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# **WYE AREA REGIONAL WATER SYSTEM**

**PUBLIC HEARING**

**DECEMBER 1, 2010**



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# PROJECT HISTORY

- 2003 – Originally considered combined water and sewer RSID
  - 2004 – Sewer RSID moved forward alone, due to high costs of combined project
  - 2010 – Sewer RSID construction complete
  - 2009 – Preliminary water project work
    - County obtains funding from RRGL for PER
    - Local matching funds for PER
    - County submits to WRDA for funding
  - 2010 – Missoula County completes water Preliminary Engineering Report
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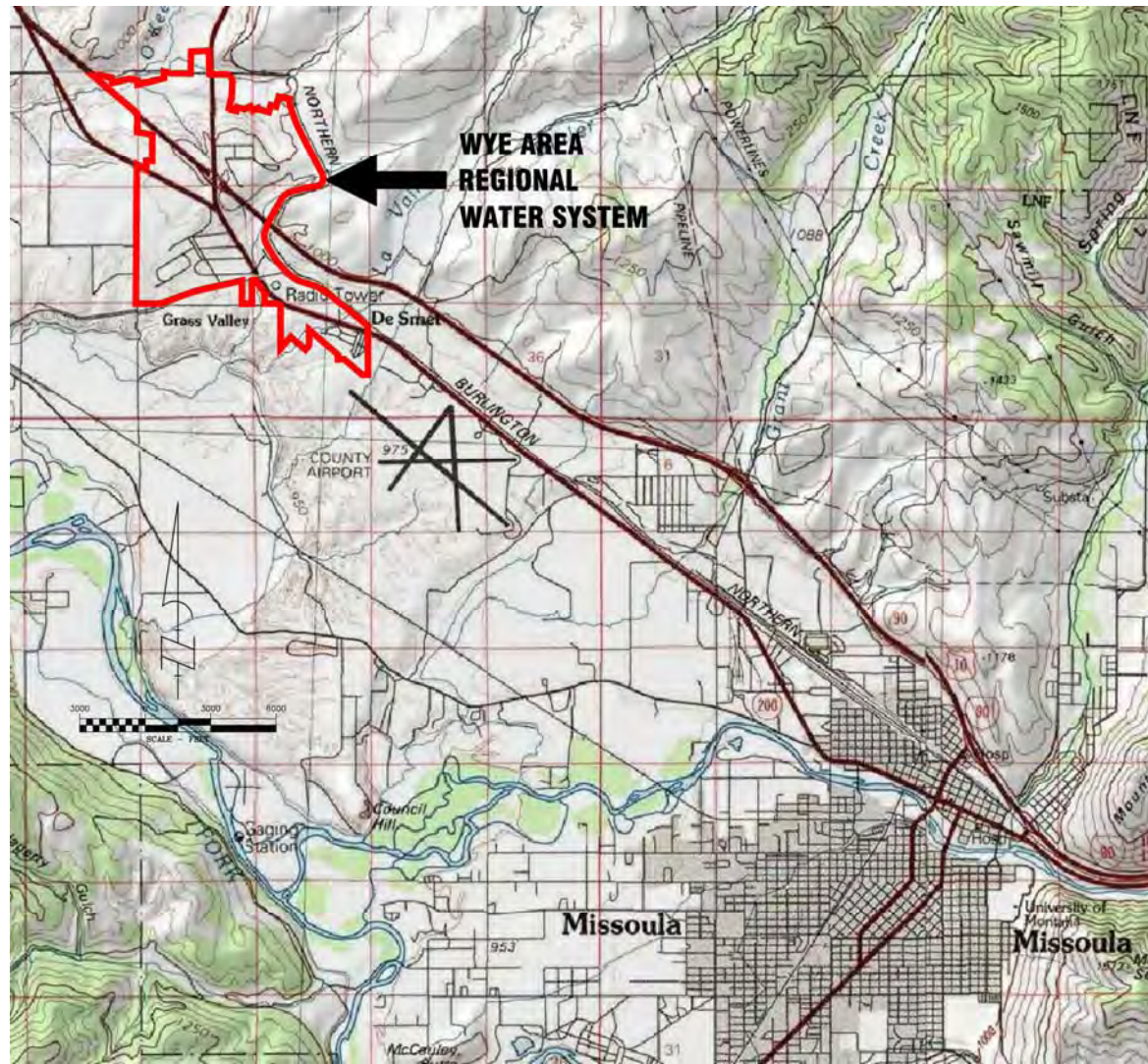
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# PRELIMINARY ENGINEERING REPORT

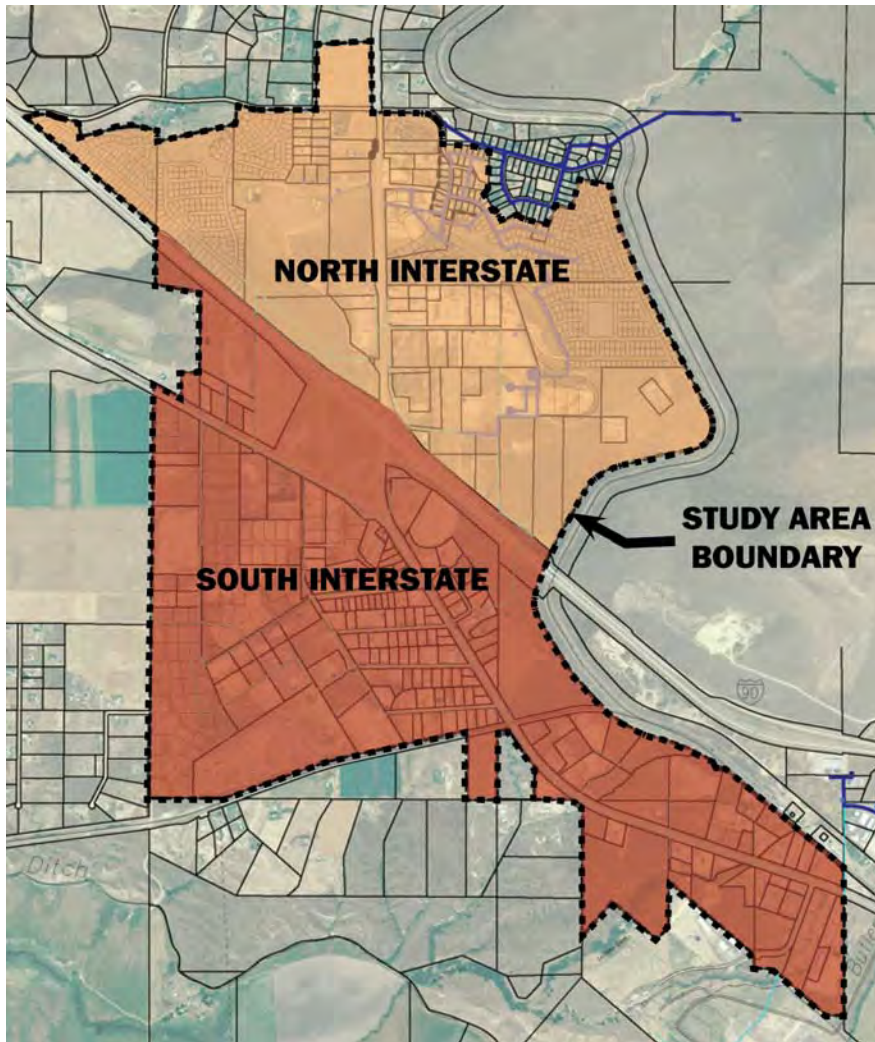
Preliminary Engineering Report includes:

- Problem Definition
    - Planning Area
    - Existing Facility Conditions
    - Need for Project
  - Alternative Analysis
    - Preliminary Designs
    - Preliminary Cost Estimates
    - Operations and Maintenance
    - Evaluate Alternatives
  - Selection of a Preferred Alternative
  - Recommendations and Implementation
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# PROJECT LOCATION

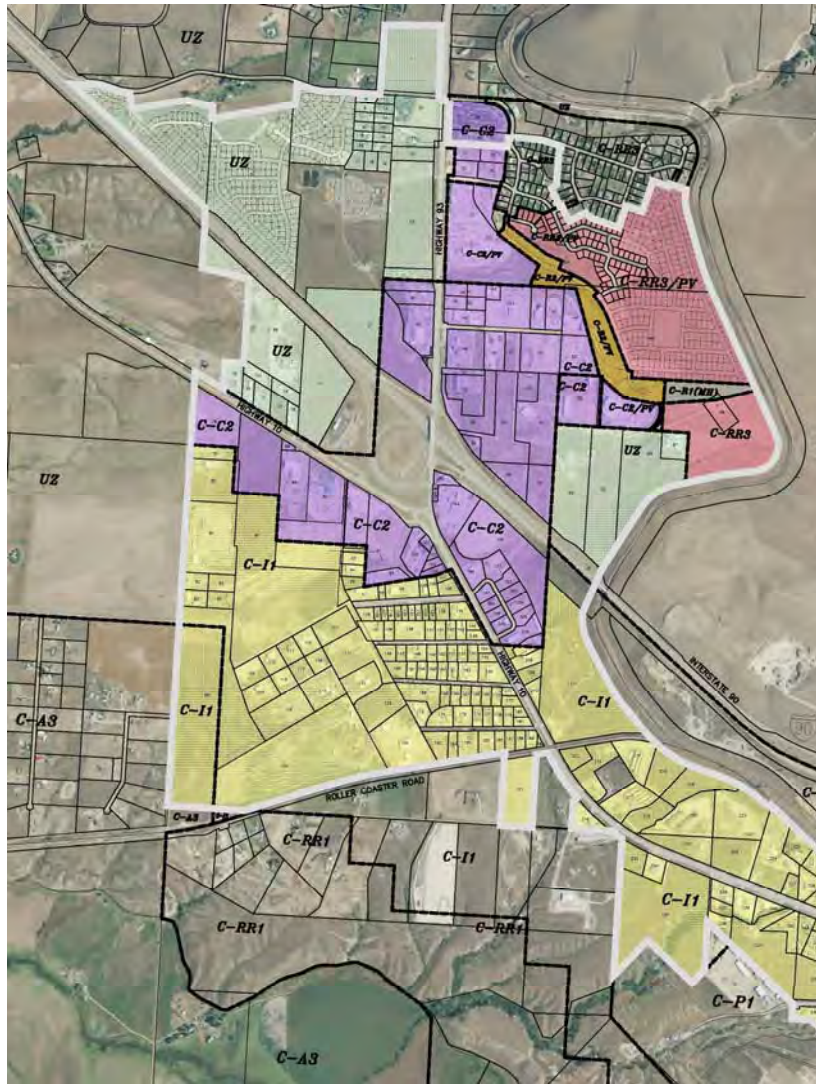


# STUDY AREA



- Coincides with the recent sewer RSID boundary
- Over 330 Parcels
- Approx. 1,525 acres

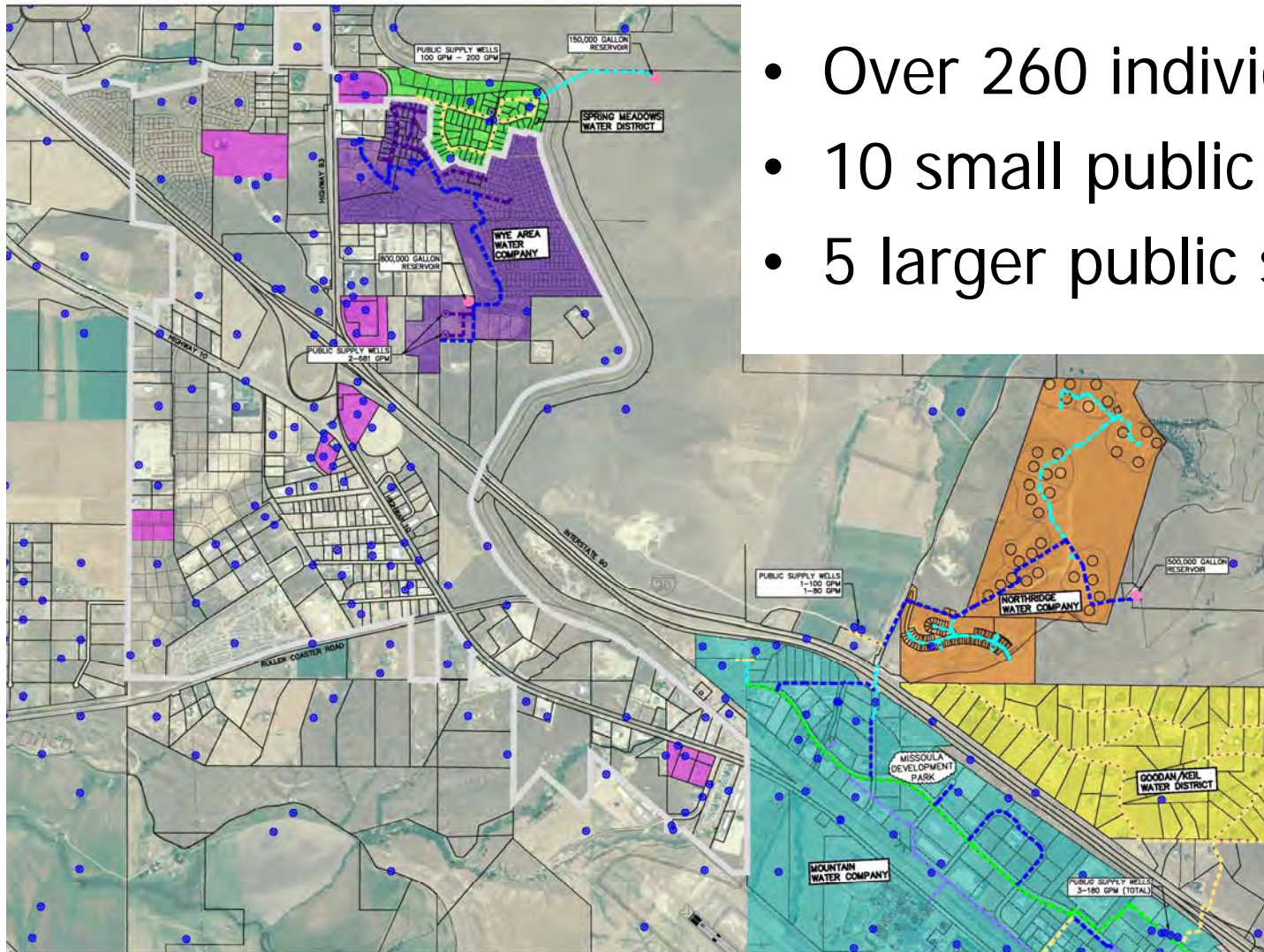
# LAND USE & POPULATION



- Industrial Zoning
- Commercial Zoning
- Residential Zoning
- City Sewer in 2010
- Redevelopment Anticipated
- Existing Population: 1,700
- Year 2045 Population Projection: 8,217



# EXISTING WATER SYSTEMS



- Over 260 individual wells
- 10 small public systems
- 5 larger public systems

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# PROJECT NEED

- Protect public health
    - Private wells are not regulated
    - Public wells are regulated to ensure safe and reliable water supply
    - History of groundwater contamination in the area
  - Increase water conservation and efficiency
  - Reduce operations and maintenance costs
  - Reduce contamination from over irrigating
  - Reduce energy demands
  - Improve fire protection
  - Provide for economic development
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# GENERAL DESIGN REQUIREMENTS

- Regulations
    - Montana Department of Environmental Quality
    - Circular 1 – Standards for Water Works
  - Establish Water Demands
    - Land Use
    - Population Projections
  - Establish Fire Flows
    - Missoula Rural Fire District
    - Frenchtown Rural Fire District
    - City of Missoula
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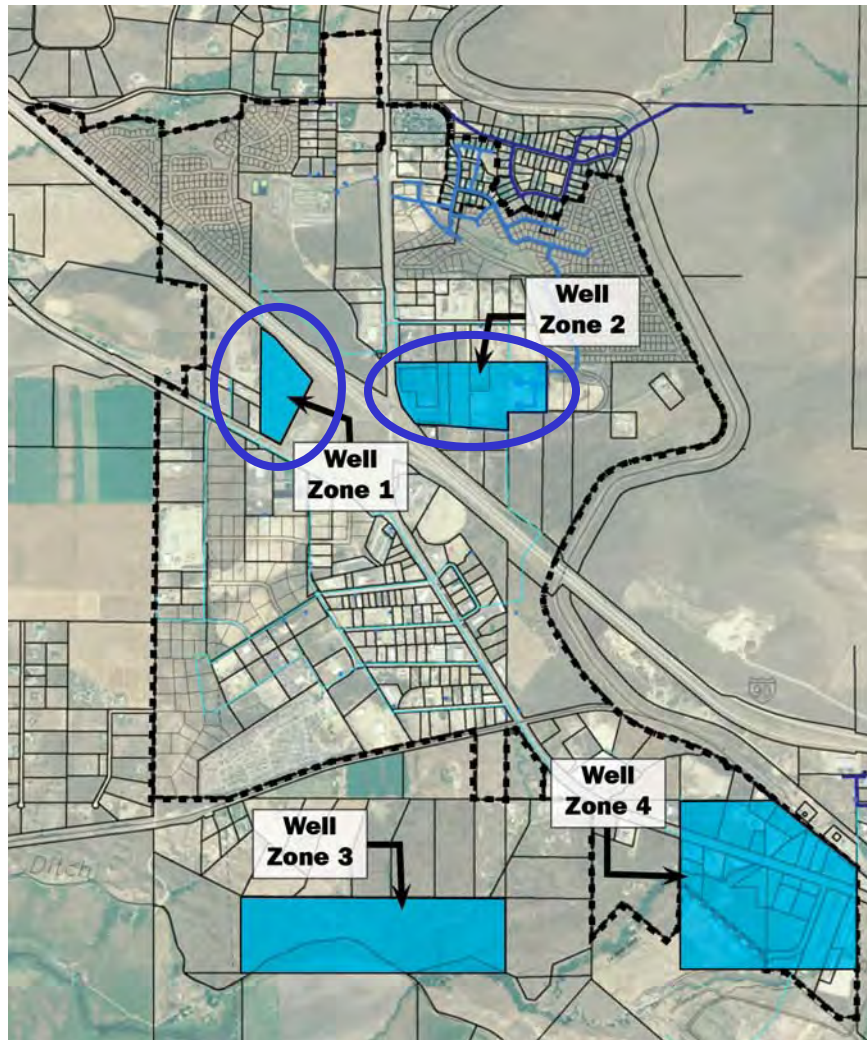
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# DESIGN WATER DEMANDS

<b>Average Day Demand</b>	1,157 gpm
<b>Max Day Demand</b>	2,618 gpm
<b>Peak Hour Demand</b>	4,628 gpm
<b>Fire Demand</b>	2,250 gpm for 2 hours
<b>Well Supply</b>	2,618 gpm with largest well out of service
<b>Storage</b>	1.94 MG

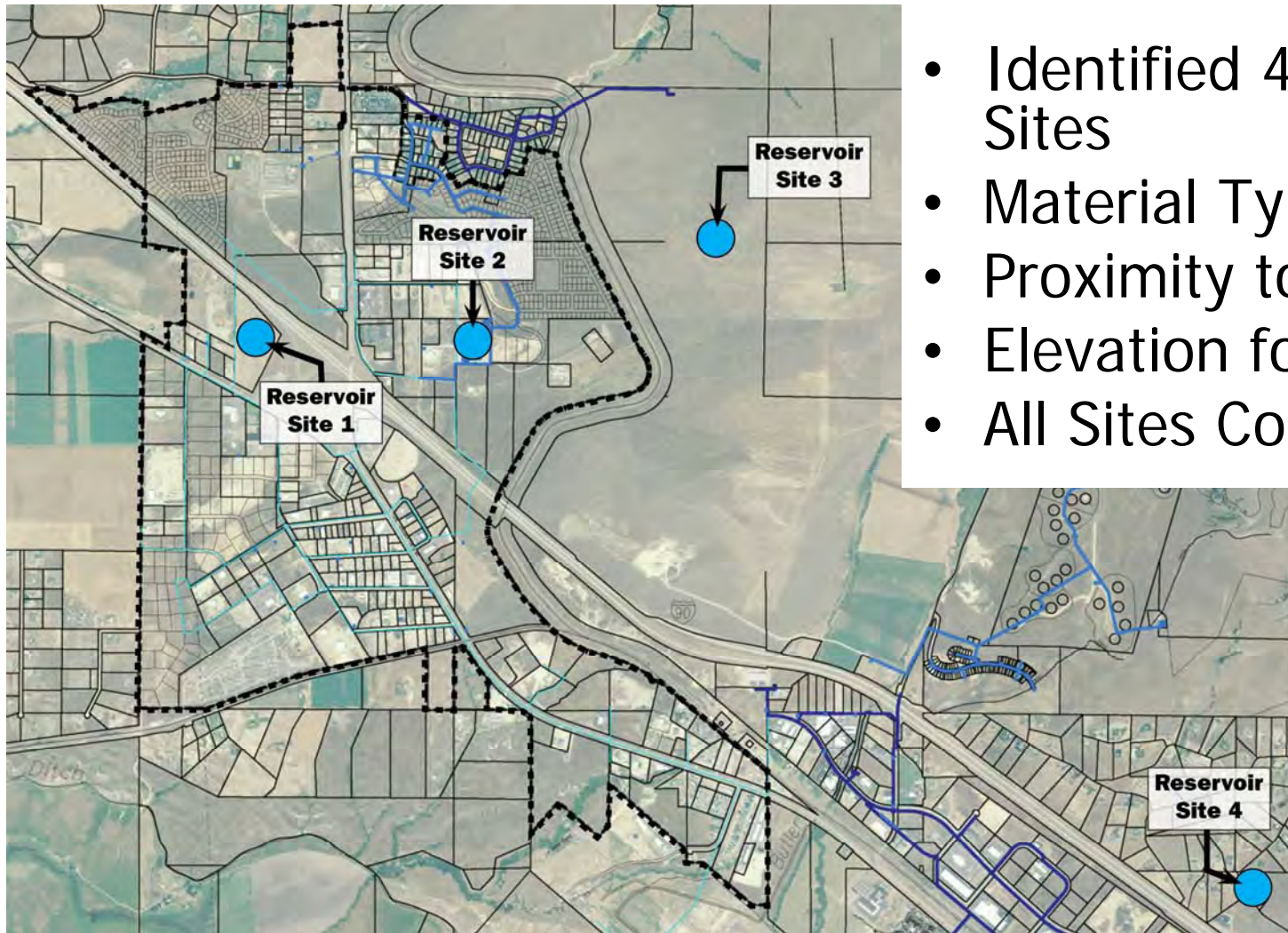
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# GROUNDWATER STUDY



- Investigated
  - Existing Wells
  - Hydrogeology
- Identified 4 areas where large capacity wells could be drilled
- Well Zones 1 & 2 further considered

# RESERVOIR SITES



- Identified 4 Possible Sites
- Material Types
- Proximity to Wells
- Elevation for Pressure
- All Sites Considered

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# ALTERNATIVE SCREENING

## Options Considered:

- No Action
  - Individual Wells
  - Numerous Small Public Water Systems
  - Expand Northridge Water Company System
  - Expand Spring Meadows Water District
  - Expand Goodan-Keil Water District
  - Create New Wye Area Water District
  - Expand Wye Area Water Company System
  - Expand Mountain Water Company System
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# ALTERNATIVES

- Eight alternatives evaluated in detail
    - Two Separate Water Systems: North of Interstate 90 and South of Interstate 90
    - Single Water System: Extension of existing system(s)
    - Creation of Water District
    - Extension of Wye Area Water Company
    - Extension of Mountain Water Company
  - Hydraulic analysis of each alternative
  - PER contains schematic designs & cost estimates
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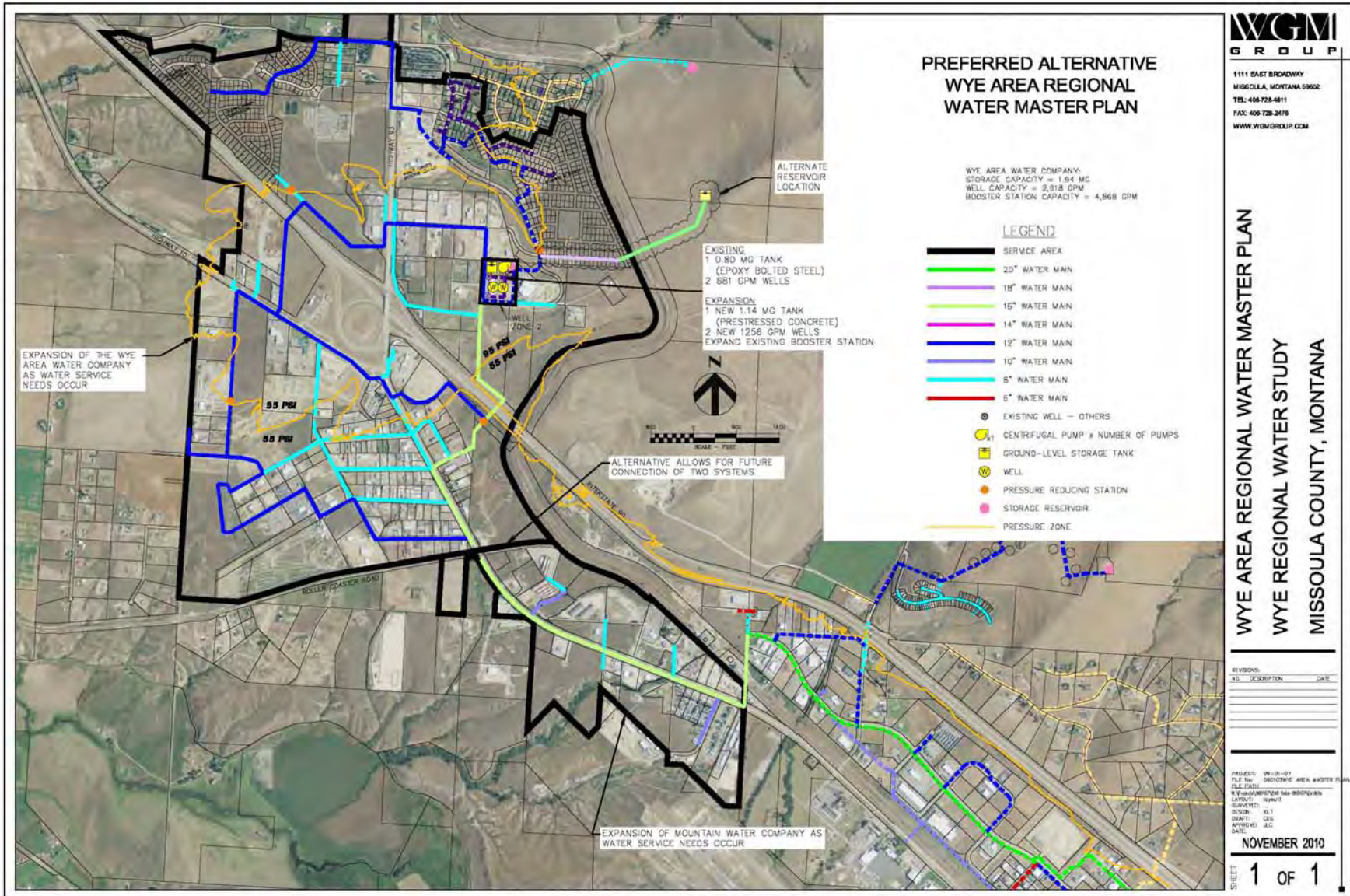
# ALTERNATIVE EVALUATION

- Project costs are high due to need for supply, storage and distribution.
  - Phasing of a large project is difficult because entire distribution system needs to be built to serve all properties.
  - RSID can add approximately 20% to the project cost.
  - Based on comments at neighborhood meeting, a large RSID would not be supported.
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# ALTERNATIVE EVALUATION

	Alternative							
	A	B.1	B.2	C.1	C.2	D.1	D.2	E
<b>Project Cost</b>	\$16.01	\$15.02	\$15.81	\$13.33	\$13.06	\$12.58	\$13.72	\$12.48
<b>Annual O&amp;M Costs</b>	\$125,180	\$116,546	\$120,608	\$119,753	\$125,180	\$106,391	\$120,608	\$116,546
<b>20-yr Present Worth</b>	\$16.13	\$14.96	\$15.54	\$13.25	\$13.21	\$12.31	\$13.36	\$12.16
<b>Technical Feasibility</b>	0	+1	+1	0	0	+1	+1	+1
<b>Environmental Impact</b>	+1	+1	+1	+1	+1	+1	+1	+1
<b>Public Health &amp; Safety</b>	+1	+1	+1	+1	+1	+1	+1	+1
<b>Operations &amp; Maintenance</b>	0	0	0	0	0	0	0	0
<b>Land Acquisition</b>	-1	+1	0	-1	-1	+1	0	+1
<b>Public Comments</b>	-1	-1	-1	-1	-1	-1	-1	-1
<b>Phasing</b>	-1	0	0	-1	-1	0	0	+1
<b>Financial Feasibility</b>	-1	-1	-1	-1	-1	-1	-1	+1
<b>TOTAL</b>	<b>-2</b>	<b>+2</b>	<b>+1</b>	<b>-2</b>	<b>-2</b>	<b>+2</b>	<b>+1</b>	<b>+5</b>

# MASTER PLAN



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# BENEFITS OF MASTER PLAN

1. Provides a guiding document for providing water service to the Wye Area
  2. Meets goals and objectives of Wye Mullan West Comprehensive Area Plan:
    - “Collaboratively plan for cost effective public services...”
    - “Coordinate infrastructure planning among government agencies, private sector groups and the general public.”
    - “Plan and install infrastructure prior to development.”
  3. Ensures future water facilities will have capacity to serve the area
  4. Reduces the number of new wells in the area
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## BENEFITS OF MASTER PLAN

5. Reduces the number of new small, public water systems in the area
  6. Improves public health and safety
  7. Improves fire protection
  8. Encourages economic development
  9. Implementation does not have to burden landowners with another large RSID
  10. Water system can be built as landowners need water service
  11. If funding becomes available, the project is ready to go
  12. Missoula County has had an active role in determining how essential services can be provided
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# AMENDMENTS TO DRAFT PER

1. Include November 29, 2010 letter of support from the Wye Area Water Company in the Project Correspondence appendix.
  2. Include the December 1, 2010 letter of support from the Missoula City-County Health Department in the Project Correspondence appendix.
  3. Amend page 60 of the PER to include today's public hearing in Section C. Public Participation, and add Section D. Benefits of the Preferred Alternative.
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# QUESTIONS

