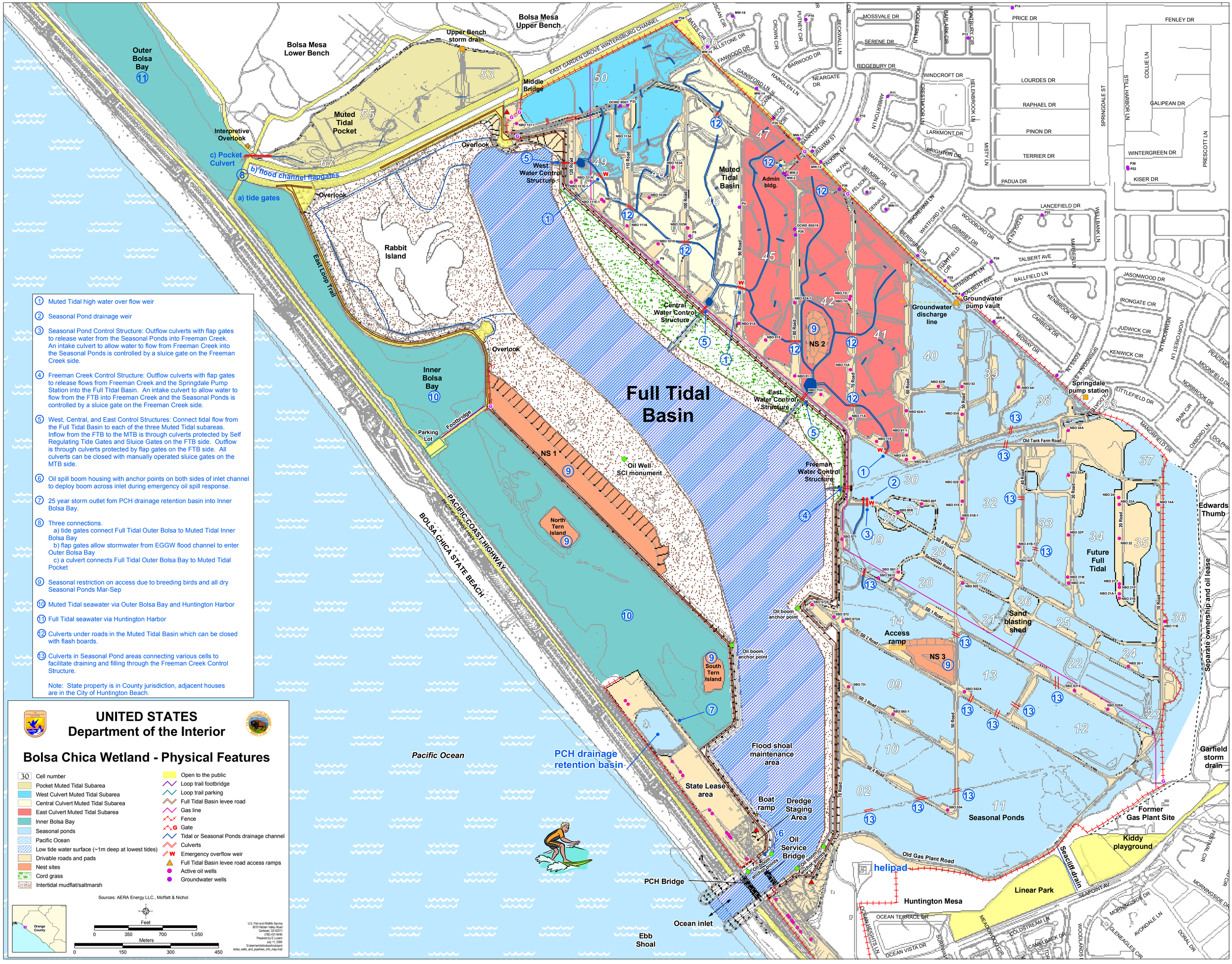
Outer Bolsa Bay
Bolsa Mesa Lower Bench
Bolsa Mesa Upper Bench
Upper Bench storm drain
Middle Bridge
EAST GARDEN GROVE WINTERSBURG CHANNEL
Muted Tidal Pocket
Interpretive Overlook
c) Pocket Culvert
b) flood channel flapgates
a) tide gates
Overlook
West Water Control Structure
Muted Tidal Basin
Admin bldg.
Rabbit Island
East Loop Trail
Central Water Control Structure
Groundwater discharge line
Groundwater pump vault
NS 2
Inner Bolsa Bay
Full Tidal Basin
East Water Control Structure
Springdale pump station
Parking Lot
Footbridge
NS 1
Oil Well SCI monument
Freeman Water Control Structure
Old Tank Farm Road
North Tern Island
PACIFIC COAST HIGHWAY
BOLSA CHICA STATE BEACH
Oil boom anchor point
Future Full Tidal
Edwards Thumb
Separate ownership and oil lease
Access ramp
NS 3
Sand blasting shed
South Tern Island
Pacific Ocean
PCH drainage retention basin
Flood shoal maintenance area
Garfield storm drain
State Lease area
Boat ramp
Dredge Staging Area
Oil Service Bridge
Seasonal Ponds
Former Gas Plant Site
Kiddy playground
Old Gas Plant Road
helipad
Seacliff drain
Linear Park
Huntington Mesa
PCH Bridge
Ocean inlet
Ebb Shoal
① Muted Tidal high water over flow weir
② Seasonal Pond drainage weir
③ Seasonal Pond Control Structure: Outflow culverts with flap gates to release water from the Seasonal Ponds into Freeman Creek. An intake culvert to allow water to flow from Freeman Creek into the Seasonal Ponds is controlled by a sluice gate on the Freeman Creek side.
④ Freeman Creek Control Structure: Outflow culverts with flap gates to release flows from Freeman Creek and the Springdale Pump Station into the Full TIdal Basin. An intake culvert to allow water to flow from the FTB into Freeman Creek and the Seasonal Ponds is controlled by a sluice gate on the Freeman Creek side.
⑤ West, Central, and East Control Structures: Connect tidal flow from the Full Tidal Basin to each of the three Muted Tidal subareas. Inflow from the FTB to the MTB is through culverts protected by Self Regulating Tide Gates and Sluice Gates on the FTB side. Outflow is through culverts protected by flap gates on the FTB side. All culverts can be closed with manually operated sluice gates on the MTB side.
⑥ Oil spill boom housing with anchor points on both sides of inlet channel to deploy boom across inlet during emergency oil spill response.
⑦ 25 year storm outlet fom PCH drainage retention basin into Inner Bolsa Bay.
⑧ Three connections.
a) tide gates connect Full Tidal Outer Bolsa to Muted Tidal Inner Bolsa Bay
b) flap gates allow stormwater from EGGW flood channel to enter Outer Bolsa Bay
c) a culvert connects Full Tidal Outer Bolsa Bay to Muted Tidal Pocket
⑨ Seasonal restriction on access due to breeding birds and all dry Seasonal Ponds Mar-Sep
⑩ Muted Tidal seawater via Outer Bolsa Bay and Huntington Harbor
⑪ Full Tidal seawater via Huntington Harbor
⑫ Culverts under roads in the Muted Tidal Basin which can be closed with flash boards.
⑬ Culverts in Seasonal Pond areas connecting various cells to facilitate draining and filling through the Freeman Creek Control Structure.
Note: State property is in County jurisdiction, adjacent houses are in the City of Huntington Beach.
UNITED STATES
Department of the Interior
Bolsa Chica Wetland - Physical Features
30 Cell number
Pocket Muted Tidal Subarea
West Culvert Muted Tidal Subarea
Central Culvert Muted Tidal Subarea
East Culvert Muted Tidal Subarea
Inner Bolsa Bay
Seasonal ponds
Pacific Ocean
Low tide water surface (~1m deep at lowest tides)
Drivable roads and pads
Nest sites
Cord grass
Intertidal mudflat/saltmarsh
Open to the public
Loop trail footbridge
Loop trail parking
Full Tidal Basin levee road
Gas line
Fence
G Gate
Tidal or Seasonal Ponds drainage channel
Culverts
W Emergency overflow weir
Full Tidal Basin levee road access ramps
Active oil wells
Groundwater wells
Sources: AERA Energy LLC., Moffatt & Nichol
Orange County
Feet
0 350 700 1,050
Meters
0 150 300 450
U.S. Fish and Wildlife Service
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Carlsbad, CA 92011
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Prepared by E Luciani
July 11, 2006
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