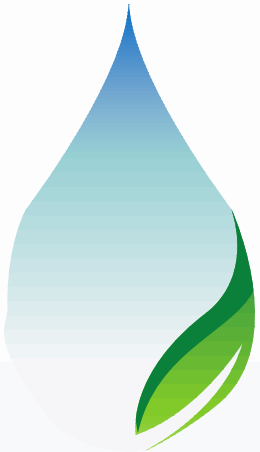
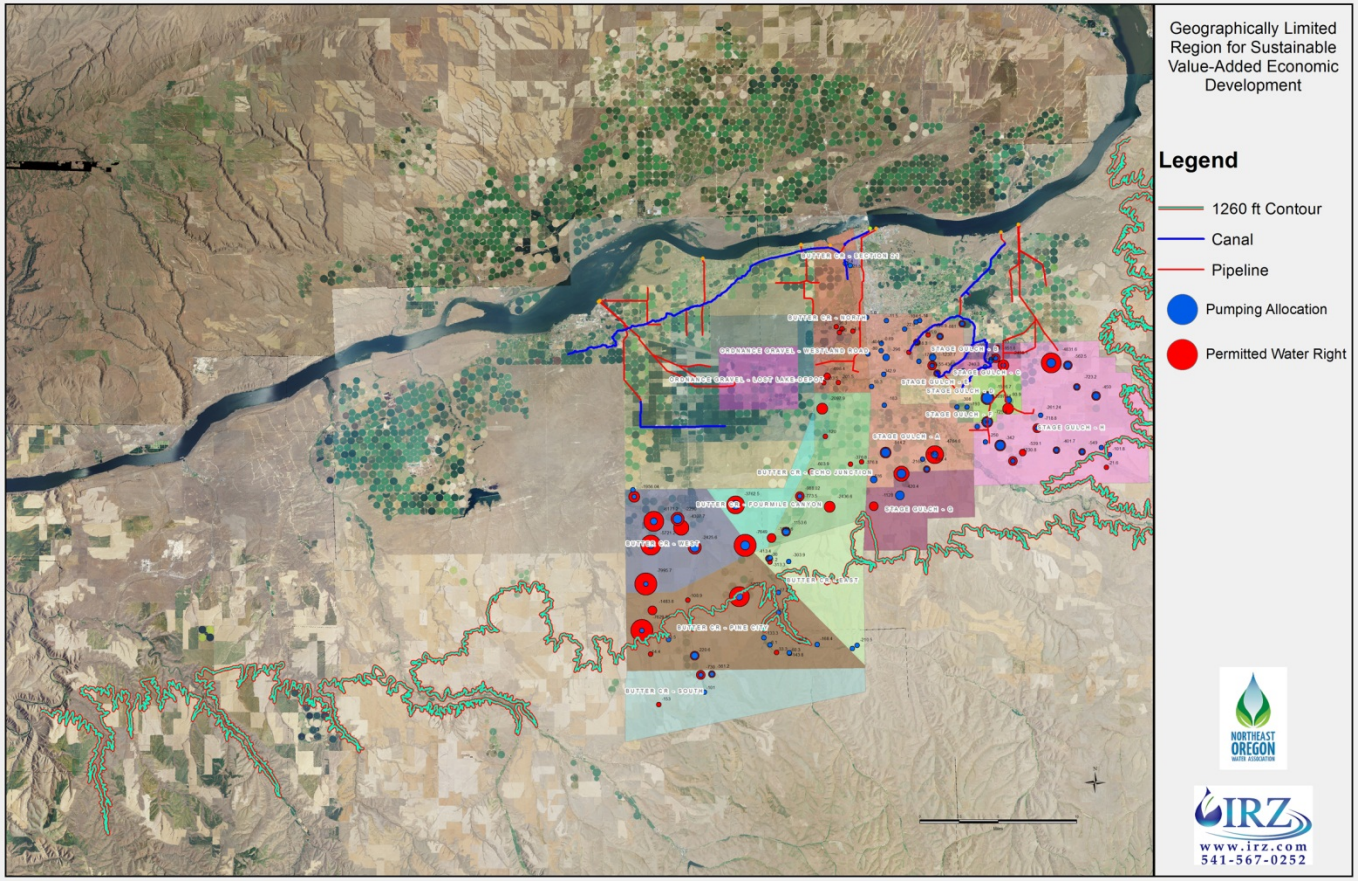


NORTHEAST OREGON WATER ASSOCIATION

Irreplaceable Region



Compressed Basin Timeline

- 1855 Treaty with the Walla Walla, Cayuse and Umatilla Tribes
- 1916 Adjudicated decree of water rights to use waters of Umatilla River and its tributaries
- 1954 Pendleton Project Investigation by BOR. Concluded that potential irrigable land far exceeded available water supply
- 1958 First reports of water table decline in Butter Creek area
- 1966 Bureau of Reclamation reports that any significant increase in pumping from basalt aquifers would likely result in accelerated decline of water tables
- 1976 OWRD designates Butter Creek a Critical Groundwater Area (remanded until 1986)
- 1976 Critical Groundwater Area designated by OWRD for Ordnance Basalt and Gravel
- 1977 Lost Lake/Depot well owners initiated project to artificially recharge shallow gravel aquifer using existing canal system
- 1986 Critical Groundwater Area designated by OWRD for Buttercreek Basalt
- 1988 Umatilla Basin Project authorized and funded by Congress -- allows irrigators to exchange Umatilla River water for Columbia River water
- 1990 ODEQ declares 352,000 acres in Umatilla and Morrow counties as a groundwater management area (GWMA) due to nitrate contamination
- 1991 Critical Groundwater Area designated by OWRD for Stage Gulch Basalt
- 2004-2008 Development of the Umatilla Sub-Basin 2050 Water Management Plan
- 2008 Oregon Legislature passes SB 1069 authorizing $750 K to complete a feasibility study of the Umatilla Basin Aquifer Restoration Project (A milestone in state water planning efforts – OR and AK w/o plan)
- 2009 Oregon legislature passes HB 3369 authorizing $2.5 million in grants and loan funding (a milestone in state water development efforts)
- 2010 - Umatilla Basin Water Commission forms to coordinate the implementation of the Umatilla Basin Aquifer Restoration Project and address basin wide needs
- March 2011 – Stage I of Umatilla Basin Aquifer Restoration Project Completed
- August 2013 – Umatilla Basin Water Commission completes work authorized by IGA
- August 2013 - Northeast Oregon Water Association forms to continue water development projects under a coordinated, comprehensive effort
- January 2014 – Northeast Oregon Water Association unveils plan for short and long-term water supply certainty in the Umatilla Basin that takes pressures off of fish rearing tributaries of the Columbia River, improves aquifer conditions and builds the local economy

Appropriate Columbia River Water For Northeast Oregon "Top Ten Business Plan Priority"

1. Increase Ag production and value added processing.
2. Keep us at par with Washington and Idaho.
3. Replace groundwater supplies needed for municipal and industrial development
4. "Rural Prosperity"

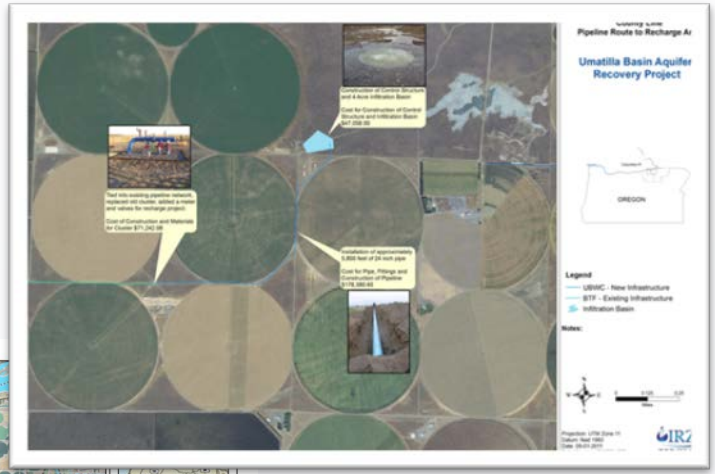
AR Project and UBWC Taught Us A Lot

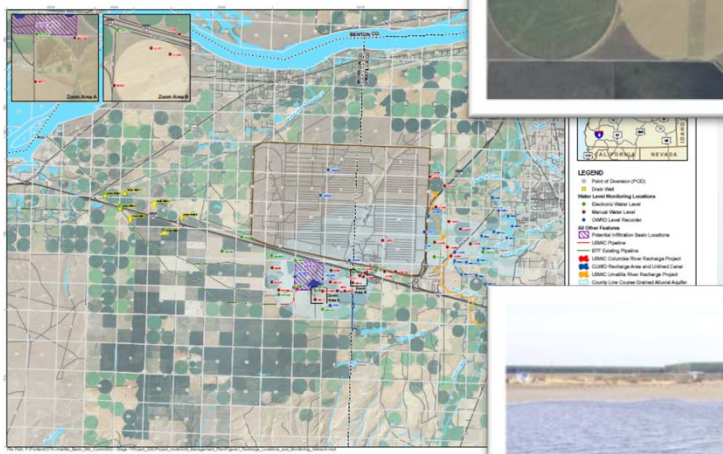
Stage I AR Project

- Five-Year Stage I Test
  - Recovery Testing
  - Environmental Testing
- Access to Depot
- Dissolve Commission and Maintain Infrastructure

What We Learned

- Water users can only afford so much (pinning all costs on the group with the thinnest bottom line results in plan on shelf and no project)
- Protocols and Policy Necessary to Prevent “Freeloaders” and ensure regional economic benefit
- Water rights and projects have no economic value to the region if we can’t afford to use them





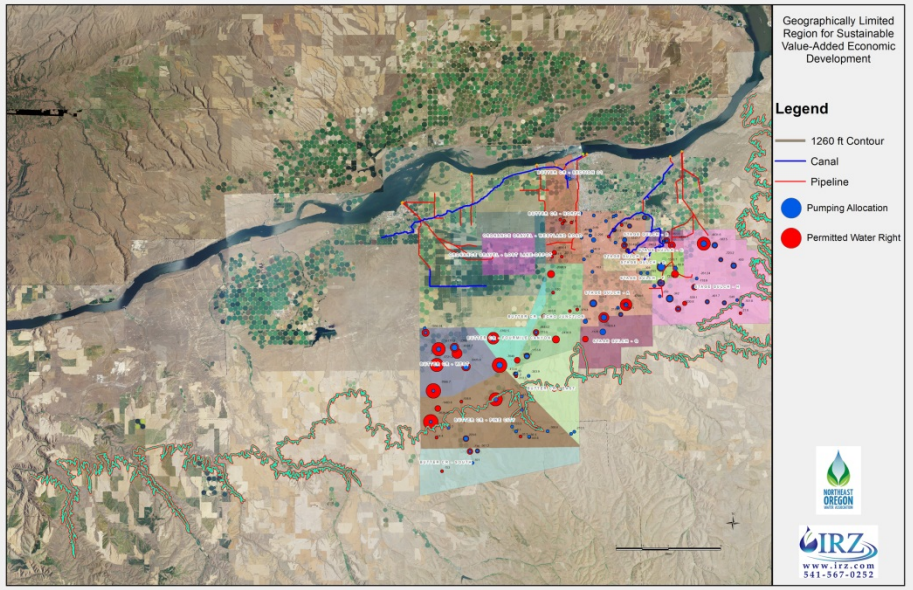
THE PROCESS HAS PLAYED OUT:

Signing Ceremony of CRUST Declaration of Cooperation

- The Basin has confirmed its goals:
  - We now have a list of projects for both the short and near term
  - We now have a list of goals and a crisp list for SUCCESS
  - We also have the local structure putting “skin in the game to see it through” (NOWA)
- Columbia River – Umatilla Solutions Task Force (CRUST) memorialized a collaborative effort that:
  - Recognized the need
  - Identified what can and can’t be supported by full consensus of state interest groups
  - Provided the forum to compare and contrast local goals with state and other interests
  - Addressed a need for clarity on how we move forward
  - SB 839 (2013)
- Now the work begins!
  - “Whats Next?”

Local Definition of Success:

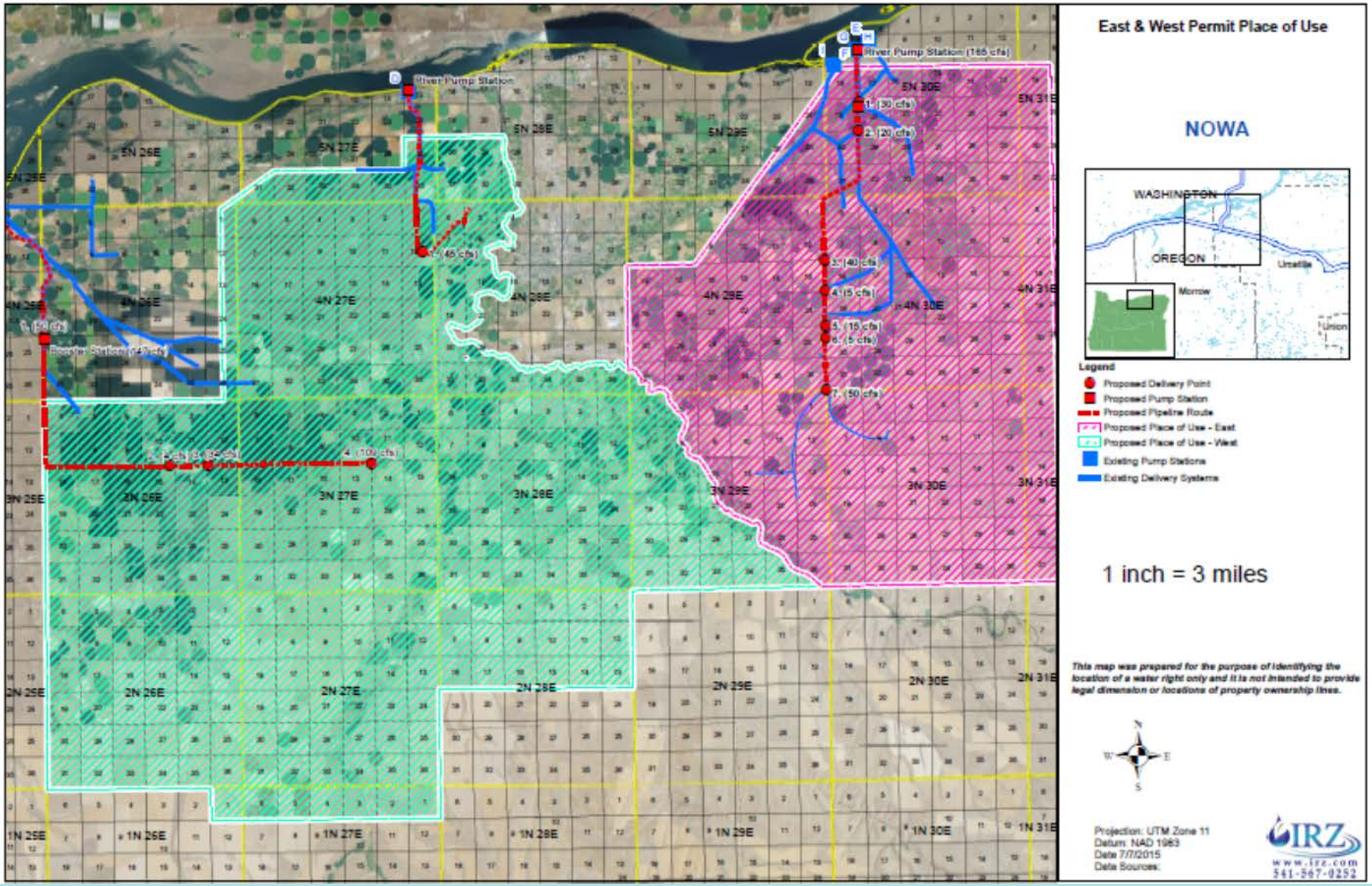
- USE OF:
  - 150,000 AF (500 cfs) – (500 CFS = .0025% of average daily flow, or .004% at low flow) of Columbia River water.
    - Note: If all of our current pump stations shut off tomorrow we could only contribute .012% back to the river
    - We can do this without "TAKE"
- AND:
  - Infrastructure penetrating our four critical groundwater areas
    - The designs are done!
- WHICH WILL:
  - Give large and small acreage owners a chance to make a difference
  - Encourage innovation and entrepreneurship
  - Generate billions in economic activity and thousands of local and regional jobs (all sectors)
  - Take pressures off of over-appropriated groundwater and Columbia River tributaries
  - Guarantee commitment to and access to future long-term main-stem projects



Goals Vs. Reality

- 500 permanent cfs of mitigated water is not currently available
  - How to utilize what we can source in short-term to serve as catalyst for long-term fix
- Can only build mainlines once
  - How to finance extra capacity to enable full-build out
- Banks don't tend to loan on temporary water and fish don't write checks!
  - Need to source water for long enough period to service debt
  - Who pay's the "environmental +1"

The Vision


East & West Permit Place of Use
NOWA
WASHINGTON
OREGON
Umatilla
Morrow
Union
Legend
Proposed Delivery Point
Proposed Pump Station
Proposed Pipeline Route
Proposed Place of Use - East
Proposed Place of Use - West
Existing Pump Stations
Existing Delivery Systems
1 inch = 3 miles
This map was prepared for the purpose of identifying the location of a water right only and it is not intended to provide legal dimension or locations of property ownership lines.
Projection: UTM Zone 11
Datum: NAD 1983
Date 7/7/2015
Data Sources:
IRZ
www.irz.com
541-567-0252

STEP 1: THE PROJECT

1st Biennium: Water rights and infrastructure

- Facilitates economic benefit
- Facilitates environmental benefit
- Facilitates social benefit if protections are established to prevent speculation and splinter efforts

2nd Biennium: Permanent Mitigation Program and Basalt Relief/Bank (May need a work group)

- This is the true social benefit
- Continued appropriations requests tell all pipes built

3rd Biennium: A storage project (Juniper Dam study, etc.)

STEP 2: THE PACKAGE

- Consistency with CRUST Recommendations
- Consistency with CTUIR Guidance and Recommendations
- Has ZERO take and Commits Basin to Mitigation
- Facilitates Tangible Environmental and Community Benefit
  - Aquifer Restoration
  - Access by both large and small farms
  - Facilitation and cost share for upstream/tributary conservation and enhancement projects

COSTS OF WATER: WHAT WORKS

Land Rent	**$ 500**	**$ 550**	**$ 600**	**$ 650**	**$ 700**	**$ 750**	**$ 800**
Return on Land - 3%	$ (250)	$ (250)	$ (250)	$ (250)	$ (250)	$ (250)	$ (250)
Taxes & Operations	$ (25)	$ (25)	$ (25)	$ (25)	$ (25)	$ (25)	$ (25)
$ Available for Water	$ 225	$ 275	$ 325	$ 375	$ 425	$ 475	$ 525
Acre Feet	3.0	3.0	3.0	3.0	3.0	3.0	3.0
$/Acre Foot	**$ 75**	**$ 92**	**$ 108**	**$ 125**	**$ 142**	**$ 158**	**$ 175**

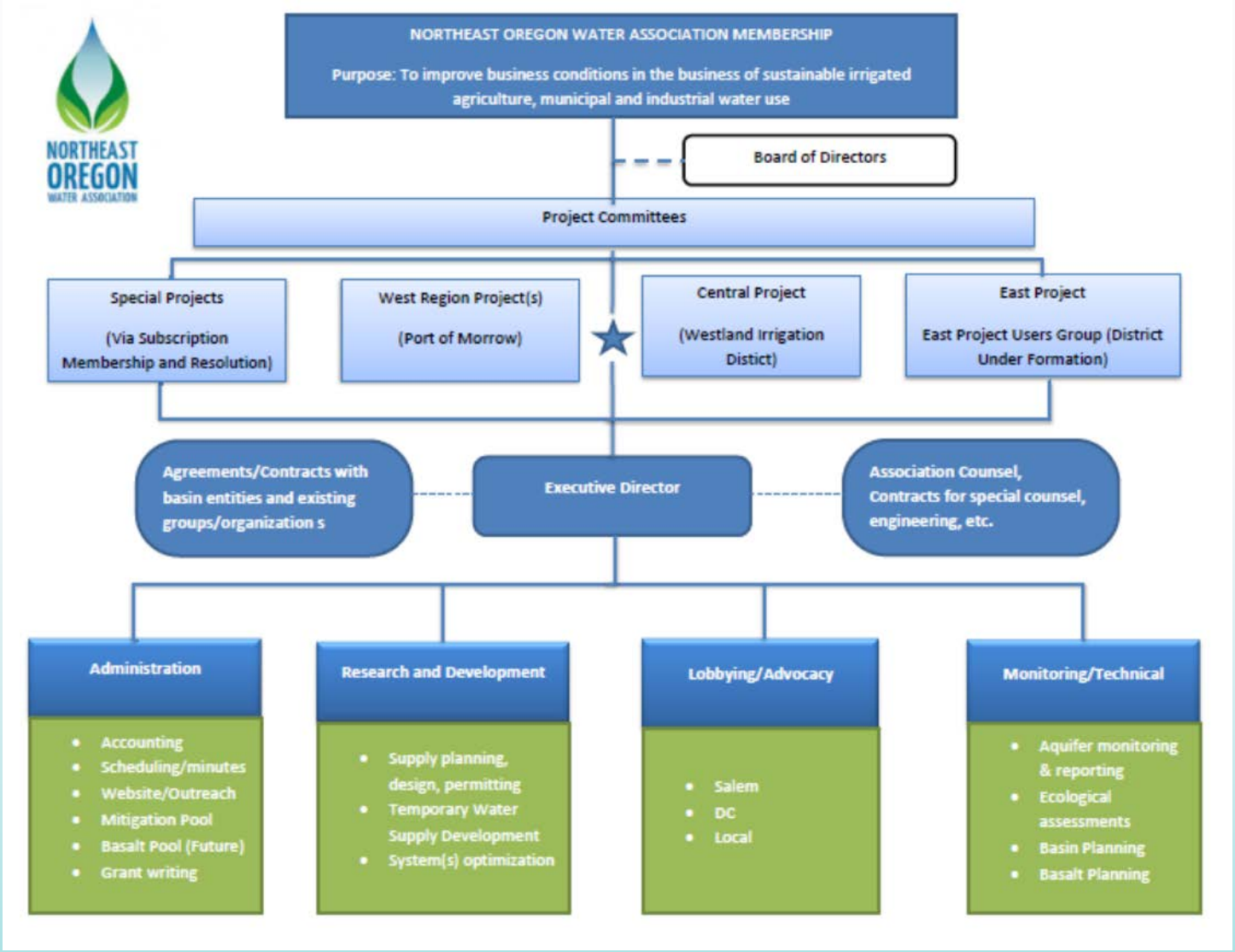
+/- $125/AF target:

Three inputs: Cap EX, O&M, Mitigation (New Territory)

STEP 3: THE BASE FUNDING

1. State Approved Funding Package (OWRD):
   - Project Funding: $17.25 million in grant funding, $30 million in GO backed loan funding (Additional +/- $7 million in carry-over)
     - $11 million in grants and over $22 million in loan funding reserved for Umatilla Basin
   - Feasibility Funding: $2 million for feasibility study grants
   - Basin Planning: $750K for planning grants
2. Other Funding (Regional Solutions)
   - +/- $800K for Regional Water System improvements to deliver water to industrial areas and certificate right
3. Total package for water in the basin:$33.8 million

STEP 4: THE MANAGEMENT



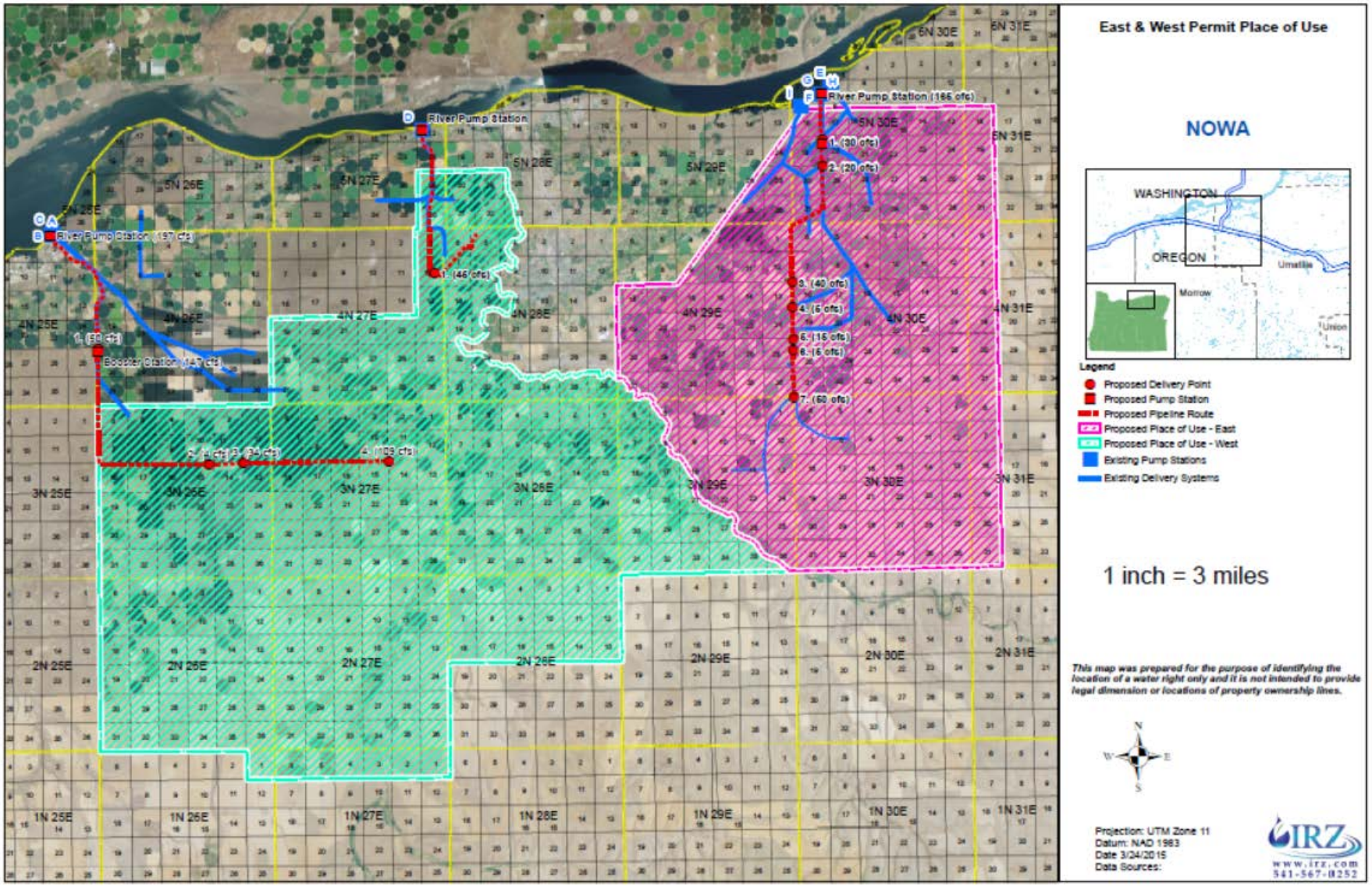
Question: Where are we on Permits?

Answer: Goal to have permits ready to submit by September
(Negotiations to prevent precedence has delayed application)

2015 Water Right Applications

- Negotiations to to allow for:
  - 7 Mitigated Permit Applications totaling 151 cfs to start
  - Negotiated Settlement with WW
  - Develop System (Regional Solutions Project)
  - Certificate and transfer water rights
  - Commitment to Establish Permanent Mitigation Rules and Basalt Bank from OWRD

Permit POD's and POU's



Key Roles

NOWA: Water rights, facilitation and coordination amongst regional groups, project optimization, permanent mitigation and basalt programs, continued advocacy to protect and enhance regional natural resource based economy

Regional Credit Worthy Entities: Easements, final engineering, agreements with landowners, district formation, bidding, construction, O&M

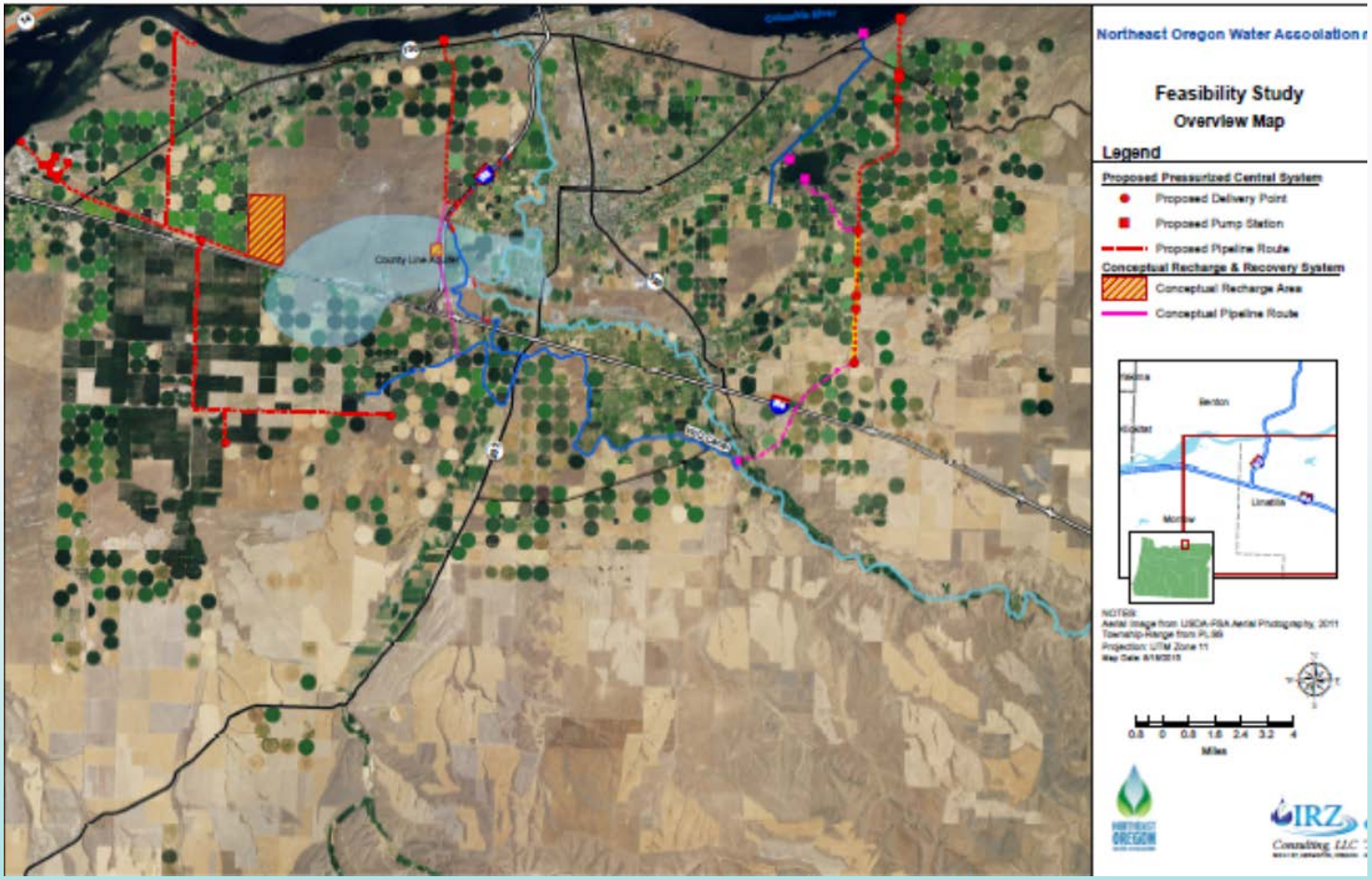
FULL BUILD-OUT DESIGNS COMPLETED

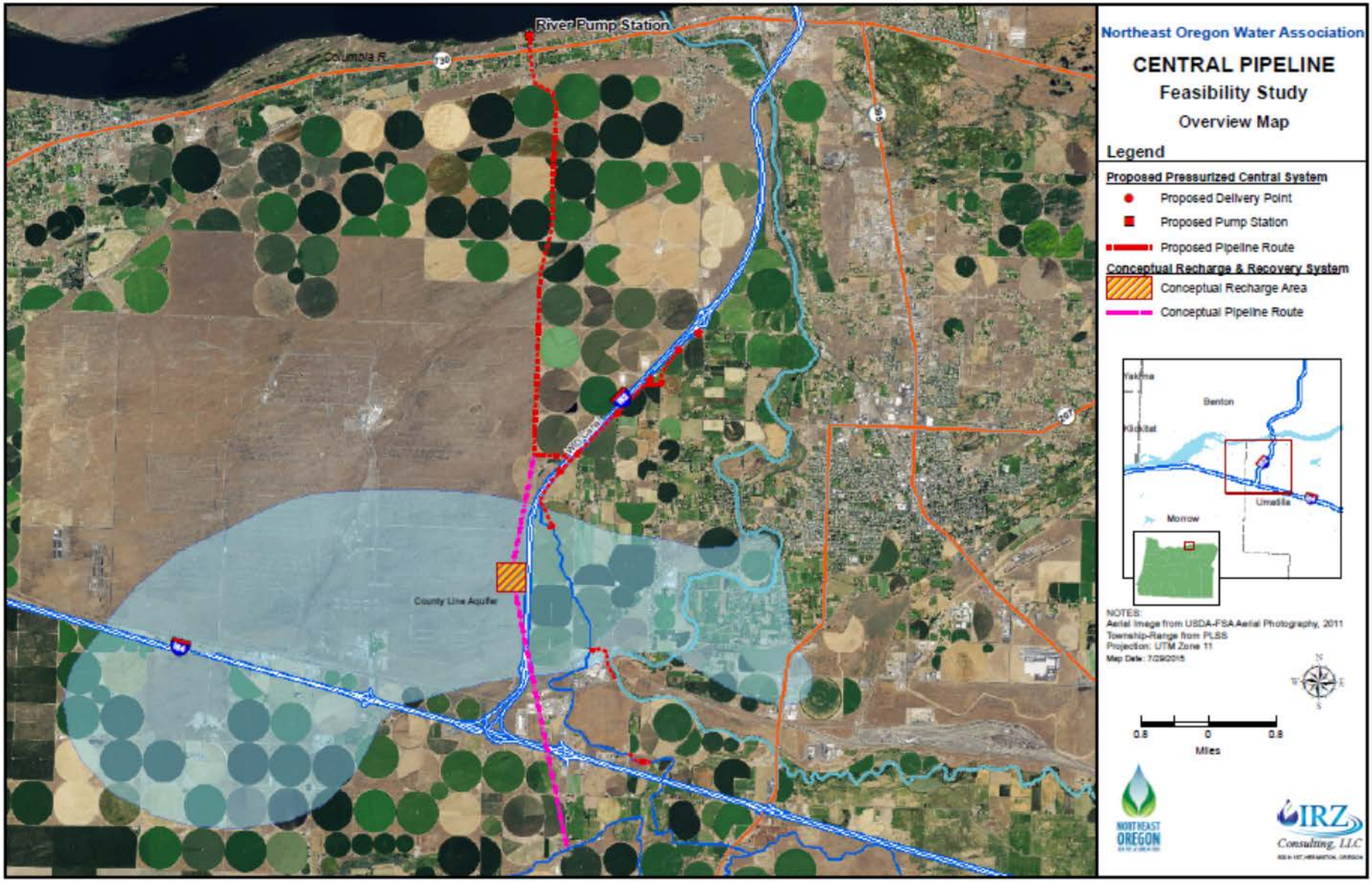
Next step is memorializing the management structure, final engineering, and securing financial packages

Project Optimization Work on East, Central and West Projects

- East:
  - Potentially have a project that will fix ALL problems
- Central:
  - Recharge turns project from an 8K af project into potentially a 21K af project (Depot development, Butter Creek
- West
  - Water Quality and LUBGWMA remediation work with the Port of Morrow

Infrastructure Optimization




River Pump Station
Columbia R.
730
395
207
County Line Aquifer
Northeast Oregon Water Association
CENTRAL PIPELINE
Feasibility Study
Overview Map
Legend
Proposed Pressurized Central System
Proposed Delivery Point
Proposed Pump Station
Proposed Pipeline Route
Conceptual Recharge & Recovery System
Conceptual Recharge Area
Conceptual Pipeline Route
Yakima
Benton
Kickitat
Umatilla
Morrow
NOTES:
Aerial Image from USDA-FSA Aerial Photography, 2011
Township-Range from PLSS
Projection: UTM Zone 11
Map Date: 7/29/2015
N
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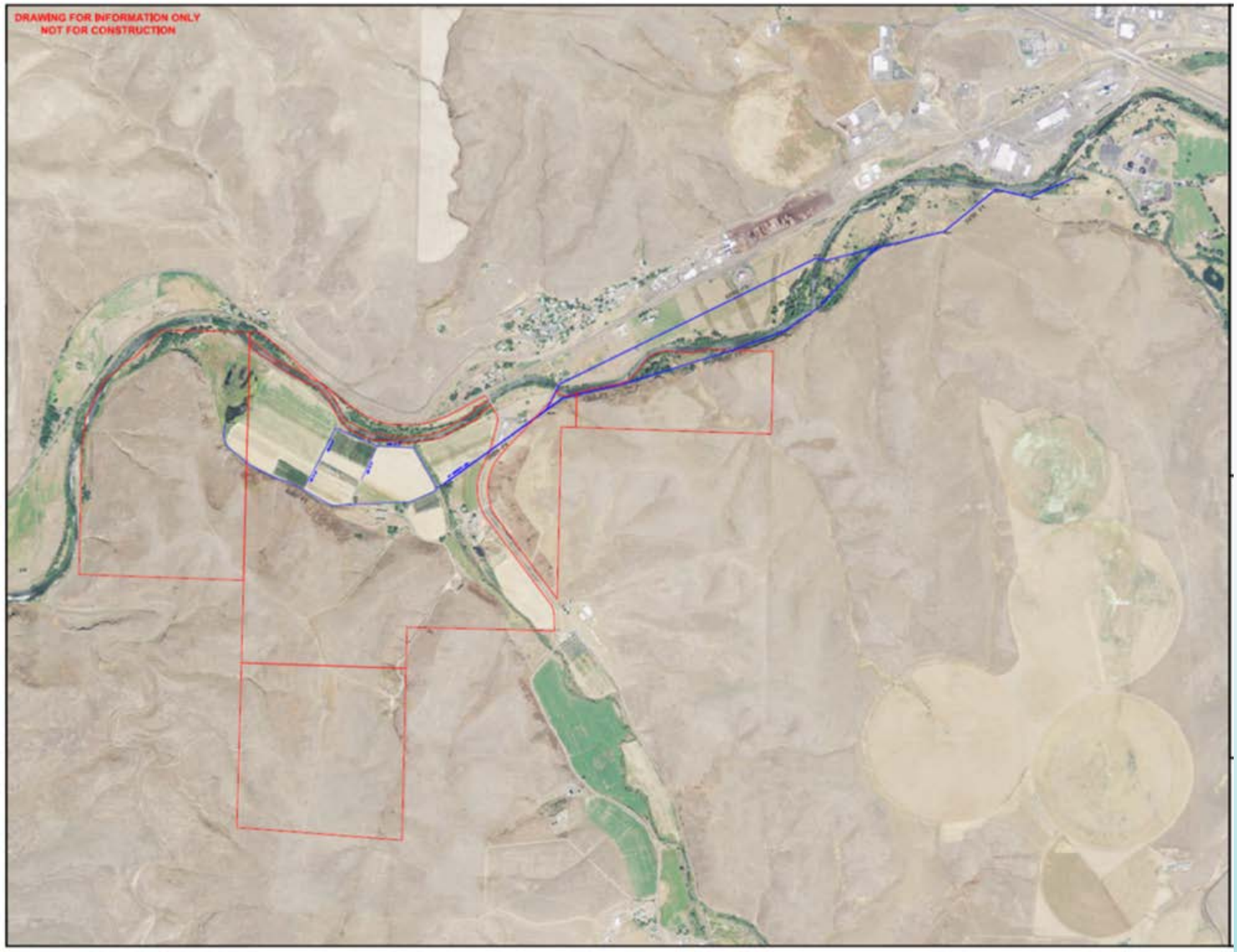
Miles
NORTHEAST OREGON
IRZ
Consulting, LLC

City of Pendleton Re-Use Line



NOWA Budget

- First 2 years (Averaged $200K per year)
  - Significant in-kind contributions (+/- $500K from NOWA members for travel, lobbying, legal, Engineering, etc.
- 2015/2016 Budget (+/- $530K Annually to tip this effort over)
  - Significant increases in legal, advocacy, travel, project design and consulting (monitoring, permitting and engineering budget)

THE ROTATION & PROCESSING

THE ROTATION

1. **Potatoes**
2. **Grass/Wheat/Feed**
3. **Grass/Wheat/Feed**
4. **Onions/Carrots/Other Root Crop**
5. **Double Crop/Other Vegetable**

VALUE ADDED, PROCESSING, INTEGRATION

1.	Potato Plant:	$300 million, 10,000 acres = $30,000/acre
2.	Grass Plant:	$ 25 million, 10,000 acres = $2,500/acre
3.	Dairies & Milk Proc.:	$ 50 million, 10,000 acres = $5,000/acre+
4.	Onion Pack & Proc.:	$ 50 million, 10,000 acres = $5,000/acre
5.	Vegetable Plant:	$100 million, 10,000 acres = $10,000/acre

PLEASE NOTE OBSCURE REFERENCE

RAW PRODUCT - CARROTS

EXAMPLE 2: OREGON'S OTHER ORANGE POWERHOUSE

125 ACRES = $475,000 = $8.6 MILLION

CARROTS

						PER ACRE				TOTAL			
#	SUPPLY CHAIN	PRICE UNIT	PRICE UNIT	$/UNIT	%	TONS	POUNDS	OUNCES	$	TONS	POUNDS	OUNCES	$
1	Farm	Harvested Carrots	Ton	$ 95.00		40.00	80,000	1,280,000		5,000.00	10,000,000	160,000,000	
2	Farm	Usable Carrots	Ton	$ 105.56	90%	36.00	72,000	1,152,000	$ 3,800	4,500.00	9,000,000	144,000,000	$ 475,000
3	Processor	Finished Product	Pound	$ 0.35	60%	21.60	43,200	691,200	$ 15,120	2,700.00	5,400,000	86,400,000	$ 1,890,000
4	Repackage Facility	Packaged Finished	Pound	$ 0.10	100%	21.60	43,200	691,200	$ 4,320	2,700.00	5,400,000	86,400,000	$ 540,000
5	Retail	Store Sales	Ounce	$ 0.10	100%	21.60	43,200	691,200	$ 69,120	2,700.00	5,400,000	86,400,000	$ 8,640,000

RAW PRODUCT - POTATOES

EXAMPLE 3: PARADISE FOR POTATOES

125 ACRES = $750,000 = $24 MILLION

POTATOES

						PER ACRE				TOTAL			
#	SUPPLY CHAIN	PRICE UNIT	PRICE UNIT	$/UNIT	%	TONS	POUNDS	OUNCES	$	TONS	POUNDS	OUNCES	$
1	Farm	Harvested Potatoes	Ton	$ 150.00		40.00	80,000	1,280,000		5,000.00	10,000,000	160,000,000	
2	Farm	Usable Potatoes	Ton	$ 176.47	85%	34.00	68,000	1,088,000	$ 6,000	4,250.00	8,500,000	136,000,000	$ 750,000
3	Processor	Finished Product	Pound	$ 0.35	60%	20.40	40,800	652,800	$ 14,280	2,550.00	5,100,000	81,600,000	$ 1,785,000
4	Retail	Store Sales	Ounce	$ 0.30	100%	20.40	40,800	652,800	$ 195,840	2,550.00	5,100,000	81,600,000	$ 24,480,000

NORTHEAST OREGON WATER ASSOCIATION

Contact Information

J.R. Cook, Director

MAILING: 3750 SW MARSHALL PLACE
PENDLETON, OR 97801

OFFICE: 2 MARINE DRIVE SUITE 100
BOARDMAN, OR 97818

PHONE: 541~969~8026

EMAIL:
JRCOOK@NORTHEASTOREGONWATER.ORG

WEB: NORTHEASTOREGONWATER.ORG