



# Deschutes County Solid Waste Open House

Monday, September 11, 2023 5:30 PM  
1300 NW Wall Street, Bend, OR 97703

**Zoom Meeting Information:** This meeting may be accessed via Zoom using a phone or computer.

- To join the meeting from a computer, copy and paste this link: [bit.ly/3OCsazu](https://bit.ly/3OCsazu)
- To join by phone, call 253-205-0468 and enter webinar ID #860 9333 5674 followed by the passcode 189987.
- If joining by a browser, use the raise hand icon to indicate you would like to ask a question. If using a phone, press \*6 to indicate you would like to speak and \*9 to unmute yourself when you are called on.

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- I. **5:30pm Open Forum**
  - II. **6pm Brief Presentation**
  - III. **Open Questions and Answers**
  - IV. **7pm Meeting Ends**

Deschutes County Solid Waste will host an informational open house on the solid waste management facility siting process on Monday, Sept. 11, between 5:30 and 7 p.m. The Solid Waste Department has been implementing a phased process over the past eighteen months to evaluate sites for a new facility. Knott Landfill, the County's only landfill, is expected to reach capacity in 2029.

The open house will provide an opportunity for the community to learn more about the project and discuss details of the siting process with the project team, as well as learn about ongoing efforts to increase waste diversion and recycling.

The County's Solid Waste Advisory Committee has identified two finalist sites that are now moving through the second phase of site review, which includes a detailed technical analysis. The two sites are the "Moon Pit" and "Roth East" sites, both located east of the Bend city limits. While the need for landfill capacity is driving the siting effort, opportunities for related amenities including separation and diversion of recyclables, food waste, and construction and demolition materials may also be considered as part of the final site design.

The transfer station, recycling center, and composting facility at Knott Landfill will continue to operate at their current location and be open to the public even after the landfill closure.

In 2018, anticipating the need for a new facility, the County began proactively exploring options to manage its future solid waste and worked with the Solid Waste Advisory Committee to develop a roadmap. The resulting Deschutes County Solid Waste Management Plan (Plan) was adopted by the Board of Commissioners in 2019. The Plan provides direction for the new landfill to be sited within Deschutes County, as opposed to paying to truck waste outside the County or employing costly alternative technologies.

Learn More about the Project:

- [Managing the Future of Solid Waste](#): Solid Waste Management Facility resource information
- [Story Map](#): Deschutes County Managing the Future of Solid Waste informational story map including Frequently Asked Questions and site locations
- [Deschutes County Meeting Portal - Solid Waste Advisory Committee Meetings](#): August 2023 and later calendar dates, agendas, minutes of the meetings

Have feedback, wish to provide public comment, or have questions? Please feel free to call the Department of Solid Waste at (541) 317-3163 or email [managethefuture@deschutescounty.gov](mailto:managethefuture@deschutescounty.gov).



**Deschutes County** Deschutes County encourages persons with disabilities to participate in all programs and activities. This location is accessible to people with disabilities. If you need accommodation to make participation possible, please call the Solid Waste office at (541) 317-3163, or send an email to [solidwaste@deschutes.org](mailto:solidwaste@deschutes.org).



**Condado de Deschutes** alienta a las personas con discapacidad a participar en sus programas y actividades. Este lugar es accesible para personas con discapacidad. Si necesita hacer arreglos para hacer posible la participación, llame a Solid Waste la oficina a (541) 317-3163, o envíe un correo electrónico a [solidwaste@deschutes.org](mailto:solidwaste@deschutes.org).



# Deschutes County Solid Waste Department

## Open House *System Enhancement* & *Landfill Siting Updates* *September 11, 2023*





# Agenda

- Welcome & Introductions
- Background- Solid Waste Department Overview
- Future Facility Planning
- Solid Waste Management Landfill Siting Process Updates
- Discussion/ Q&A





# Solid Waste Department Overview

- Collection
- Recycling
- Transfer
- Disposal





# Collection

- Franchise Ordinances and Orders
  - Minimum service levels
  - Maximum Fees Charged to Subscribers
  - Monitoring of Franchise Profits
- Franchise Service Providers
  - Waste Connections
  - Republic Services
- Hazardous Waste Management





# Recycling

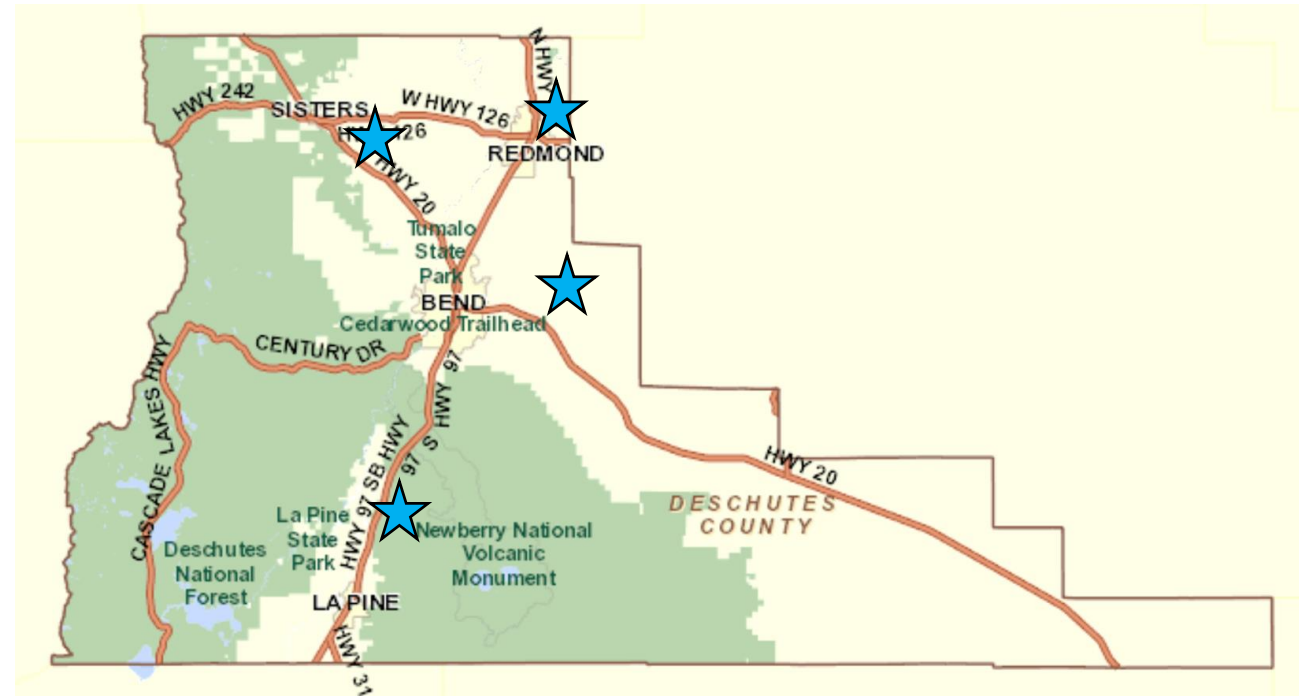
- Curbside Collection
- Drop off sites at Knott Landfill, Transfer Stations and Depots
- Yard Debris Composting
- Education and Promotion





# Transfer

- Negus Transfer Station (Redmond/North County)
- Southwest Transfer Station (La Pine/South County)
- Northwest Transfer Station (Cloverdale/Sisters)
- Alfalfa Transfer Station







# Disposal

- Knott Landfill
  - Engineered Facility
  - Environmental Monitoring
  - Leachate & Landfill Gas Management
- Anticipated to reach capacity in 2029



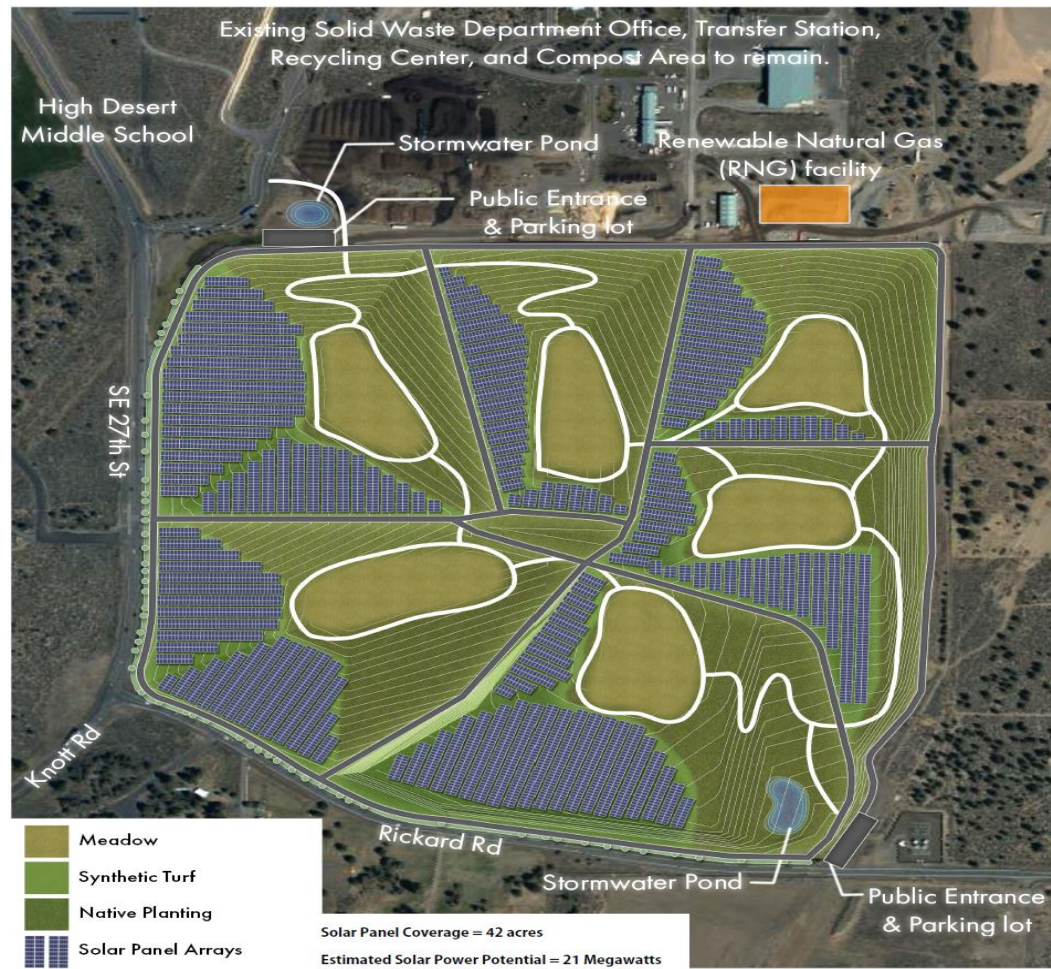


# Disposal

## KNOTT LANDFILL - POST CLOSURE



## KNOTT LANDFILL - POST CLOSURE





# Solid Waste Management Plan (2019)

**SWMP provides roadmap for enhancing services, making capital investments in infrastructure and addressing long term disposal of waste**

## **Changes to collection programs/services**

- *Expand residential food waste collection*
- *Development multifamily programs*
- *Expand recycling for businesses for food waste/recyclables*
- *Establish uniform/standardization of programs and services*
- *Develop Alternative for construction/demolition (C/D) waste*



## **Changes/Improvements for facilities**

- *Evaluate options/upgrade compost facilities*
- *Upgrade transfer stations – capacity/efficiencies/future disposal system*
- *Develop facilities for managing C/D waste*
- *Implement new disposal system*



# Solid Waste Management Department Overview (Continued)

In 2021, households & businesses in Deschutes County generated **310,000 tons of solid waste**. The County managed these materials by:

- Diverting about **89,300 tons of material (29% of the waste stream)**
- Disposing about **220,000 tons of waste** at Knott Landfill. 
- The state's goal for the County is to **increase its waste stream diversion to 45% by 2025** 
- The **Recycling Modernization Act (2021)** will play a significant role in the evolution of diversion and recycling programs in the coming years



# Transfer Station Upgrades

Knott Transfer Station

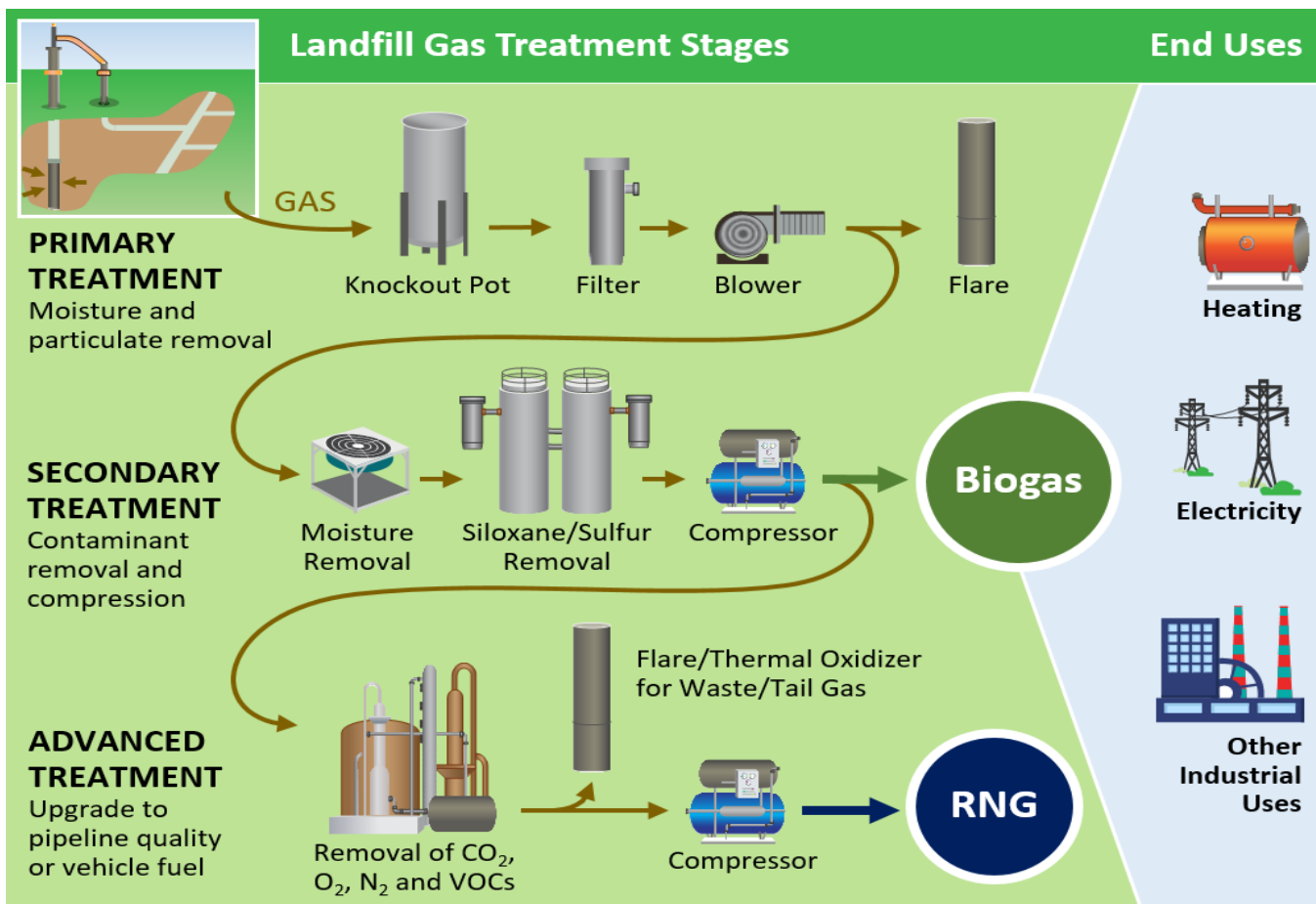


Negus Transfer Station Improvements



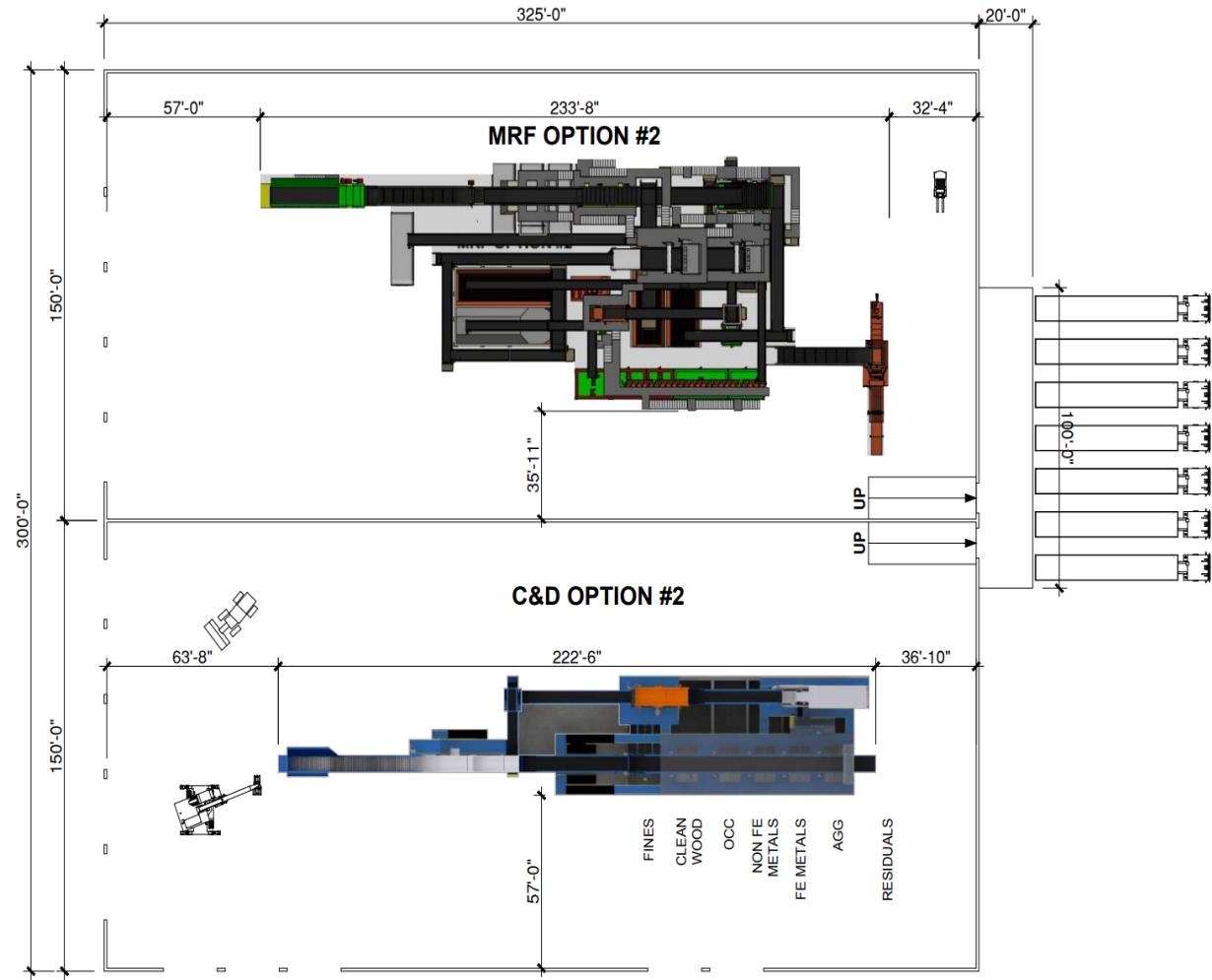
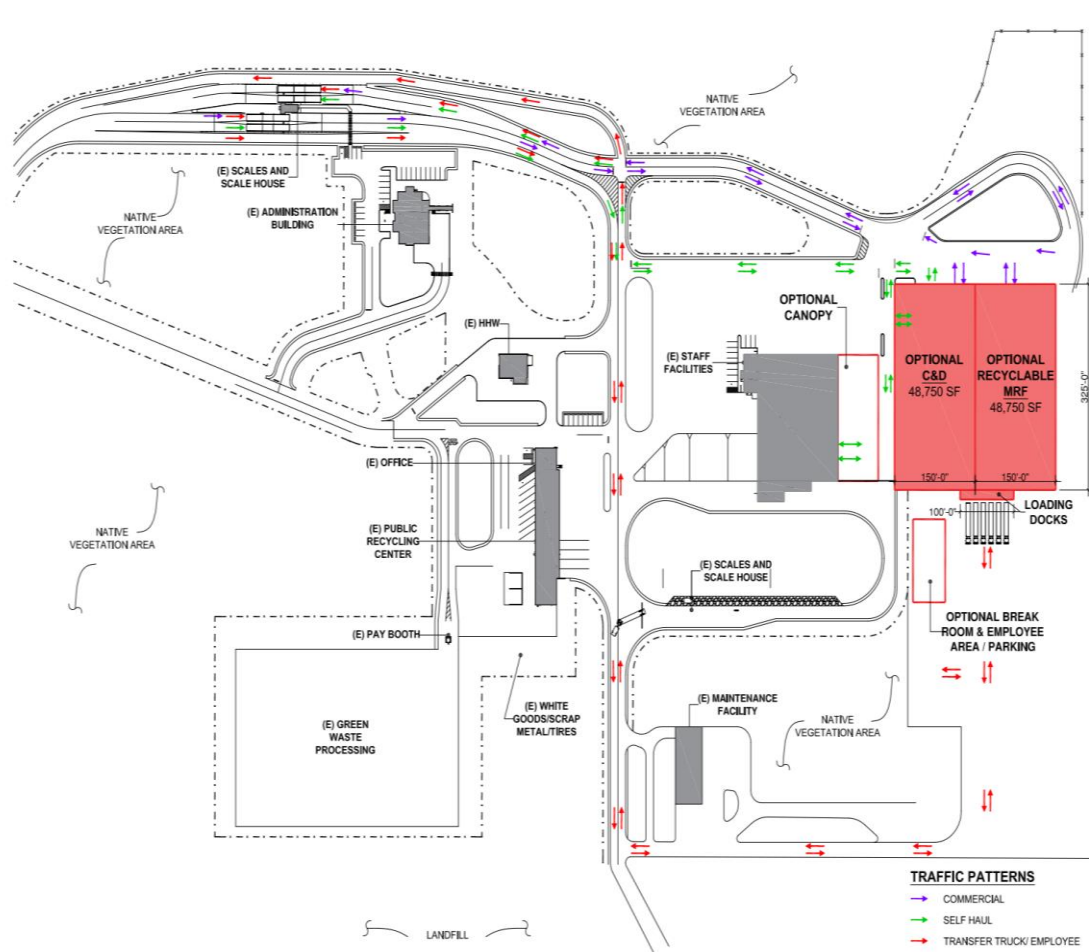


# Future Landfill Gas Recovery System





# Future Recyclable Material Processing and Recovery





# Future Composting Processing Expansion







# Siting Process Details



# Solid Waste Advisory Committee (SWAC) Role and Involvement

- SWAC comprised of up to 12 appointed members representing incorporated Cities, Franchise Haulers, The Environmental Center, and 5 at-large community members
- Review information on the site selection process for a new Solid Waste Management Facility
- Provide input and guidance throughout the site selection process
- Make recommendations to the Board of County Commissioners as needed during site screening process
- Ultimately make a recommendation to the Board on a final site



# Project Team

## Deschutes County Department of Solid Waste

- Tim Brownell, Director
- Sue Monette, Management Analyst
- Chad Centola, Senior Advisor

## Parametrix

- Dwight Miller, Principal Consultant, Project Manager
- Ryan Rudnick, Engineer IV, Assistant Project Manager

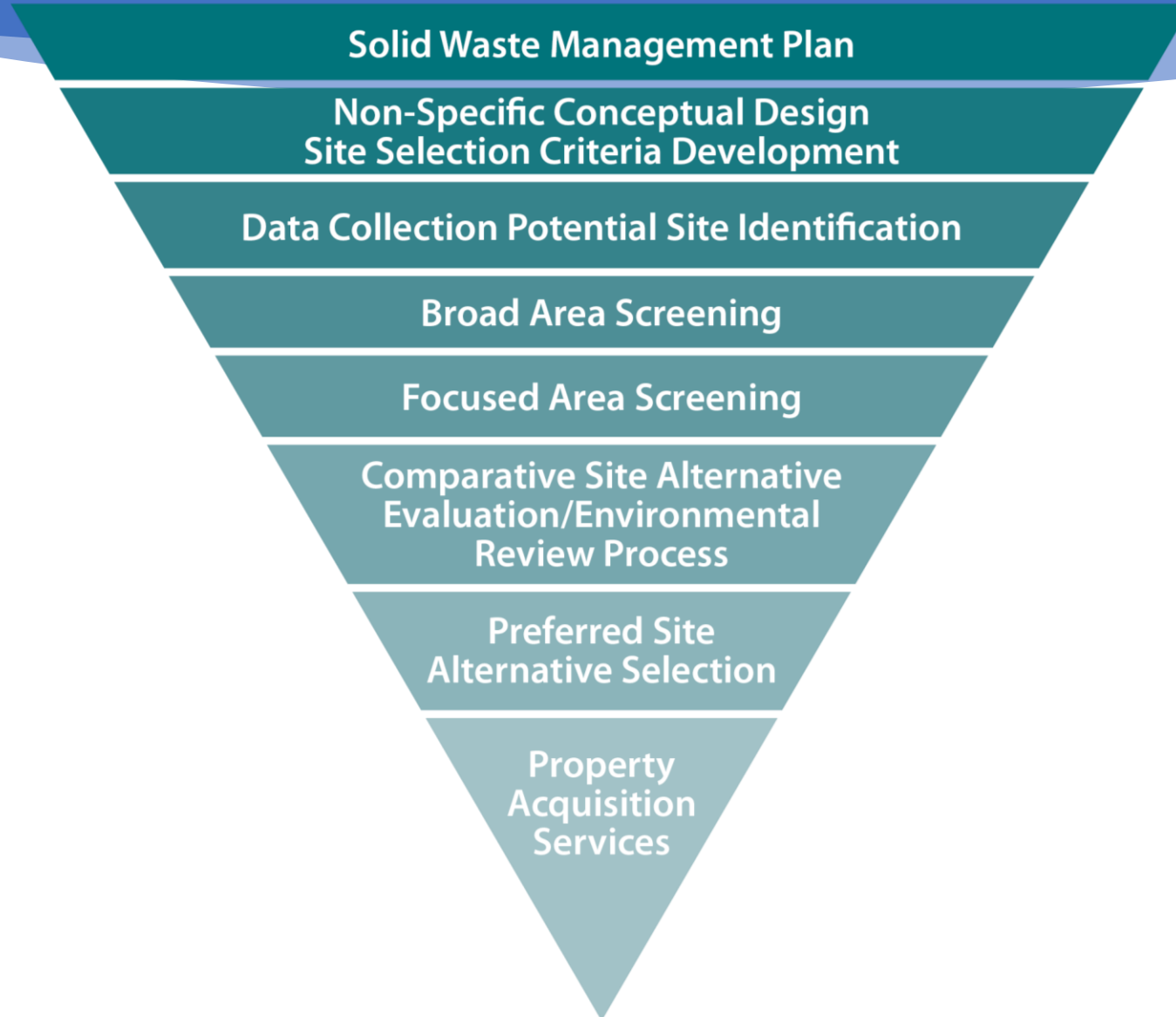
## Conсор Strategic Planning & Communications

- Aubrie Koenig, Communications
- Susanna Julber, Communications

*Additional Technical Expertise in cultural resources, wildlife biology, land use, transportation, hydrology, geotechnical analysis, and landfill site design and engineering.*



# Robust approach to Siting In-County





# Managing the Future of Solid Waste

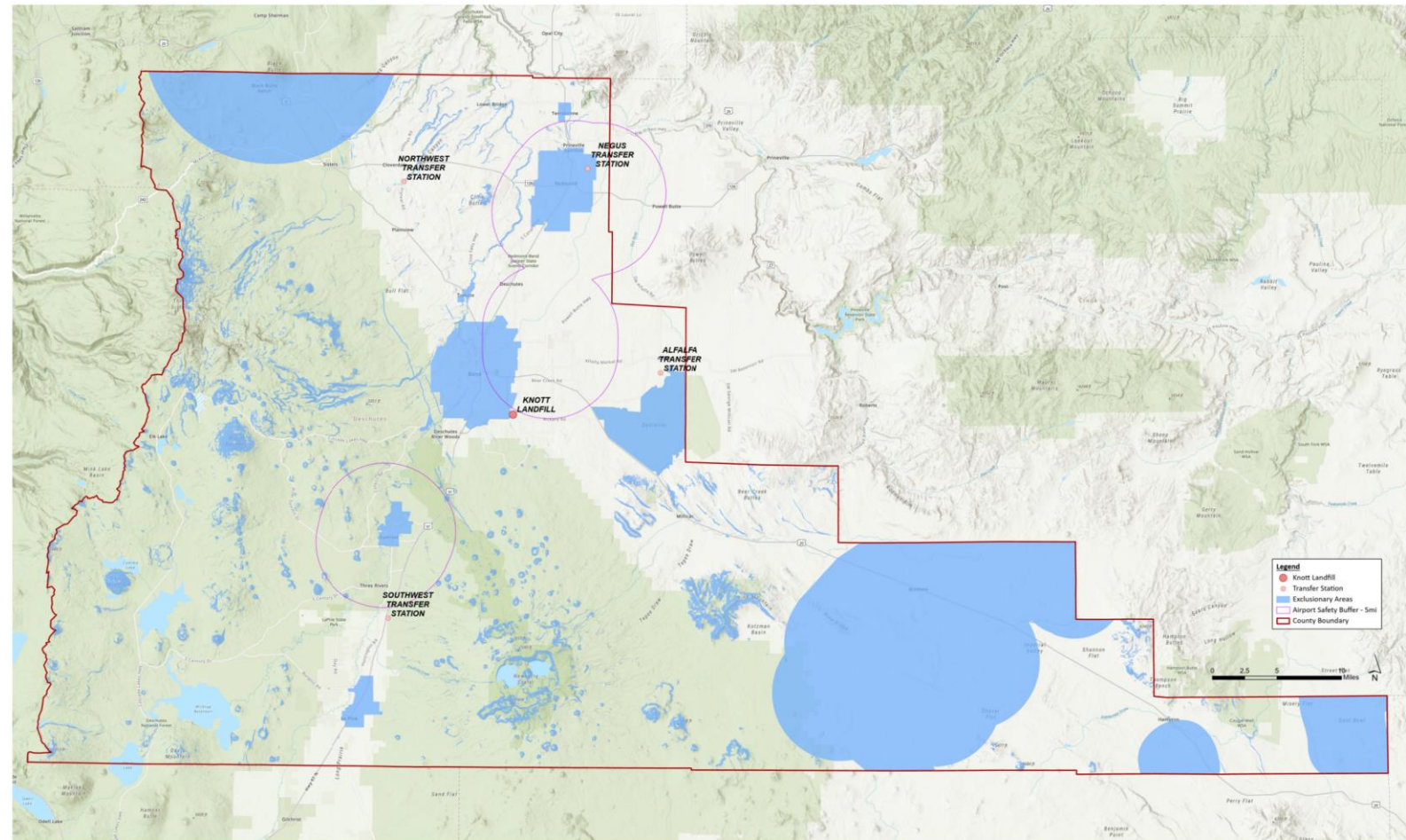
## 1 Countywide Screening of Exclusionary Areas

*Through a countywide review, we identified and screened out areas where it would not be feasible to permit and develop a new Solid Waste Management Facility due to federal and state regulatory restrictions.*

Areas excluded from consideration include:

- Locations within airport buffers (Airport Safety Buffer shown)
- Floodplains
- Steep slopes
- Core sage grouse habitat
- Urban growth boundaries
- Holocene fault zones

The map shows the combined exclusionary areas in blue.



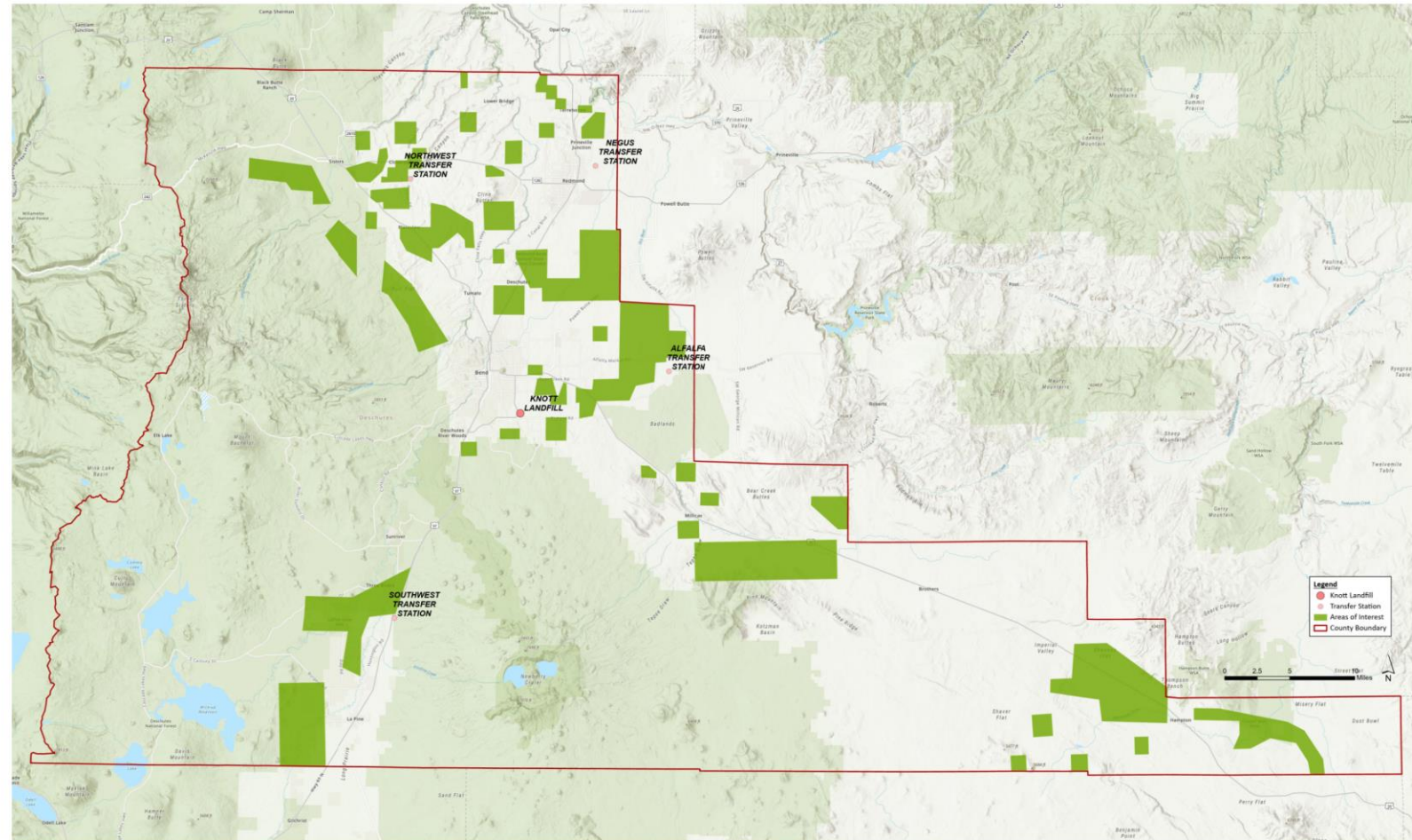


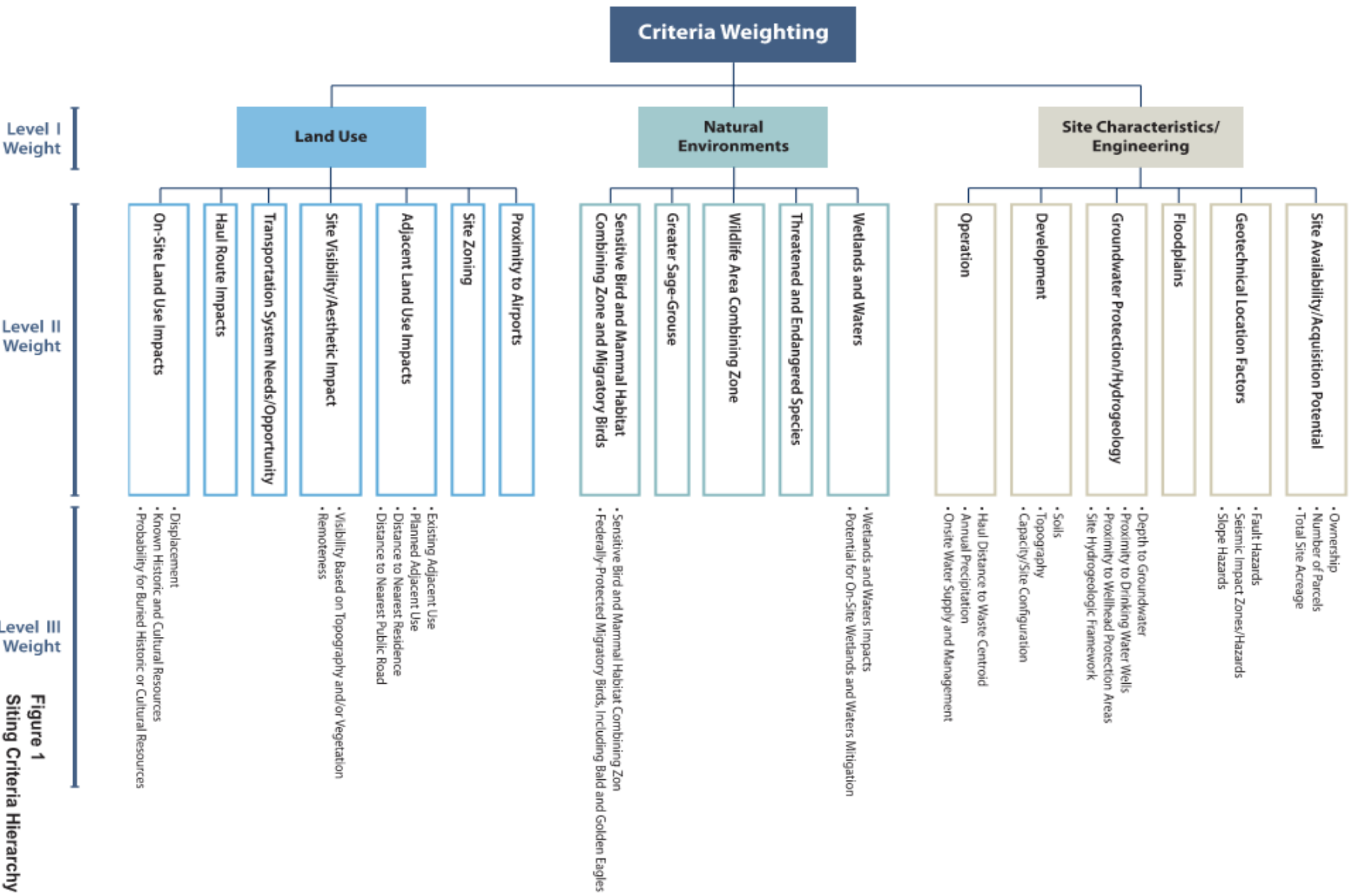
# Managing the Future of Solid Waste

## 2 Countywide Areas of Interest

*After eliminating the exclusionary areas, we identified areas of interest where it may be technically feasible to permit and develop a landfill.*

Areas of Interest are shown in green.





**Figure 1**  
**Siting Criteria Hierarchy**

Criteria	Level I Weight	Level II Weight	Level III Weight
<b>Site Characteristics/Engineering</b>	<b>35%</b>	<b>40%</b>	
<b>Site Availability/Acquisition Potential</b>			
<i>Ownership</i>			40%
<i>Number of Parcels</i>		20%	
<i>Total Site Acreage</i>		40%	
<b>Geotechnical Location Factors</b>		<b>10%</b>	
<i>Fault Hazards</i>			15%
<i>Seismic Impact Zones/Hazards</i>			20%
<i>Unstable Areas – Mass Movement</i>			25%
<i>Unstable Areas – Poor Foundation</i>			40%
<b>Floodplains</b>		<b>5%</b>	
<b>Groundwater Protection/Hydrogeology</b>		<b>20%</b>	
<i>Depth to Groundwater</i>			25%
<i>Proximity to Drinking Water Wells</i>			30%
<i>Proximity to Wellhead Protection Areas</i>			15%
<i>Site Hydrogeologic Framework</i>			30%
<b>Development</b>		<b>15%</b>	
<i>Soils</i>			45%
<i>Topography</i>			30%
<i>Distance from Arterials</i>			10%
<i>Capacity/Site Configuration</i>			15%
<b>Operation</b>		<b>10%</b>	
<i>Haul Distance to Waste Centroid</i>			50%
<i>Annual Precipitation</i>			25%
<i>Onsite Water Supply and Management</i>			25%



Criteria	Level I Weight	Level II Weight	Level III Weight
<b>Natural Environments</b>	<b>35%</b>	<b>10%</b>	
<b>Wetlands and Waters</b>			
<i>Wetlands and Waters Impacts</i>			50%
<i>Potential for On-Site Wetlands and Waters Mitigation</i>			50%
<b>Threatened and Endangered Species</b>			<b>20%</b>
<b>Wildlife Area Combining Zone</b>			<b>10%</b>
<b>Greater Sage-Grouse Area Combining Zone</b>			<b>40%</b>
<b>Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds</b>			<b>20%</b>
<i>Migratory Birds, Including Bald and Golden Eagles</i>			50%
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>			50%
<b>Land Use</b>	<b>30%</b>	<b>15%</b>	
<b>Proximity to Airports</b>			
<b>Site Zoning</b>			<b>20%</b>
<b>Adjacent Land Use Impacts</b>			<b>20%</b>
<i>Existing Adjacent Use</i>			25%
<i>Planned Adjacent Use</i>			25%
<i>Distance to Nearest Residence</i>			25%
<i>Distance to Nearest Public Road</i>			25%
<b>Site Visibility/Aesthetic Impact</b>			<b>10%</b>
<i>Visibility Based on Topography and/or Vegetation</i>			50%
<i>Remoteness</i>			50%
<b>Transportation System Needs/Opportunity</b>			<b>5%</b>
<b>Haul Route Impacts</b>			<b>5%</b>
<b>On-Site Land Use Impacts</b>			<b>25%</b>
<i>Displacement</i>			40%
<i>Known Historic and Cultural Resources</i>			30%
<i>Probability for Buried Historic or Cultural Resources</i>			30%



# Managing the Future of Solid Waste

## 3 Broad Screening Evaluation

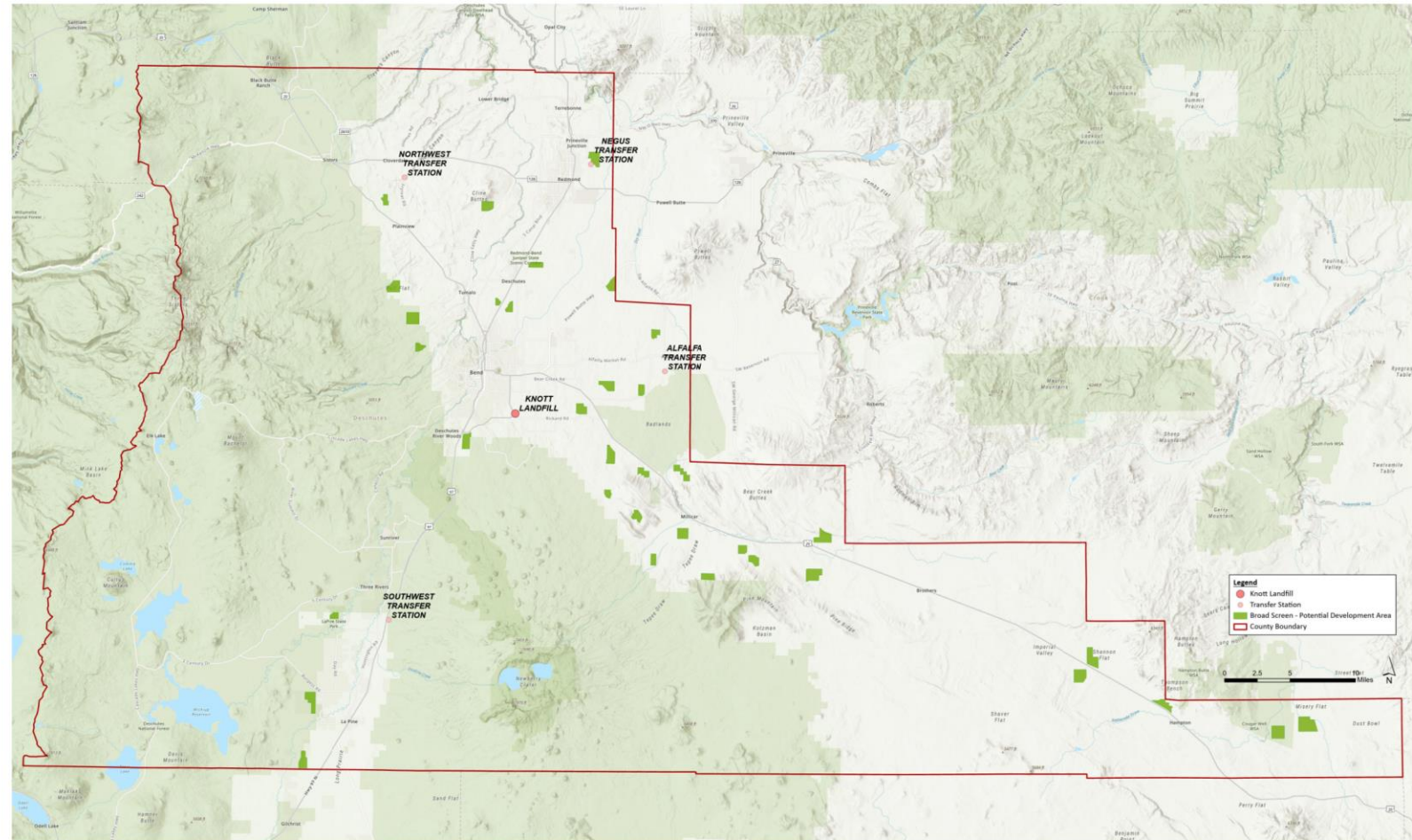
*We identified 31 potential sites for further study in the areas of interest that had no known fatal flaws, sufficient acreage, and adequate buffers for a Solid Waste Management Facility.*

Within the areas of interest, the County identified 31 potential sites for broad screening. These were sites with:

- No known fatal flaws
- Sufficient acreage to accommodate a Solid Waste Management Facility
- Adequate buffers to adjacent properties and wells

The County evaluated these 31 sites using technical analysis and the siting criteria and eliminated sites that were less suited to landfill permitting and development.

These sites are shown in green.





# Managing the Future of Solid Waste

## 4 Focused Screening Evaluation

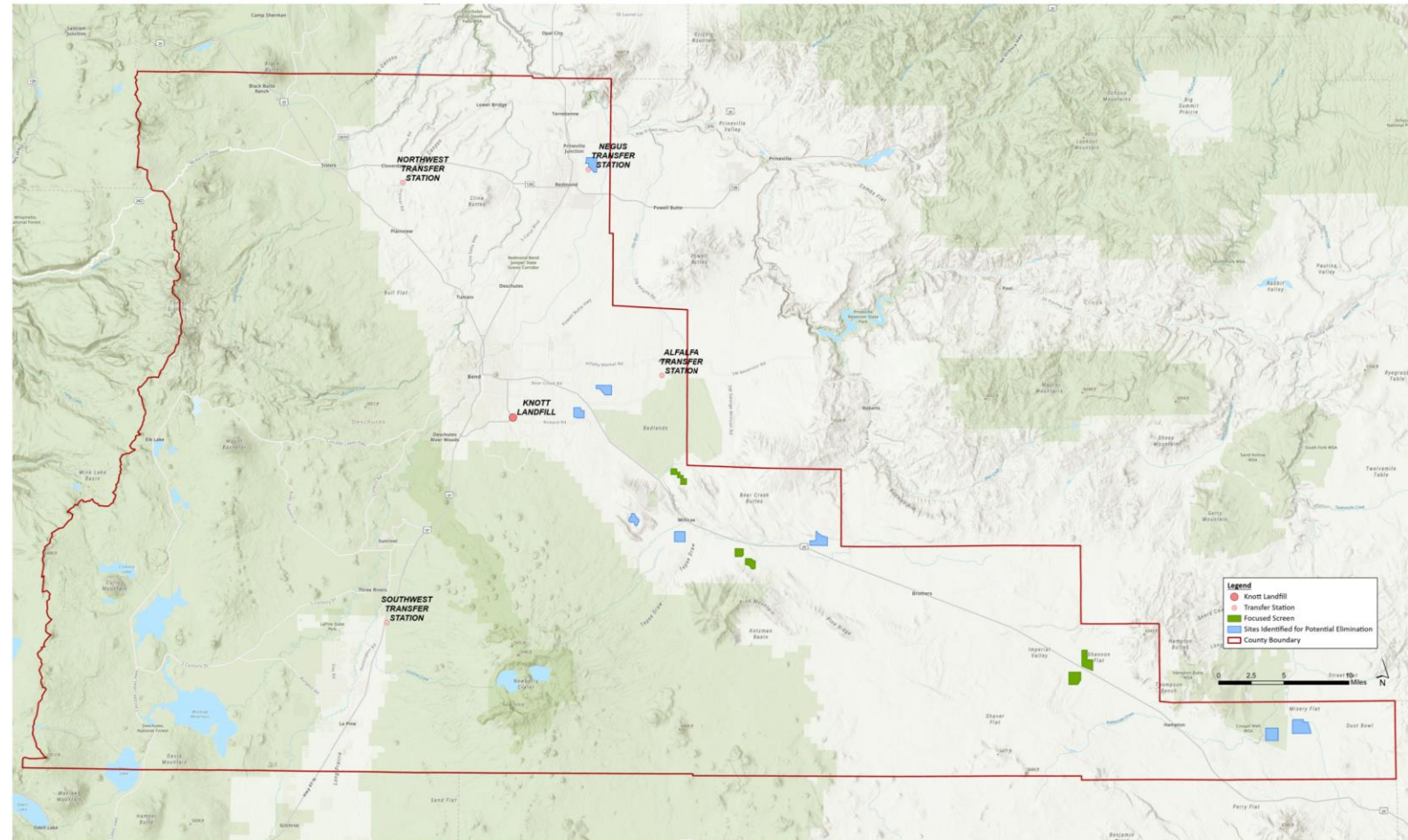
*Through detailed technical analysis, the 31 sites were narrowed to a list of 12, one site was added, and eight removed from consideration resulting in a list of five potential sites.*

After identifying 12 potential sites, an additional site near Millican was added to the focused screening evaluation.

Three of these 13 sites were removed because of recommendations from the Federal Aviation Administration. Another five sites were removed due to property owner requests and other practical flaws.

The remaining five candidate sites shown in green were analyzed and compared in terms of:

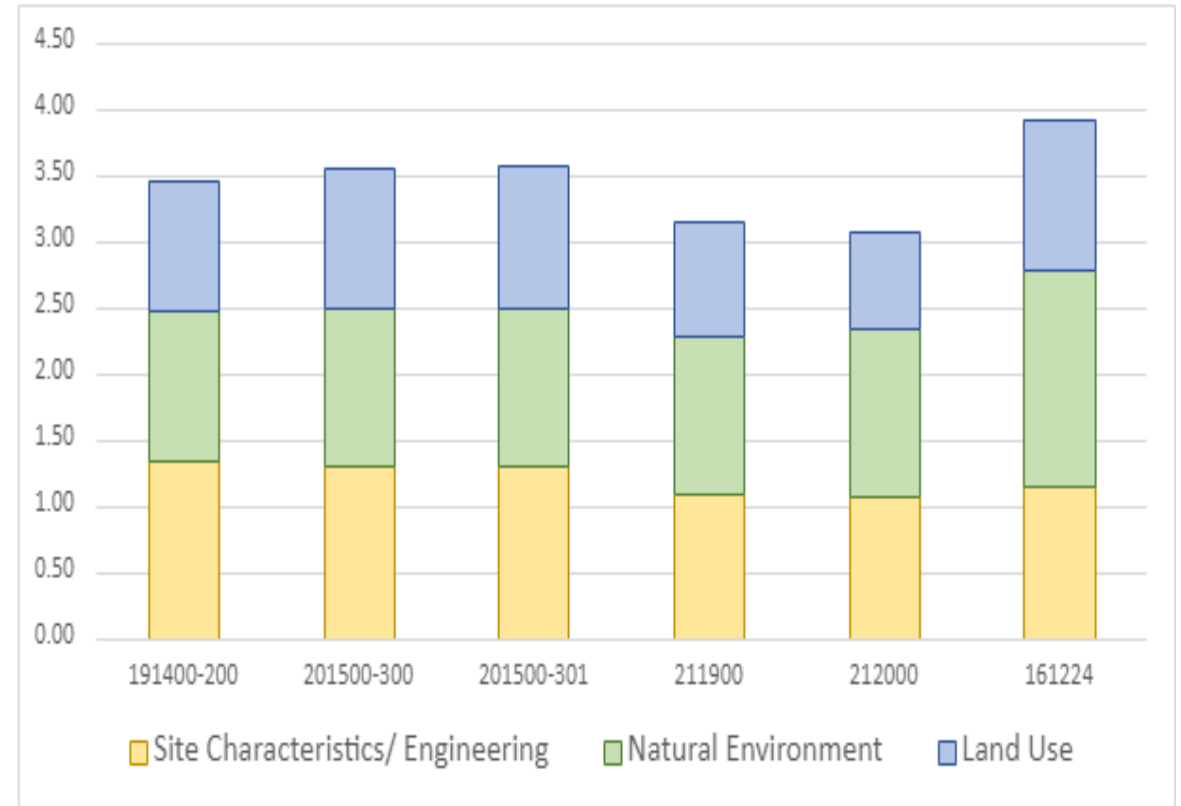
- Landfill siting criteria
- Qualitative cost factors
- Proximity to residences





# Focused Site Scoring Results

Site ID	Site Name	Site Characteristics / Engineering	Natural Environment	Land Use	Total Weighted Site Score:
		35%	35%	30%	
191400-200	Moon Pit	3.76	2.80	3.30	<b>3.29</b>
201500-300	Roth West	3.72	3.00	3.53	<b>3.41</b>
201500-301	Roth East	3.72	3.00	3.63	<b>3.44</b>
211900	DSL South	3.10	3.00	2.93	<b>3.01</b>
212000	DSL North	3.08	3.20	2.45	<b>2.93</b>
161224	HWY 97 BLM	3.26	4.70	3.78	<b>3.92</b>





# Comparative Cost Factor Analysis

Cost Factor Weighting:		30%	25%	15%	15%	15%	
Site ID	Site Name	Excavation Costs	Haul Costs	Road Infrastructure Costs	Power Infrastructure Costs	Water Infrastructure Costs	Weighted Average
191400-200	Moon Pit	5	4	5	1	5	<b>4.15</b>
201500-300	Roth West	3	3	3	3	1	<b>2.70</b>
201500-301	Roth East	4	3	3	3	1	<b>3.00</b>
211900	DSL South	1	1	2	4	1	<b>1.60</b>
212000	DSL North	2	1	4	5	1	<b>2.35</b>
161224	HWY 97 BLM	1	5	3	5	1	<b>2.90</b>

Each site was given a score of 1 to 5 with respect to each cost factor, where 1 represents the *highest* cost and 5 represents the *lowest* cost.

As a result, the sites with higher weighted total scores are anticipated to be relatively less expensive to develop and operate, while the sites with lower weighted total scores are anticipated to be relatively more expensive to develop and operate.

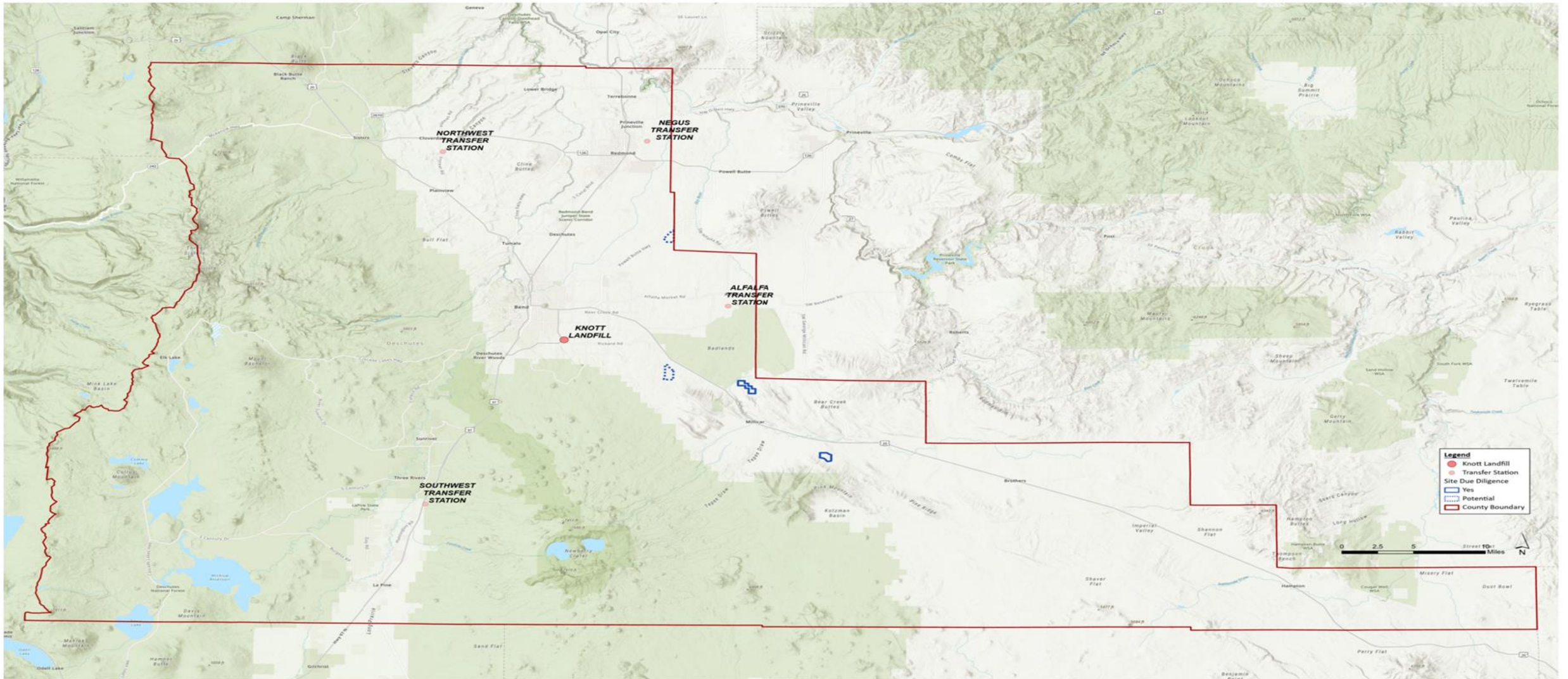


# Residential Proximity Analysis

<b>Site ID</b>	<b>Site Name</b>	<b>Known Residences within 1 Mile</b>	<b>Known Residences within 2 Miles</b>
191400-200	Moon Pit	0	1
201500-300	Roth West	3	26
201500-301	Roth East	2	8
211900	DSL South	0	1
212000	DSL North	2	3
161224	HWY 97 BLM	50+	300+



# Two Sites For Final Evaluation





# Moon Pit Site







# Roth – East Site

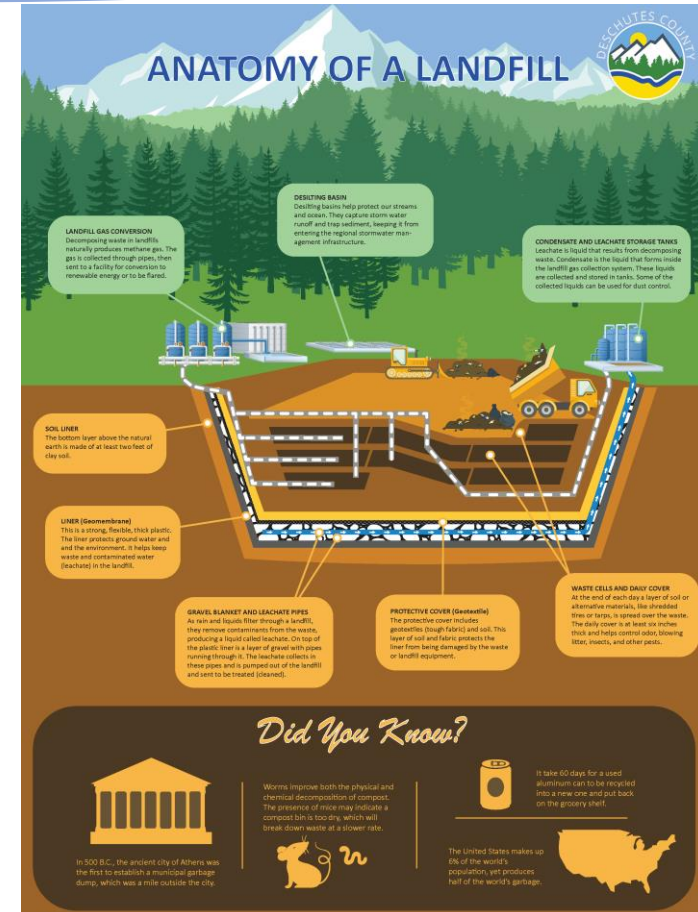




# Final Site Evaluations: Progress Updates

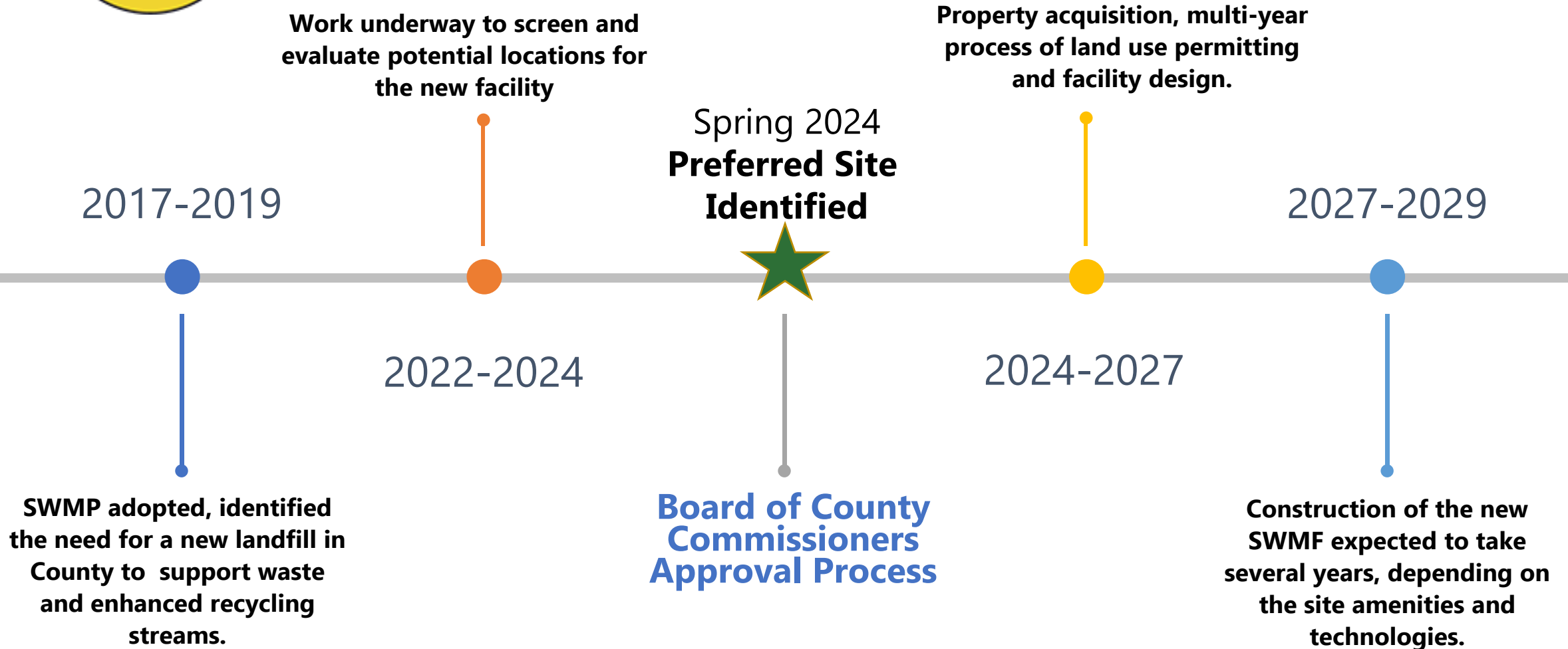
SWAC recommended further study of Moon Pit & Roth East Sites in June 2023. Updates:

- Drone survey complete
- Conceptual design for each site has begun
- Additional field work is being scheduled:
  - Geophysical survey
  - Geotechnical drilling
  - Cultural resources fieldwork
  - Natural resources field work
  - Transportation onsite assessment





# Roadmap to Opening in 2029





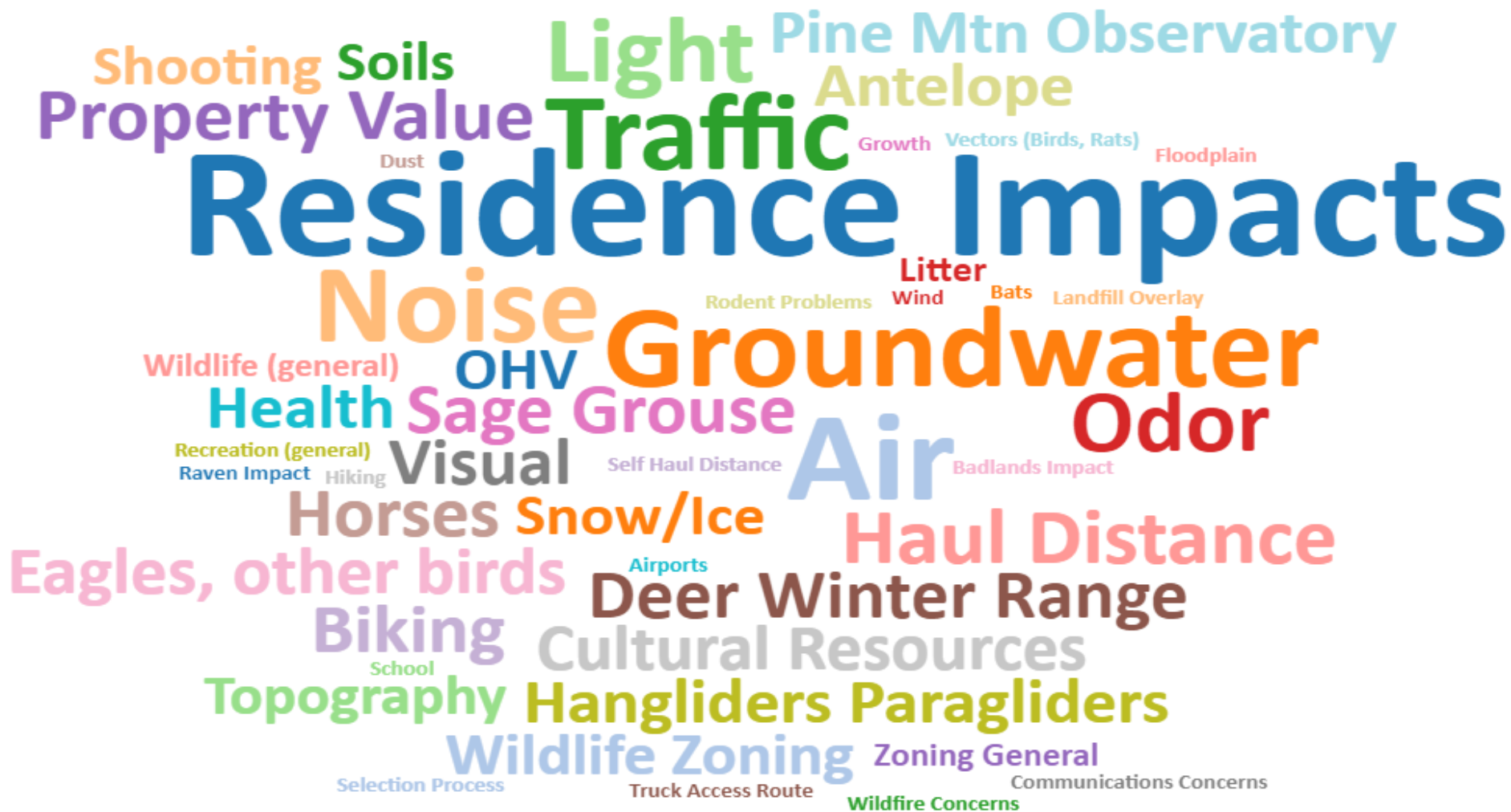
# Public Outreach Goals



- Be transparent
- Share information Countywide
- Engage underrepresented communities
- Listen and provide opportunities for feedback throughout the siting process
- Use multiple engagement tools and methods



# Public Comment Overview (regarding all sites)





# Questions & Comments

