



Ups and Downs of a Salt Marsh Restoration in an Urban Setting

Kathryn S. Barnicle, PWS

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AECOM

Rumney Marsh ACEC

Area of Critical Environmental Concern



2,800 acres

Site before was a degraded junk yard



Evidence of old construction fill, treacherous field conditions



1939 Aerial shows large expanse of salt marsh with mosquito ditching



1955 Aerial shows runways, sea plan basin, and encroachment into salt marsh



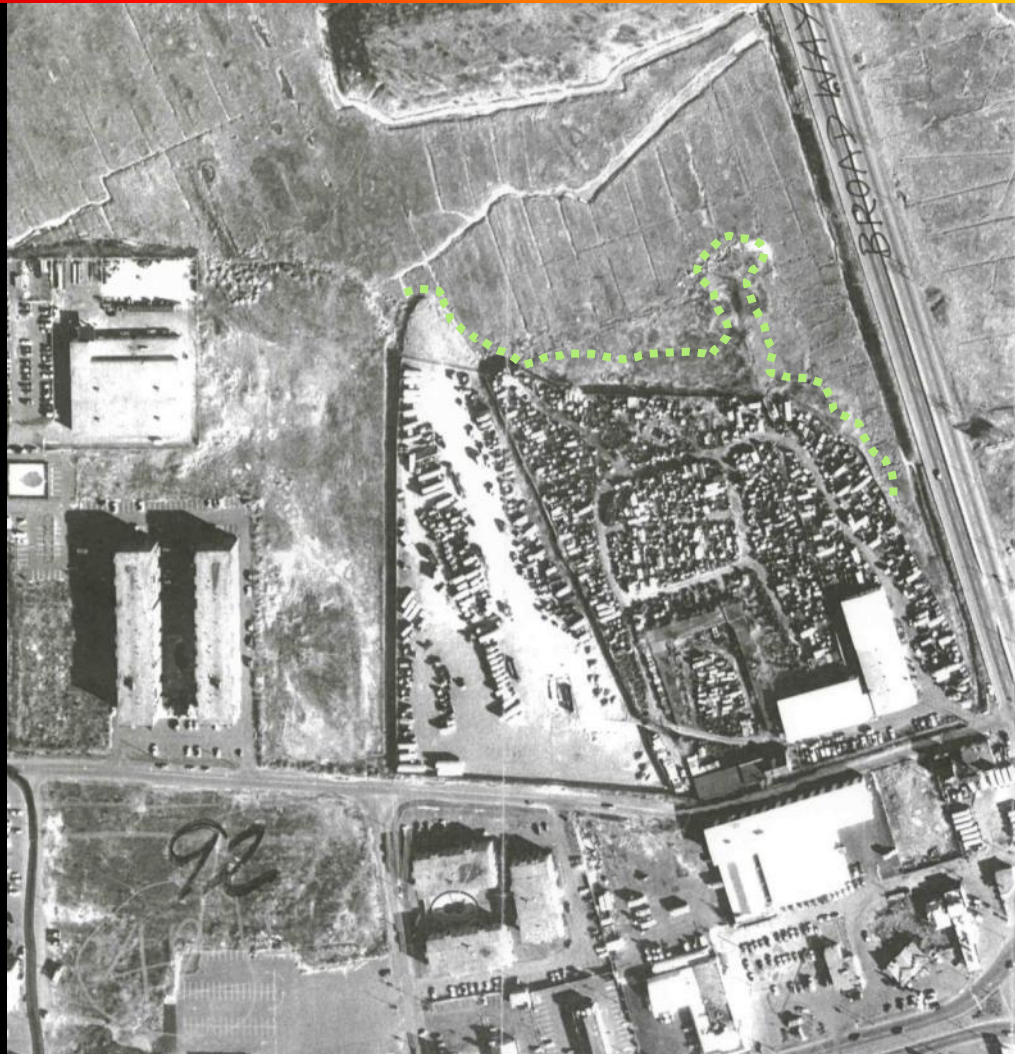
1969 Aerial shows mall development, road to nowhere, and further encroachment into marsh

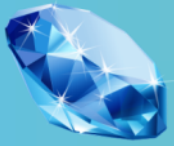


1995 Aerial shows additional development in former marsh and residential development elsewhere

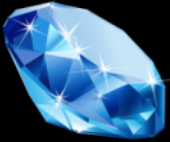


1978 Aerial close-up shows active filling and approximate wetland boundary





When performing initial delineations and field investigations, always think ahead if there are any opportunities for restoration or mitigation

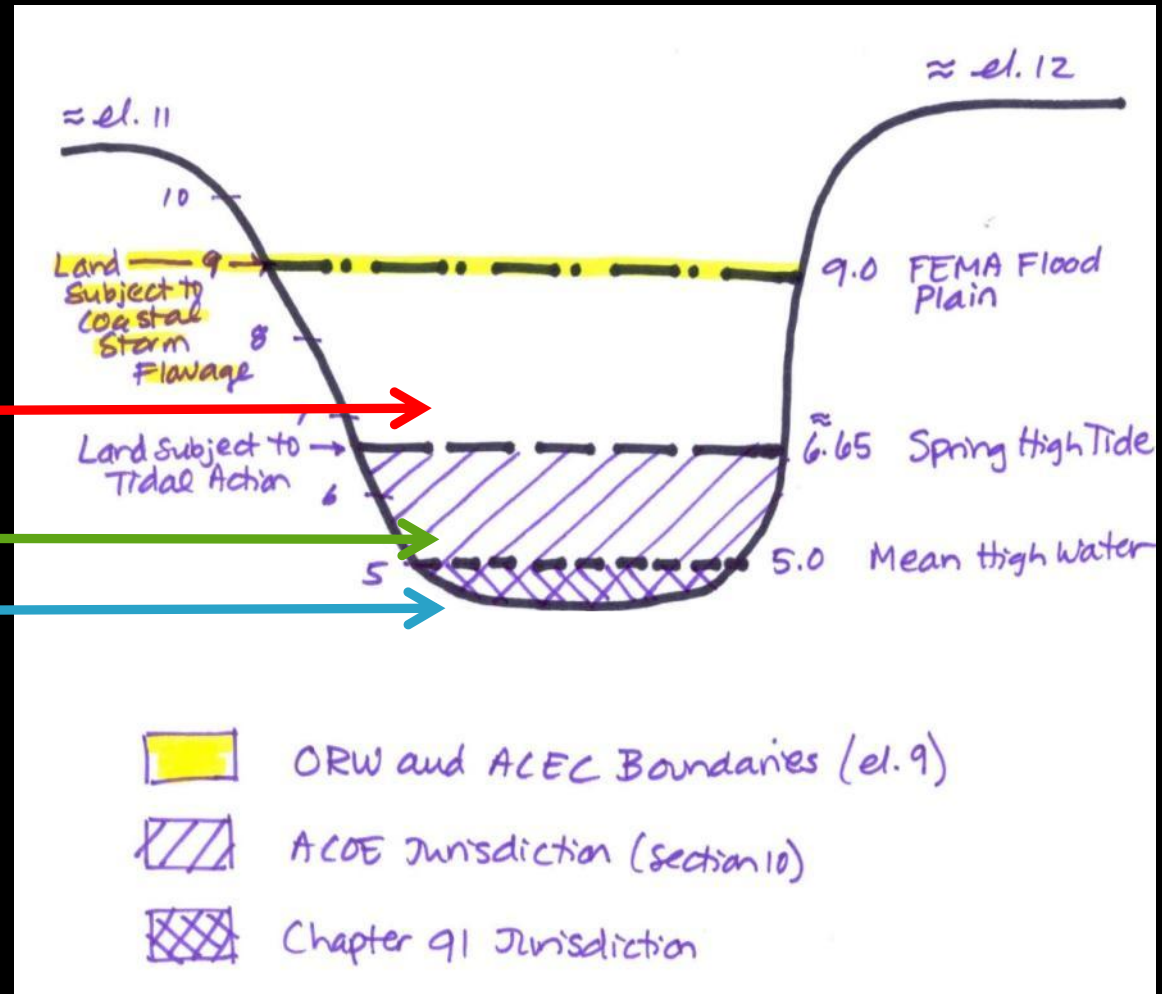


Jurisdictional Areas - Know your datum!

Highest Annual Tide = 7.1

Marsh Elevation = 5.2

Design Elevation = 4.5



Construction of restored marsh area begins



During restoration, the amount and size of the debris used to fill the marsh was a surprise



Don't forget the “visual” erosion control



Maintain erosion control



Remove erosion control



Immediately following construction and planting, the hydrology looks accurate, rip-rap concern



Rip-rap removed, hydrology still looking good, Spartina beginning to grow.



Consultant and regulators are very happy, so is the client



Larger salt panne constructed, *Spartina alterniflora* culms planted



After one year, growth of marsh vegetation looks great



Additional mitigation area with first round of plantings



After one year, some concerns about survival of plantings



Why minimal vegetation? Time of planting? Too much salt? Substrate composition?



Successful growth of *Spartina alterniflora* culms



Area succeeds as providing additional flood plain



Next monitoring to be performed in October 2011



Thank You

Kathryn S. Barnicle, PWS

Senior Wetland Scientist

AECOM

95 State Road

Sagamore Beach, MA 02562

D 508.888.3900 x. 240 C 508.843.7981

Kathryn.barnicle@aecom.com

