

USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE



On-Site Engineering Assessment
NRCS ENGINEERS


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Controlling Elevations

- Upstream limitations
 - Culverts
 - Outlets
 - Property boundaries



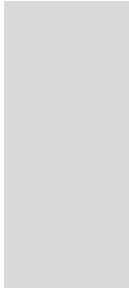
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Controlling Topography

- Adverse impacts to neighbors
 - Flooding (overland)
 - Lateral effects (groundwater)
 - Maintaining natural drainage




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Survey

- GPS Survey
- Bathymetric Survey



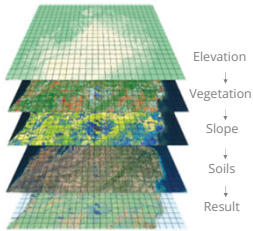
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What Now?

- Information is still needed for engineering to complete a concept and determine feasibility of alternatives




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Planning Information Needed

- Soils investigation (Soil scientist)
 - Sedimentation depths / Depth to Bt (Playas)
 - Depth to sand (Wet Meadows & River Sloughs)
 - Depth to clay lenses (Wetland Meadows & River Sloughs)
 - Depth to ground water (Wet Meadows & River Sloughs)
- Wetland delineation (Borrow or spoil areas)
 - Technical soils investigation separate from Food Security Act & Certified Wetland Determinations



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Planning Information Needed

- Biological goals (NRCS Team Lead, Ducks Unlimited, FWS, NGPC, PF, ...)
 - Wetland Complex / Type / Historical Function
 - Restoring vegetation
 - Tree & brush removal
 - Inundation depths, hydroperiods, saturated vs inundated areas
 - Restoring or enhancing hydrology

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Re-visit Engineering Evaluation

- GIS
 - Aerials & LiDAR + Soils
- Hydrologic data
 - Water budgets (spreadsheets, SPAW, EFH-2, WETS Tables)
- Hydraulic analysis
 - USGS stream gauge data, HEC-RAS, Mannings Eqn, Groundwater

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