Odessa Groundwater Replacement Program (OGWRP)

East Low Canal Improvements and EL 47.5 Delivery System

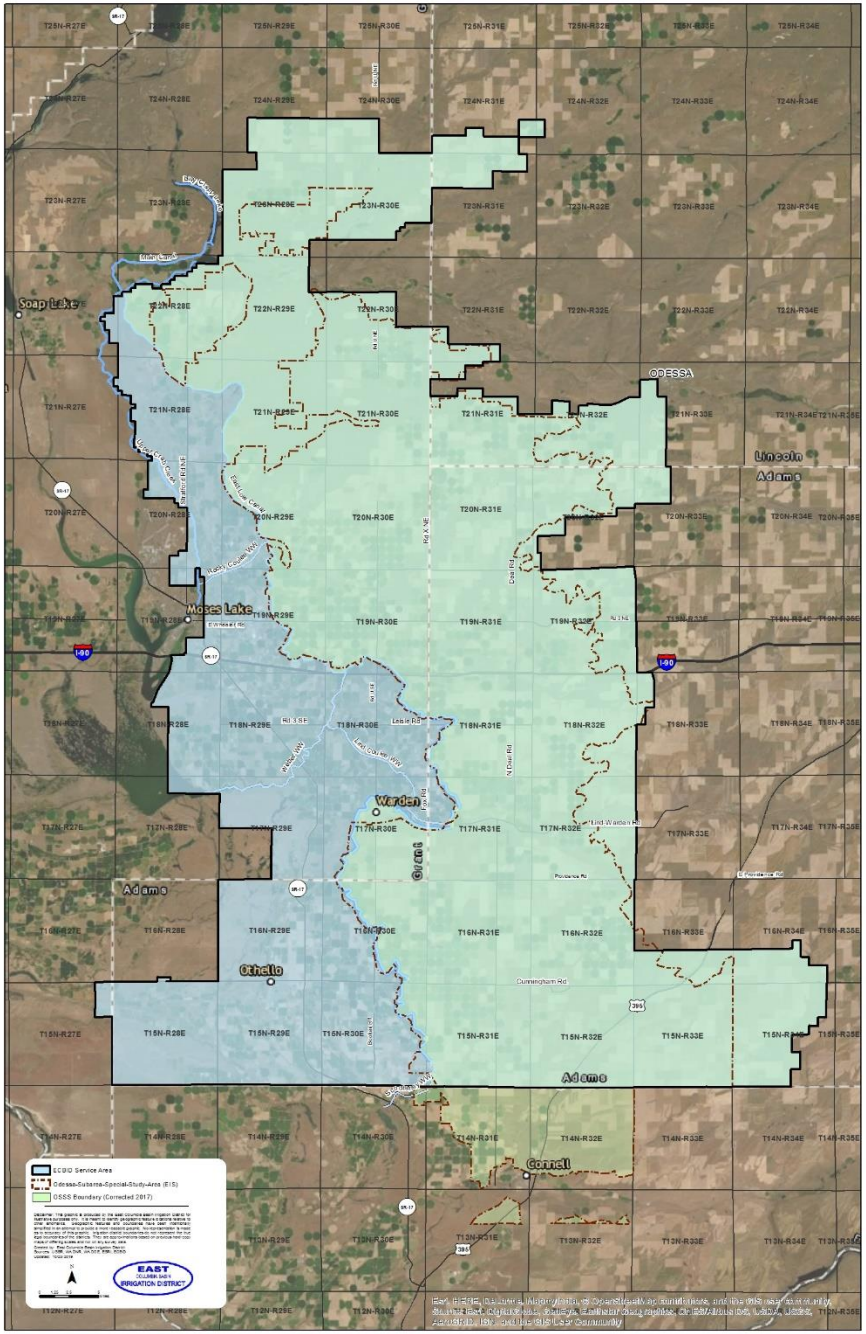
Craig Simpson P.E.
Secretary-Manager
East Columbia Basin Irrigation District

EAST COLUMBIA BASIN IRRIGATION DISTRICT

Odessa Groundwater Replacement Program (OGWRP)

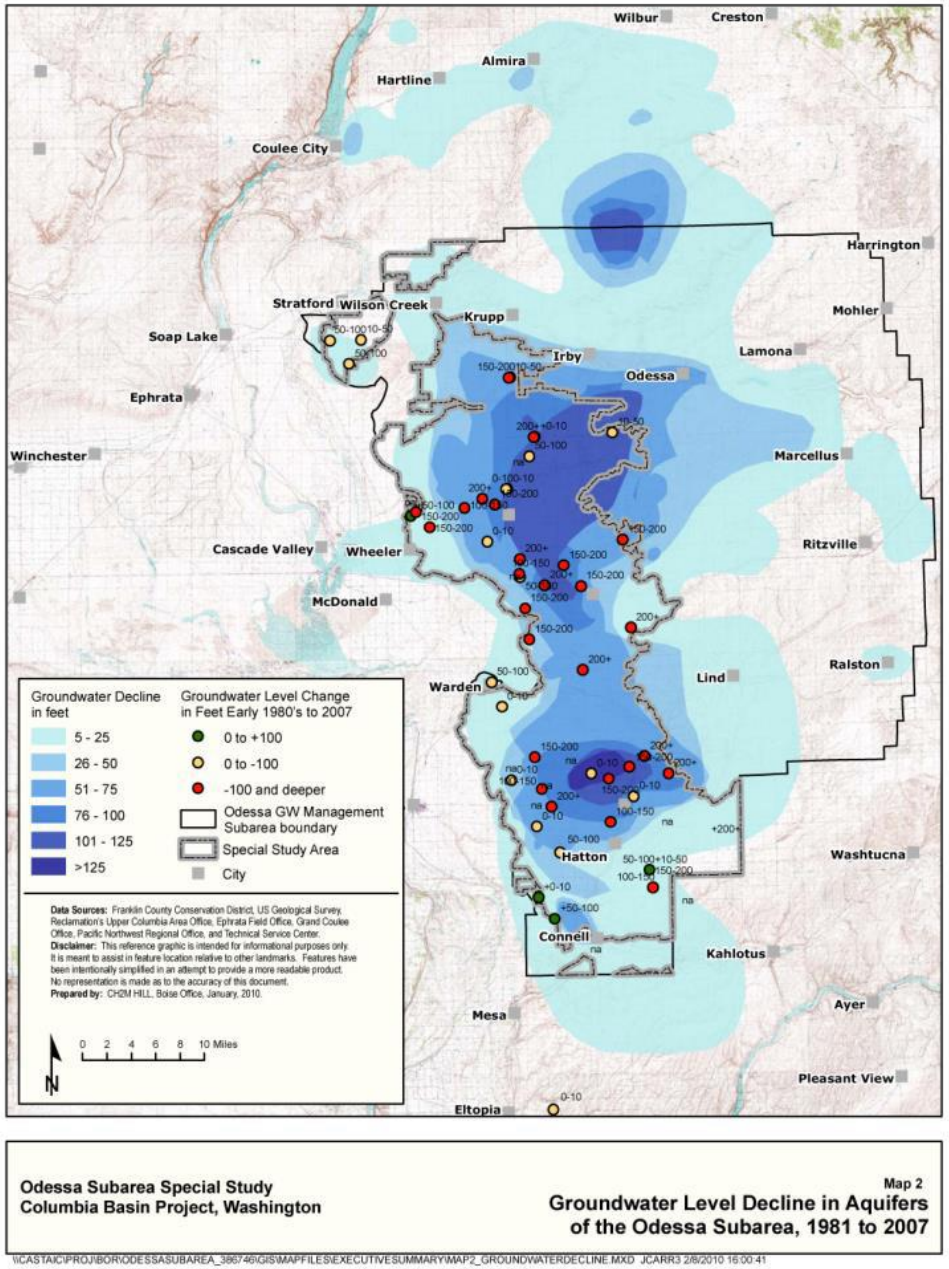
- Replace groundwater diversions to help stabilize the declining Odessa Subarea Aquifer
- Preserve municipal drinking water supplies for many rural communities
- Sustain agricultural production essential for the economic vitality of the region
- Continue the phased development of the Columbia Basin Project

Odessa Groundwater Replacement Program (OGWRP)

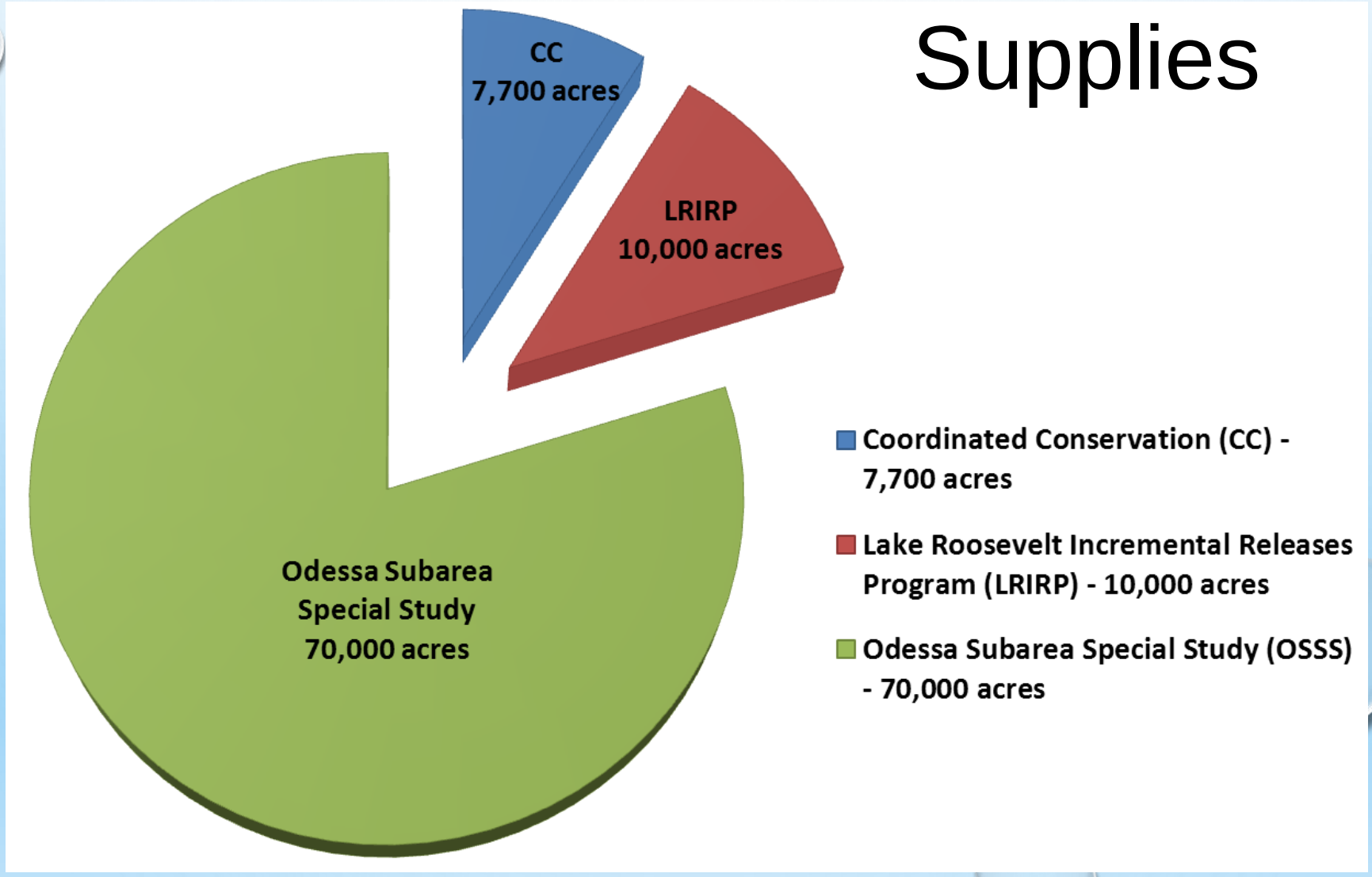


Odessa Subarea

A Declining Aquifer



OGWRP Water Supplies



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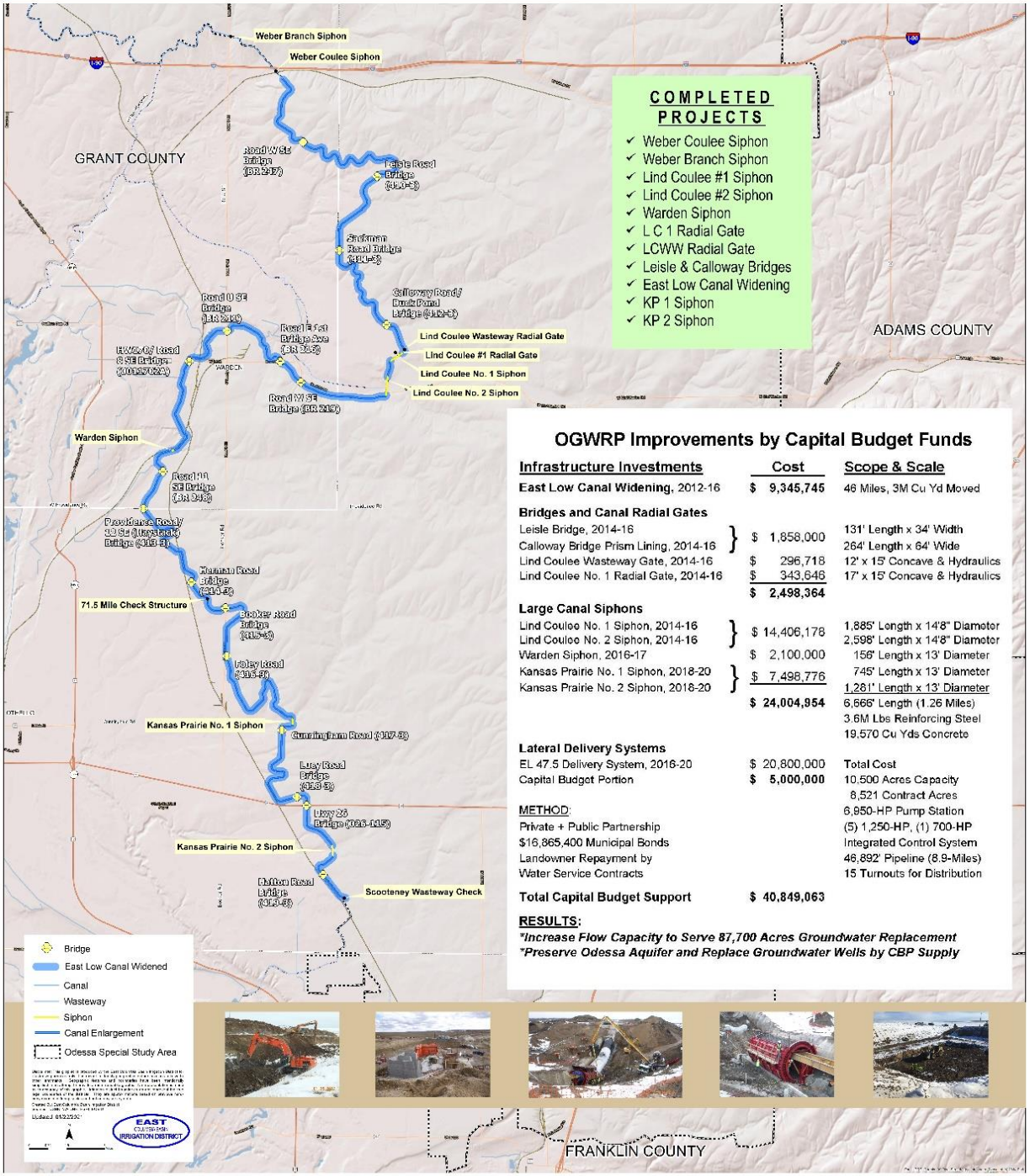

COMPLETED PROJECTS

- ✓ Weber Coulee Siphon
- ✓ Weber Branch Siphon
- ✓ Lind Coulee #1 Siphon
- ✓ Lind Coulee #2 Siphon
- ✓ Warden Siphon
- ✓ L C 1 Radial Gate
- ✓ LCWW Radial Gate
- ✓ Leisle & Calloway Bridges
- ✓ East Low Canal Widening
- ✓ KP 1 Siphon
- ✓ KP 2 Siphon

OGWRP Improvements by Capital Budget Funds

Infrastructure Investments	Cost	Scope & Scale
East Low Canal Widening, 2012-16	$ 9,345,745	46 Miles, 3M Cu Yd Moved
Bridges and Canal Radial Gates		
Leisle Bridge, 2014-16	$ 1,858,000	131' Length x 34' Width
Calloway Bridge Prism Lining, 2014-16		264' Length x 64' Width
Lind Coulee Wasteway Gate, 2014-16	$ 296,718	12' x 15' Concave & Hydraulics
Lind Coulee No. 1 Radial Gate, 2014-16	$ 343,646	17' x 15' Concave & Hydraulics
	$ 2,498,364	
Large Canal Siphons		
Lind Coulee No. 1 Siphon, 2014-16	$ 14,406,178	1,885' Length x 14'8" Diameter
Lind Coulee No. 2 Siphon, 2014-16		2,598' Length x 14'8" Diameter
Warden Siphon, 2016-17	$ 2,100,000	156' Length x 13' Diameter
Kansas Prairie No. 1 Siphon, 2018-20	$ 7,498,776	745' Length x 13' Diameter
Kansas Prairie No. 2 Siphon, 2018-20		1,281' Length x 13' Diameter
	$ 24,004,954	6,666' Length (1.26 Miles)
		3.6M Lbs Reinforcing Steel
		19,570 Cu Yds Concrete
Lateral Delivery Systems		
EL 47.5 Delivery System, 2016-20	$ 20,800,000	Total Cost
Capital Budget Portion	$ 5,000,000	10,500 Acres Capacity
		8,521 Contract Acres
METHOD:		6,950-HP Pump Station
Private + Public Partnership		(5) 1,250-HP, (1) 700-HP
$16,865,400 Municipal Bonds		Integrated Control System
Landowner Repayment by		46,892' Pipeline (8.9-Miles)
Water Service Contracts		15 Turnouts for Distribution
Total Capital Budget Support	$ 40,849,063	

RESULTS:

Increase Flow Capacity to Serve 87,700 Acres Groundwater Replacement

Preserve Odessa Aquifer and Replace Groundwater Wells by CBP Supply

Odessa Groundwater Replacement Program (OGWRP)

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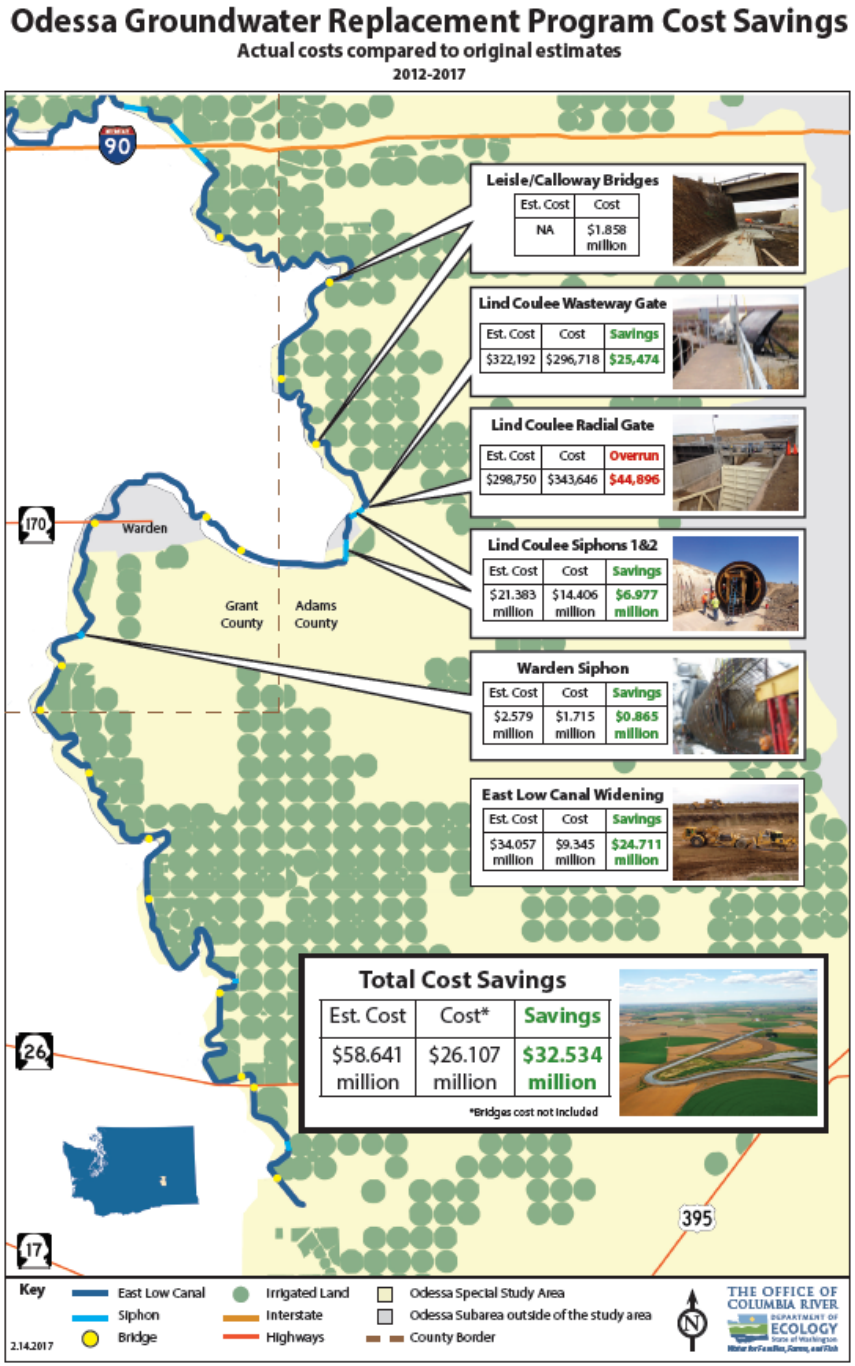


East Low Canal Expansion Construction Activities

- Widen 46 miles of ELC (approx. 3 million CY)
- Construct 7 Siphons (13’ to14’-8” inside dia.)
- Add 7 Radial Gates
- Replace 12 County Rd Bridges

ELC Widening

ELC Widening

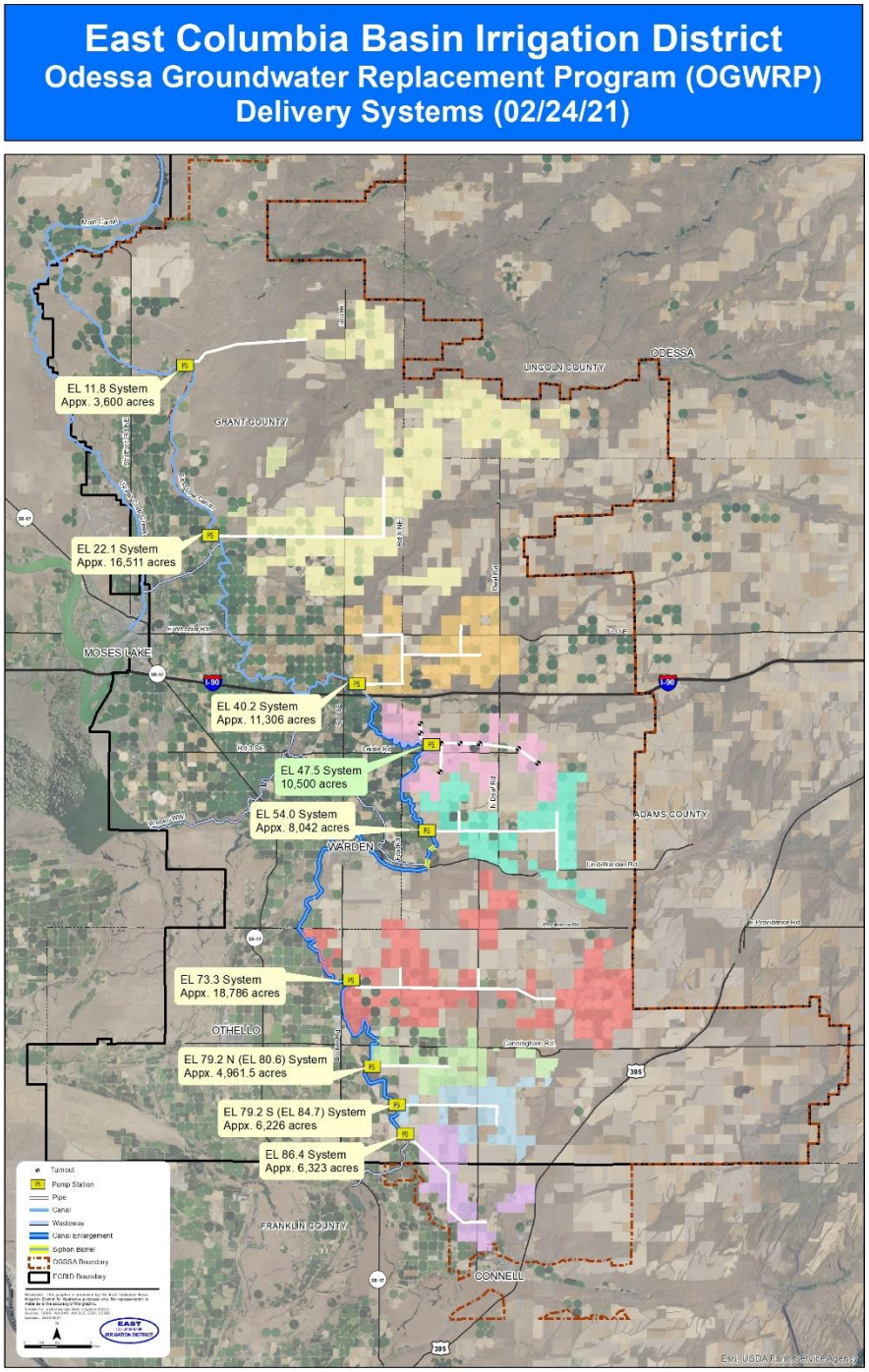
Leisle Rd Bridge Replacement

Lind Coulee #2 Siphon

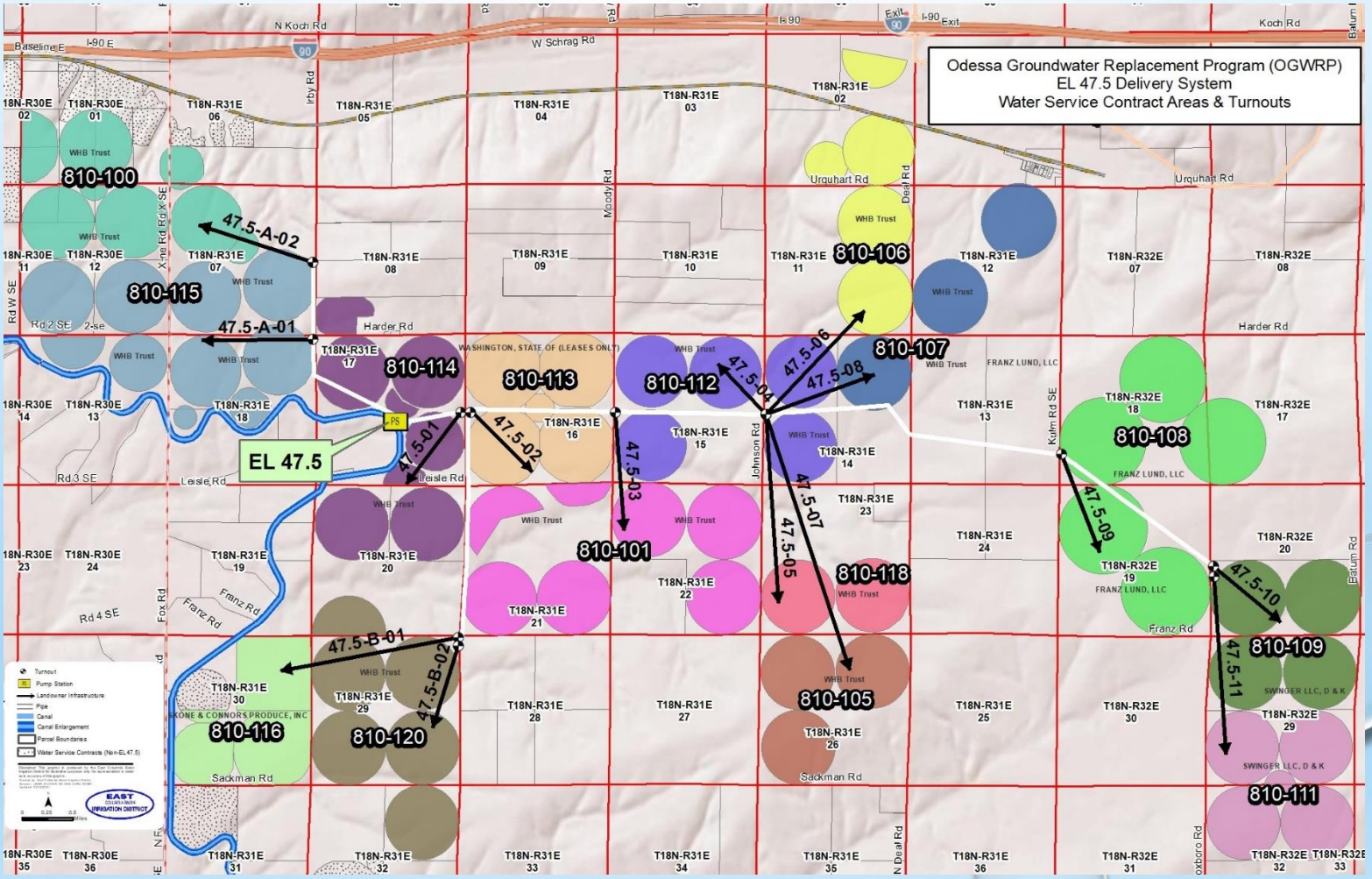

Lind Coulee
Siphon
2015/10/28

Odessa Groundwater Replacement Program (OGWRP)

Delivery System Layout



EL 47.5 Delivery System



EL 47.5 Delivery System

EL 47.5 Delivery System

EL 47.5 Delivery System FACTS

Construction: 2016 - 2020
Capacity: 10,500 Acres

Pump Station
6,950-HP
(1) 700-HP and (5) 1,250-HP Pumps
District Operational Controls

Water Delivery Range
7 to 140 CFS (3,200 to 63,100 GPM)
250 to 345 TDH at Pumps
10 to 150 PSI Delivery Pressures

Intake Structure
Sump: 35’ to 86’ Wide x 80’ Long x 18’ Deep
Building: CMU Block, 64’ x 126’ x 20’
820 CY Concrete, 145,000# Rebar

Pipeline
46,892 Feet (8.88 Miles)
14 to 60-in Diameter Pipe, 15 Turnouts

Funding
District Design & Construction Funds
(Mainly Municipal Bonds): $15,800,000
State Capital Grant: $ 5,000,000
Total Cost: $20,800,000

Public-Private Partnership
Non-Reimbursable State Capital Grant,
Capital Cost 30-yr Repayment Term
by Water Service Contract Fees
Total Cost $20,800,000

EL 47.5 Delivery System

Odessa Groundwater Replacement Program

EL 47.5 Delivery System Impacts

Currently Replaces 8,521 Acres
Deep-Well Pumping
from the Odessa Aquifer

Transitioned to Reliable
Columbia Basin Project
Irrigation Water Supply

Reduces Groundwater
Depletion by up to
73 Million Gallons Per Day

Operational Delivery Spring 2021

EL 47.5 Delivery System

EL 47.5 Delivery System

EL 47.5 Delivery System

EL 47.5 Delivery System


EL 47.5 Delivery
System


EL 47.5 Delivery System
DEERE
TURBO 4x4
410E
EAST
11.28.2017

EL 47.5 Delivery System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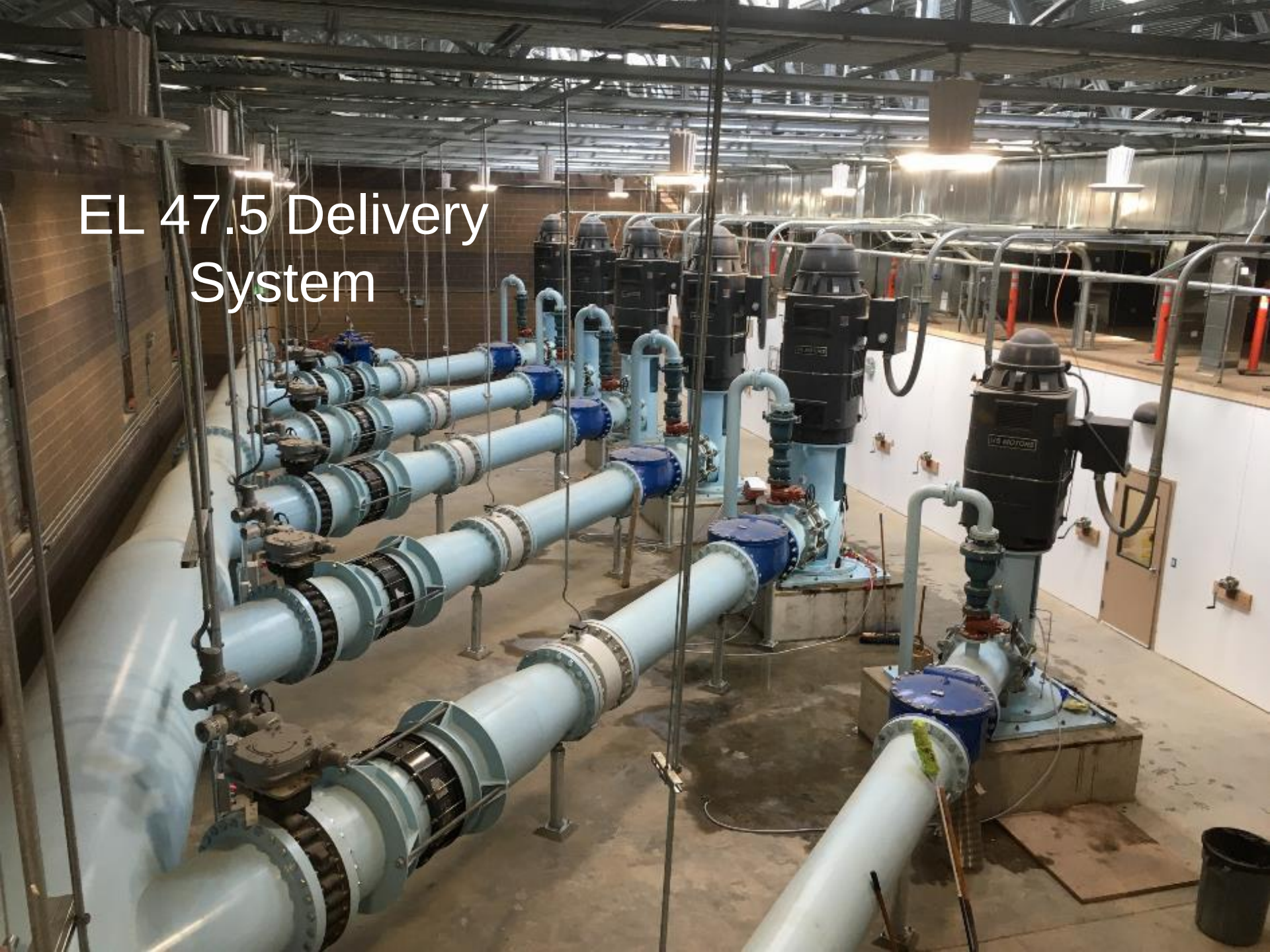
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Questions?

Odessa Groundwater Replacement Program (OGWRP)

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