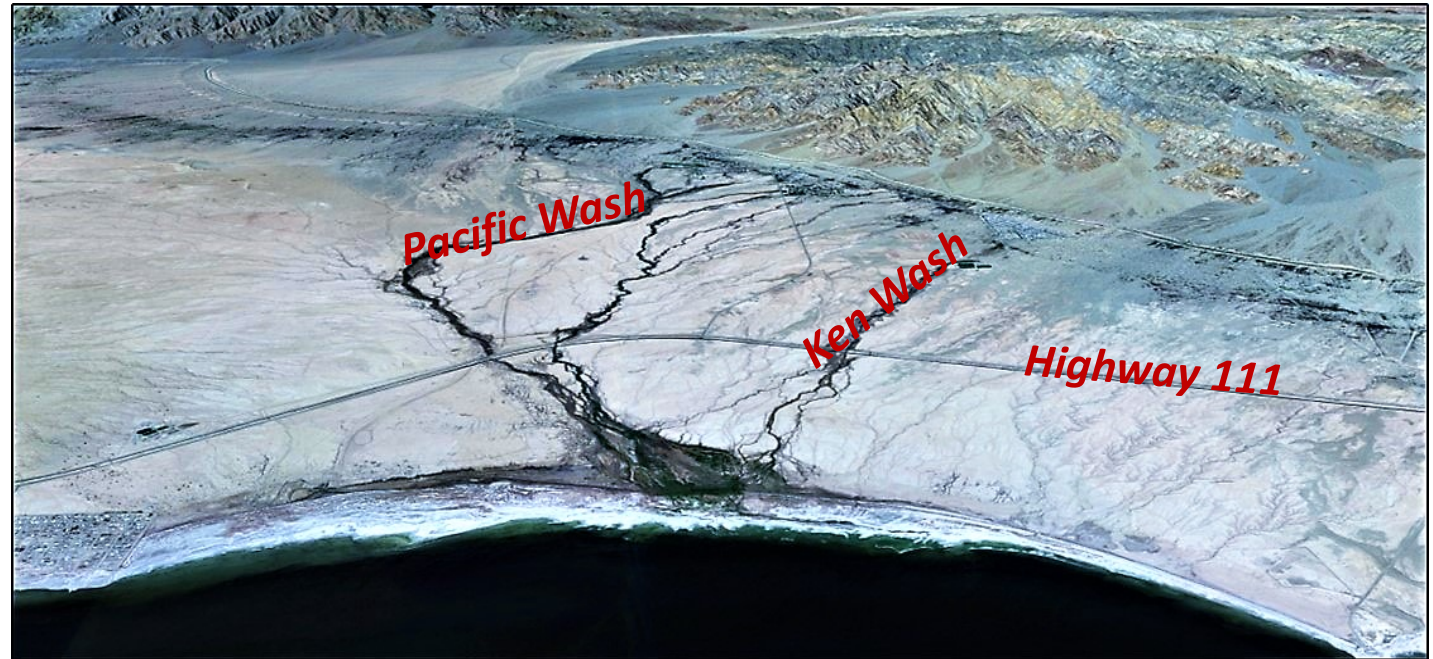
*A multi-benefit habitat
enhancement and dust control
demonstration project on the
Salton Sea playa*



Audubon

CALIFORNIA

Frank Ruiz Salton Sea Program Director



- *Located on the northeast shore of the Salton Sea between the community of Bombay Beach and the Niland Boat Ramp.*
- *Located at the confluence of several ephemeral and perennial washes.*

Project Location

Bombay Beach Wetland (BBW) Project

An aerial photograph of a coastal wetland area. A river flows through the center, surrounded by green vegetation and sandy banks. In the foreground, there is a large, shallow body of water with a dark, silty appearance. The background shows a vast, flat landscape with patches of green and brown, likely a playa or salt flat. The sky is overcast.

Need and Opportunity for Wetland Enhancement at the Salton Sea

- *Important stopover on Pacific Flyway.*
- *Wetland habitats are forming on the emerging playa where water flows and discharges concentrate.*
- *BUT, these habitats are vulnerable:*
 - *Erosion from intense storms*
 - *Wetland drainage from eroded beach berms.*
 - *Groundwater level decline.*
 - *Invasion by non-native Tamarisk.*



Project Objectives

- Protect existing habitat areas from erosive damage, drainage and degradation.
- Establish playa shrub and wetland habitat areas as the Salton Sea recedes.
- Optimize water retention and use for environmental benefits (i.e., habitat and dust control).
- Provide public access for viewing, education and research.

Implementation Plan and Schedule

Audubon is currently selecting the design concept in consultation with stakeholder and community input, performing biological resource studies, engineering analyses, and preparing the 35% design. Work is being conducted under a \$700,000 grant from the U.S. Bureau of Reclamation (USBR), in cooperation with other agencies and landowners, and in coordination with Imperial Irrigation District (IID).



Phase 1 – Conceptual Design (Year 1)



Phase 2 – Design and Permitting (Year 1 & 2)



Phase 3 – Construction (Year 3)

A Multi-Disciplinary Approach to a Dual-Purpose Ecosystem Enhancement Project

Avian
Biology



Surface and
Groundwater
Hydrology

Aquatic and
Terrestrial
Biology

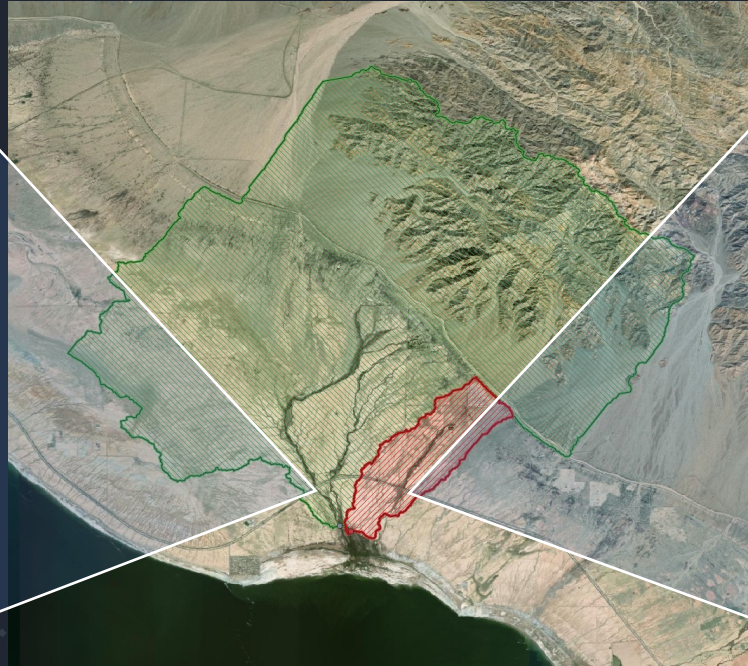
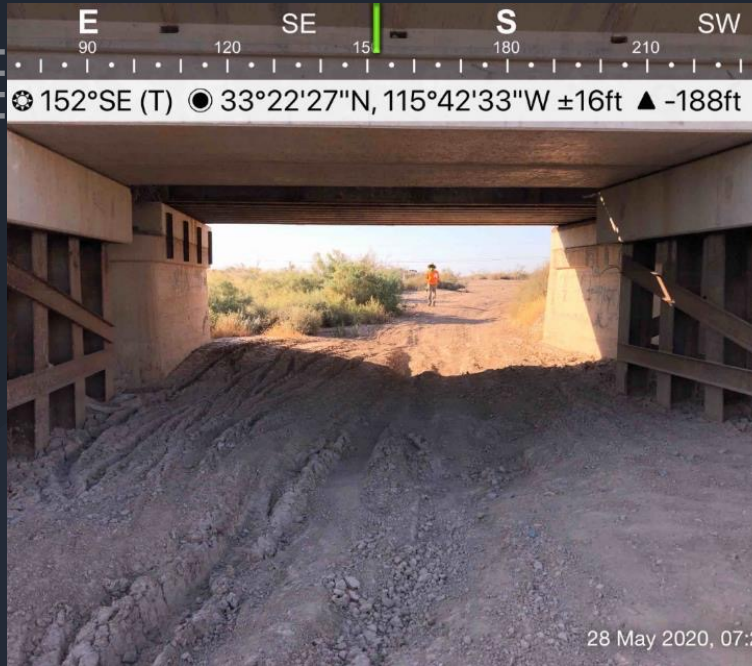
Planning
and
Permitting

Engineering

..... and then there are
Stakeholders, Landowners and
Community Engagement

1. Pacific Wash Watershed
2. Coachella Canal
3. Hot Springs Geothermal Area
4. Pacific and Ken Washes
5. 2002 Shoreline Berm
6. Bombay Beach Wetland





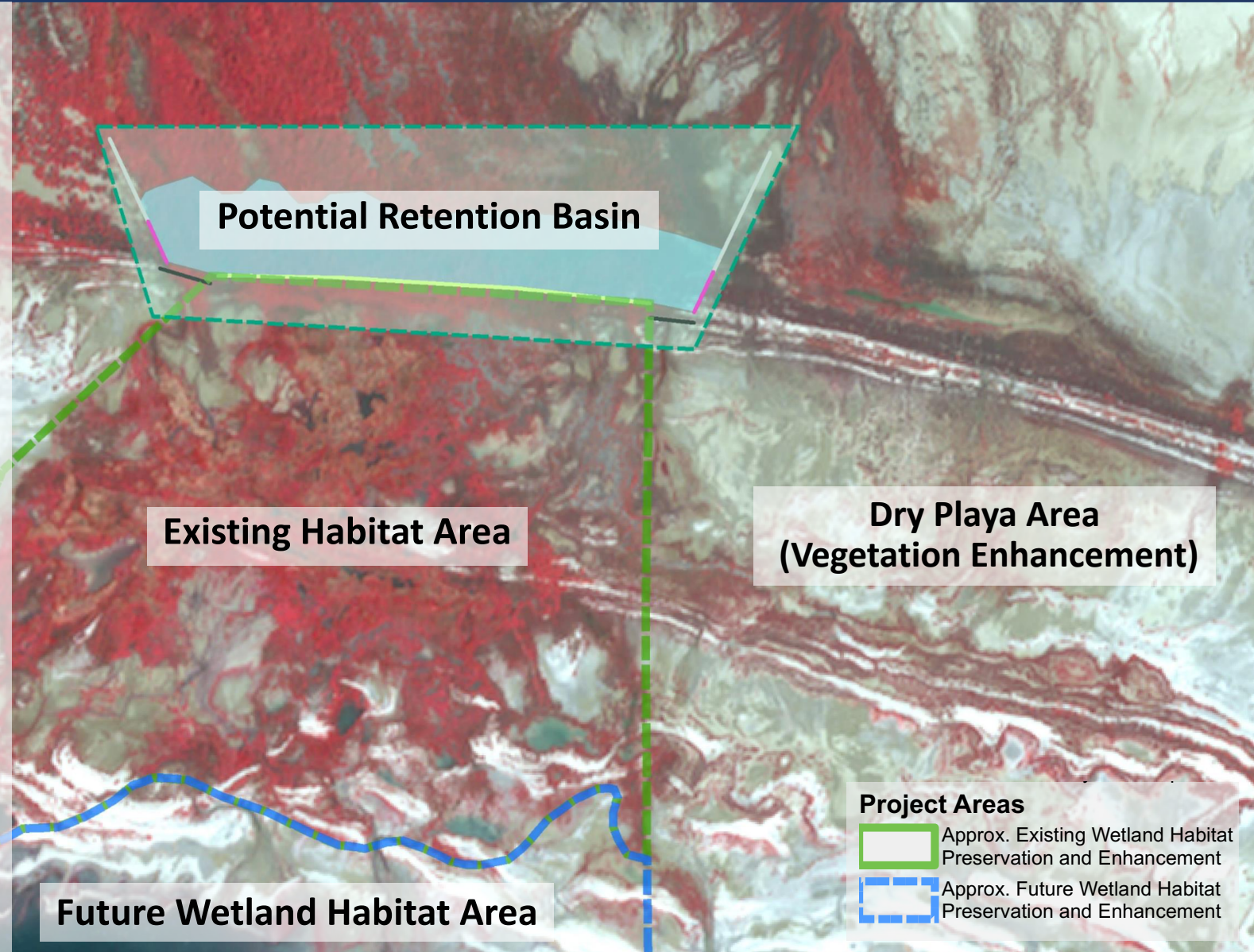
- 58 square miles
- Perennial flow input ~2,900 AFY at Hot Spring Spa Area
- Preliminary perennial flow estimate discharged to the wetland: 500 - 1,000 AFY
- Preliminary ephemeral discharge estimate: 500 to 1,500 AFY
- Peak flows:
 - 2-Year Event ~ 100 CFS
 - 10-Year Event ~ 1,400 CFS
- Hydrologic modeling is in process

Watershed

Preliminary Design Concepts

Potential design components under consideration:

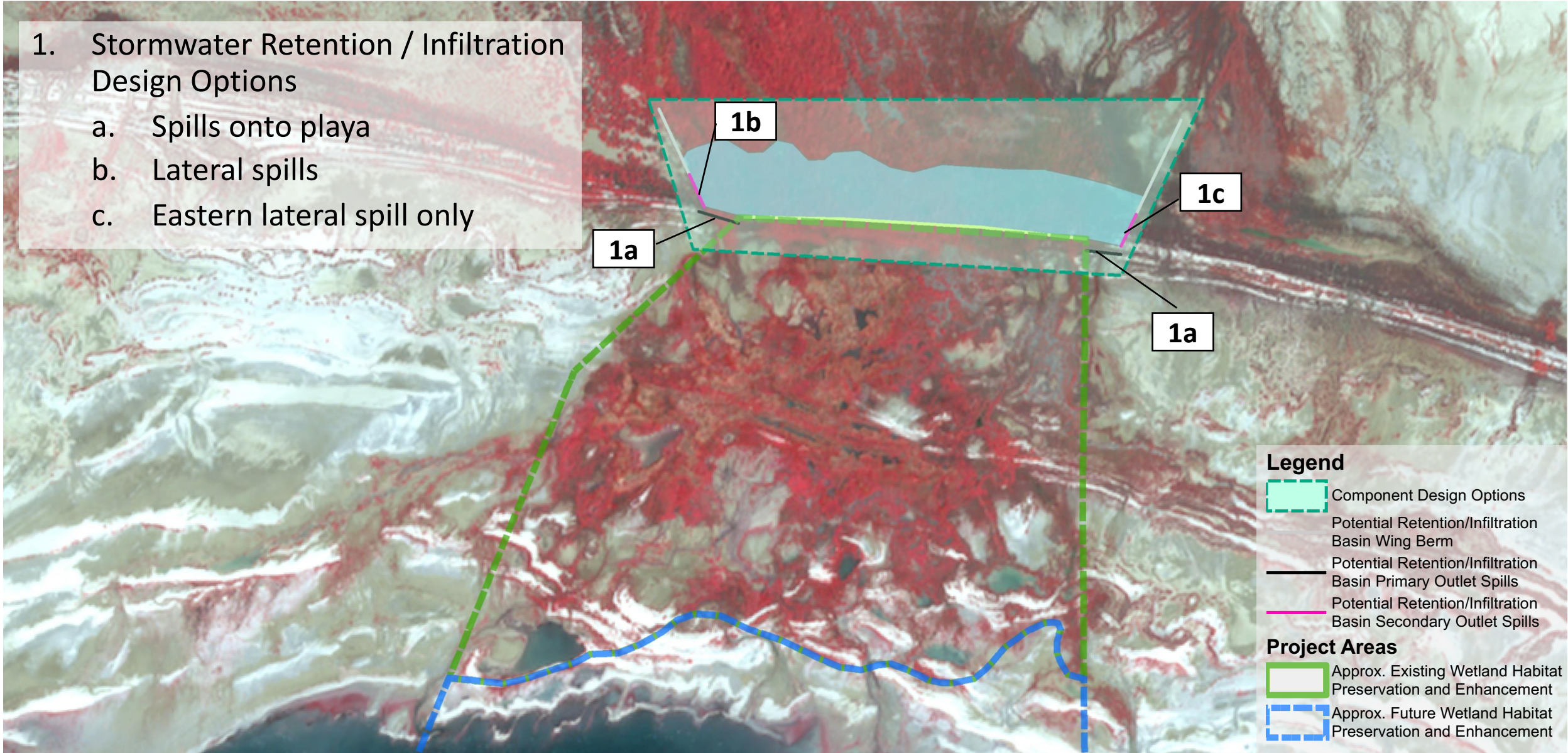
- *Retention basin to prevent flood damage and spread of Tamarisk seeds, and infiltrate water into the shallow groundwater table that sustains the wetlands;*
- *Low impact structures to spread excess water on the playa and promote new vegetation growth;*
- *Protection and maintenance of existing habitat areas;*
- *Enhancement of future habitat areas on the new playa as the sea recedes; and*
- *Construction of potential access road, trails and a viewing platform.*



Design Concepts | 1. Stormwater Retention/Infiltration

1. Stormwater Retention / Infiltration Design Options

- a. Spills onto playa
- b. Lateral spills
- c. Eastern lateral spill only





Questions?

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<https://ca.audubon.org/salton-sea/bombay-beach-wetland>