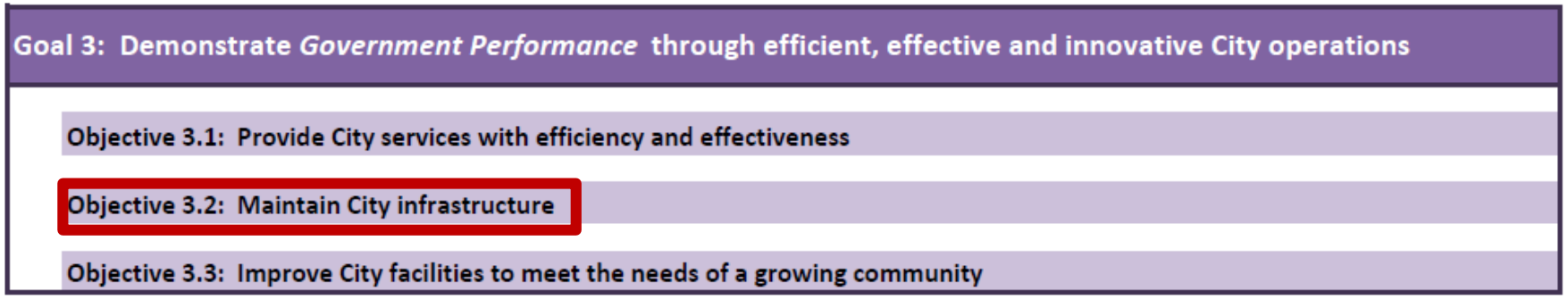
A RESOLUTION RECOMMENDING A PREFERRED ALTERNATIVE LOCATION FOR THE CITY'S WASTEWATER TREATMENT PLANT

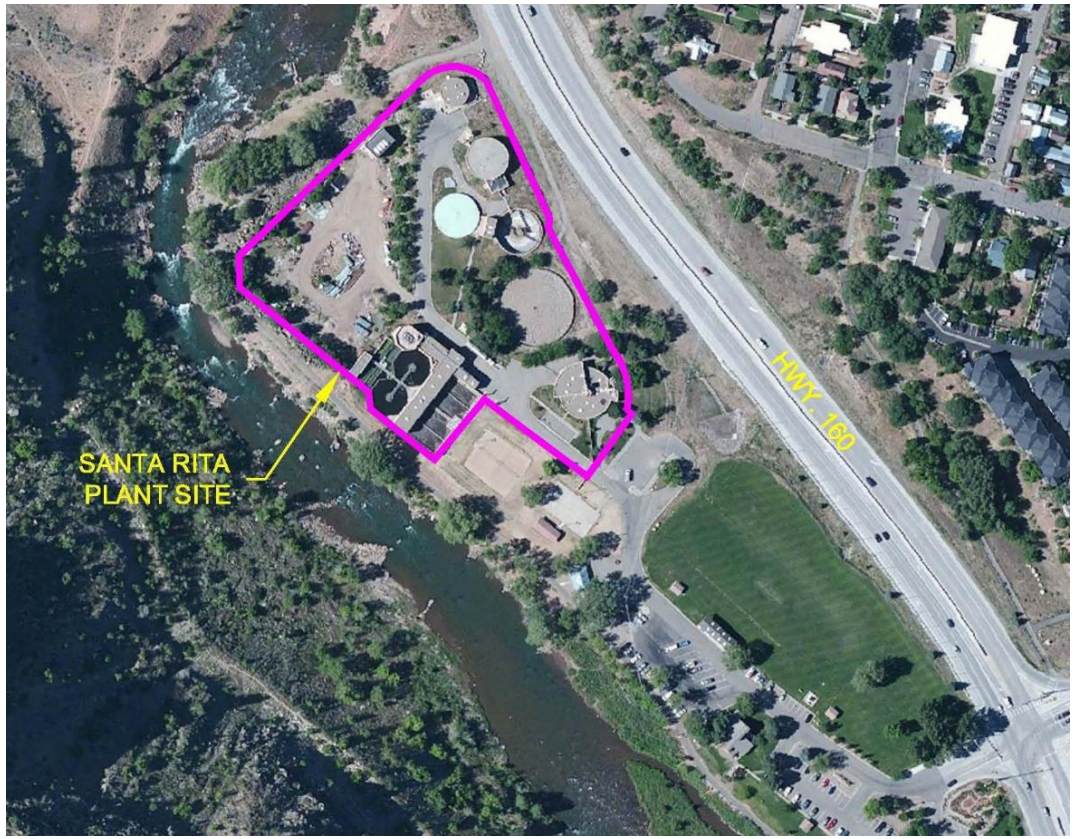
Feasibility

- ✓ Functionally feasible
- ✓ Financially feasible
- ✓ Politically feasible



Two biggest complaints

1. Odors
2. Use the land where the plant is located to expand the park



Odors

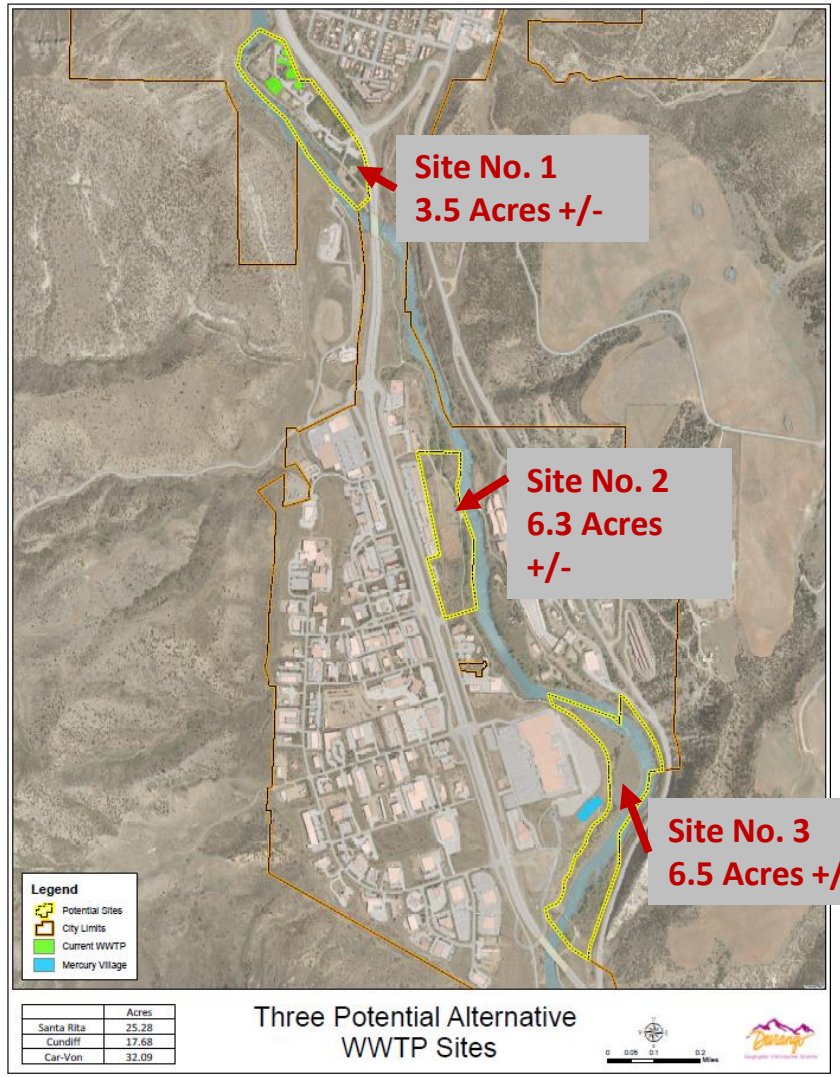
- ✓New treatment plants are designed with odor control
- ✓A significant portion of the odors from the current plant are caused by the lack of redundancy
- ✓The last time the digester was removed from service for maintenance that is resulted in significant odors and many complaints
- ✓With two digesters and odor control, the upgraded WWTP should be able to drastically reduce odor impacts when removing a digester from service for maintenance

March 3rd City Council Meeting: Staff Reviewed the Utilities Commission's Proposed Alternative Sites

Site No.1: South Santa Rita Park

Site No. 2: Cundiff Park

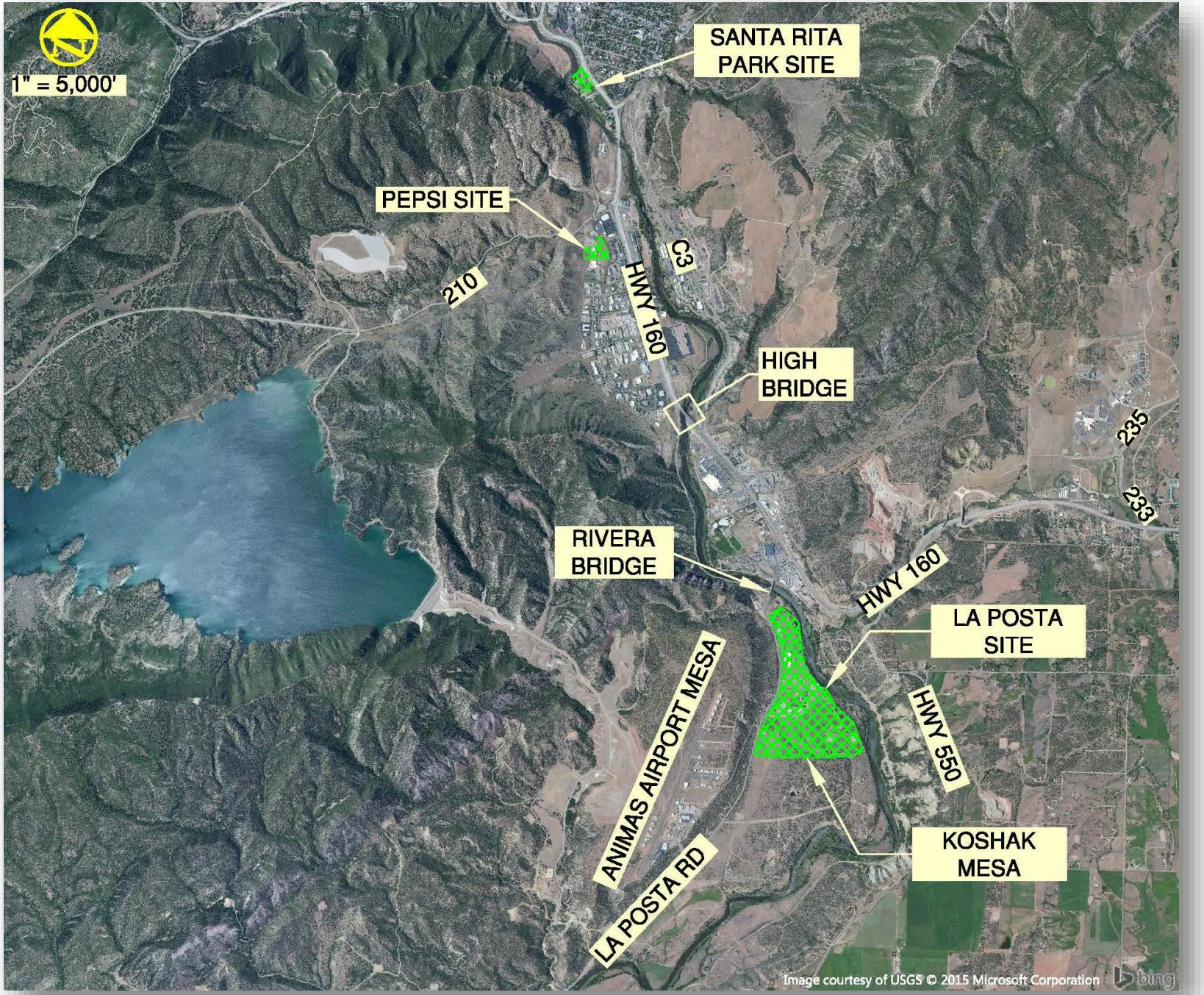
Site No. 3: Mercury Village Dedicated Open Space



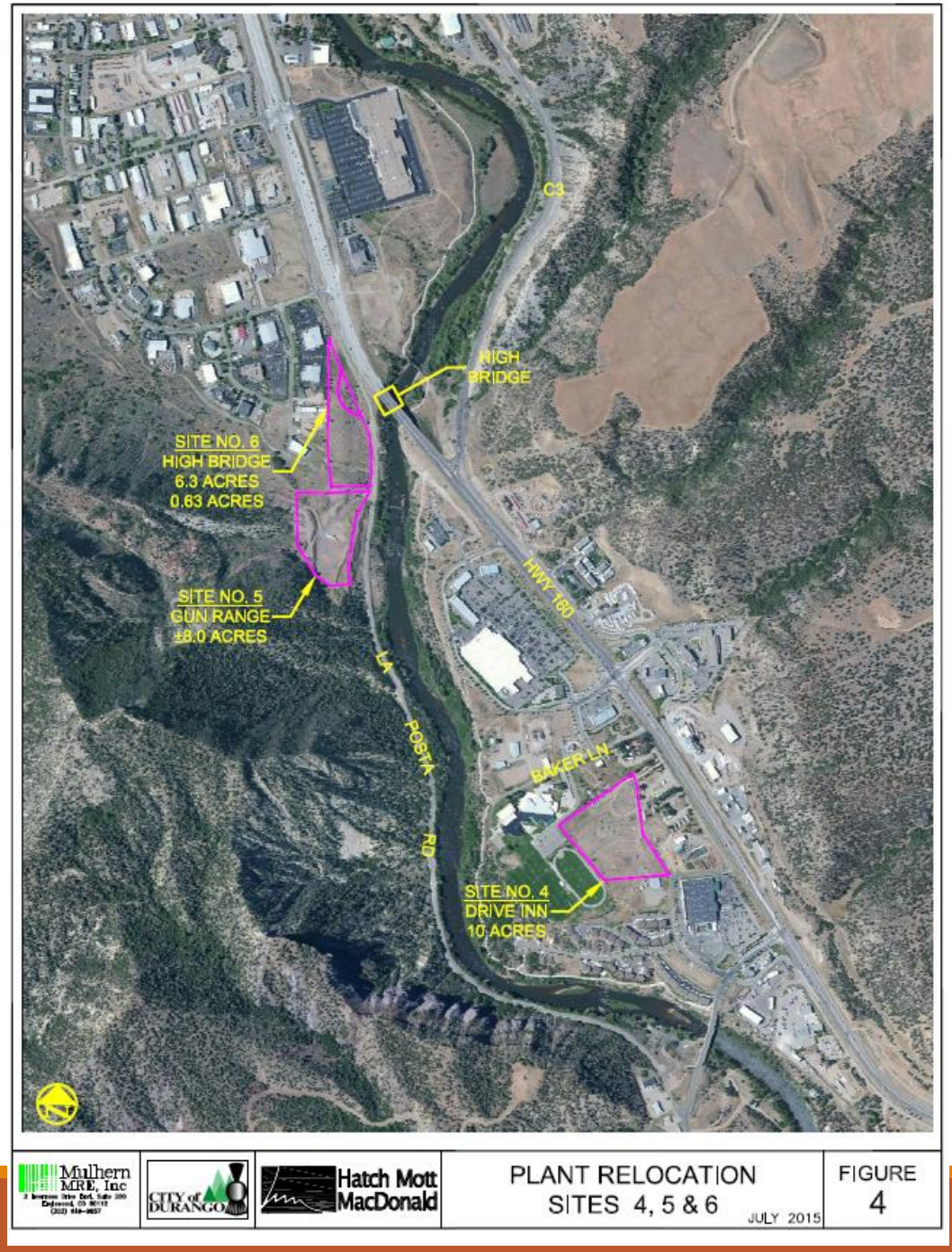
Site No. 4: Private Site

Mulhern Santa Rita Wastewater Treatment Plant Alternative Site Investigation

March 10th & April 14th Study Sessions: City Council Directed the City Manager to Commission an Alternative Site Analysis with a focus on sites located below the high bridge.



Reducing the plant site area may open additional sites for consideration. Mulhern has reviewed other sites located above the high bridge. The available sites are in developed areas where there is likely to be significant opposition to a plant and a concern with impact to property values.



Expand Santa Rita Park

Under every scenario, several buildings and facilities will remain on site

Who will pay for the demolition?

- Sewer Fund (sewer rates)
- Parks and recreation (sales taxes)

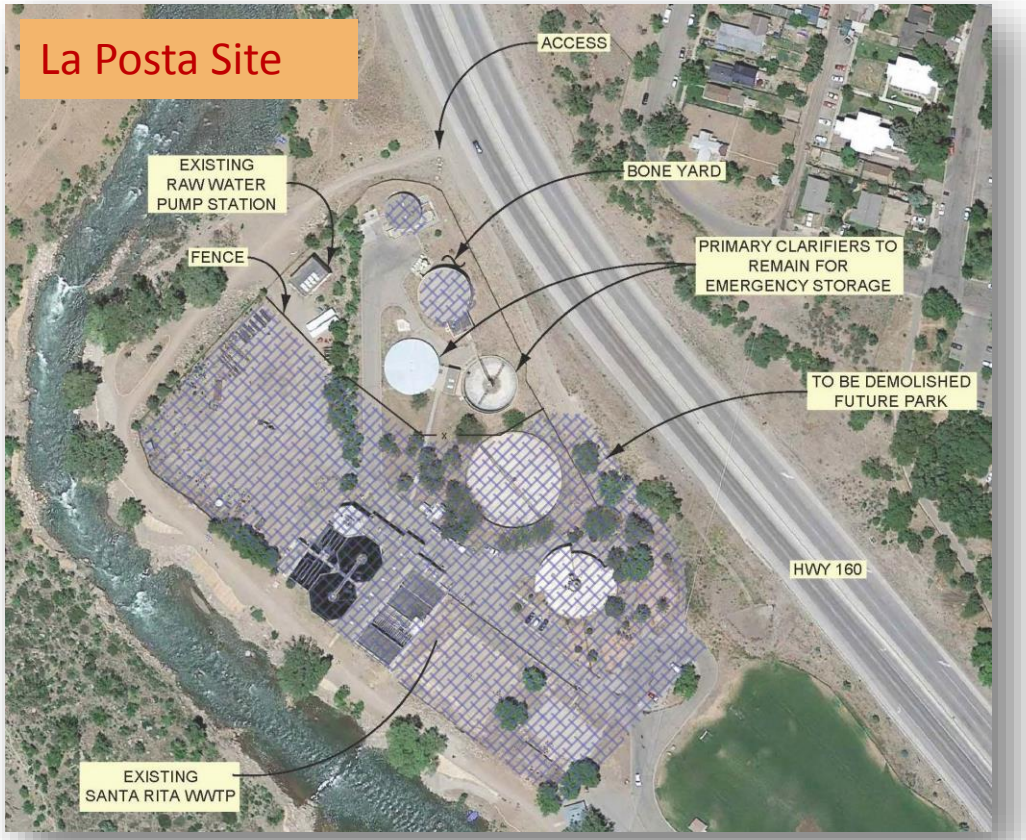
Expand Santa Rita Park

How many additional soccer fields? Sand Volleyball Courts?

Ewing Mesa

- Potential for recreation complex

Marginal $$ Argument



Q & A: August 12, 2015 Public Meeting

- Can the plant be relocated across the Animas River to the north portion of the Smelter Site (Dog Park Area)?
- Can the plant be relocated across the River to the Animas La Plata Pumping Plant Site?
- Can the plant be downsized to reduce costs and open up additional potential sites above the High Bridge?
- Should credit be given in the cost evaluation for land that is reclaimed at the Santa Rita Site with relocation of the plant?
- What about South Durango?

Durango Off Leash Area

- Dog Park, Smelter Mountain
- 26 acres
- Disposal of Park Land May Require a Public Vote

Durango Off Leash Area (continued)

UMTRA (Uranium Mill Tailings Remedial Act)

- Tailings were removed
- Site also contains buried slag (waste separated from during the smelting process)
- New construction and/or excavation, or soil removal requires permission from CDPHE and DOE and radon mitigation
- If granted, new construction will require considerable grading and excavation for the development of the treatment plant facilities
- Grading and excavation for underground piping, tankage, building footings/subgrade preparation could result in exposure to, or release of contaminants, and potentially a requirement for further clean up

Further investigation of this site would be required to determine whether it is feasible to develop the site without disturbing contaminated areas

Durango Off Leash Area (continued)

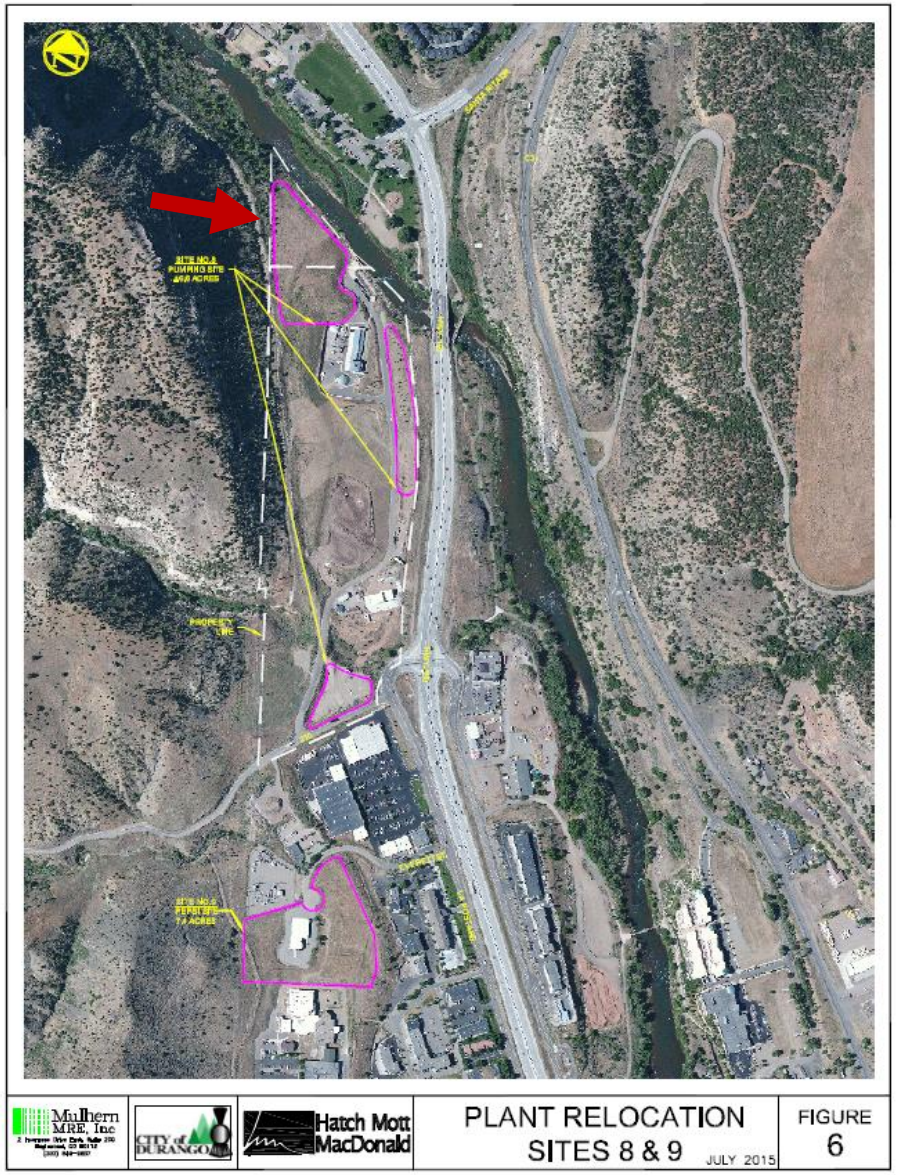
- Discharge of effluent return flows above the rapids and whitewater park may not be desirable
- Discharge of effluent would be above the intake for Lake Nighthorse
- Need for piping the discharge below the Lake Nighthorse intake
- New bridge needed to access the site
- CDOT access permit

Durango Off Leash Area (continued)

- Location remains adjacent to recreation uses and visible to highway traffic
- Location is closer to downtown
- Location is within sight distance of hotels

Animas La Plata Pumping Plant Site

- Insufficient contiguous acreage for the plant outside of the boundaries of the maintenance easement identified for the pumping plant and pipeline.
- Modifying the easement requires approval of the Animas La Plata Water Conservancy District, the Animas La Plata Operation Maintenance and Replacement Association and the US Bureau of Reclamation.
- Even with a modified easement, no more than 6.5 contiguous acres could be available

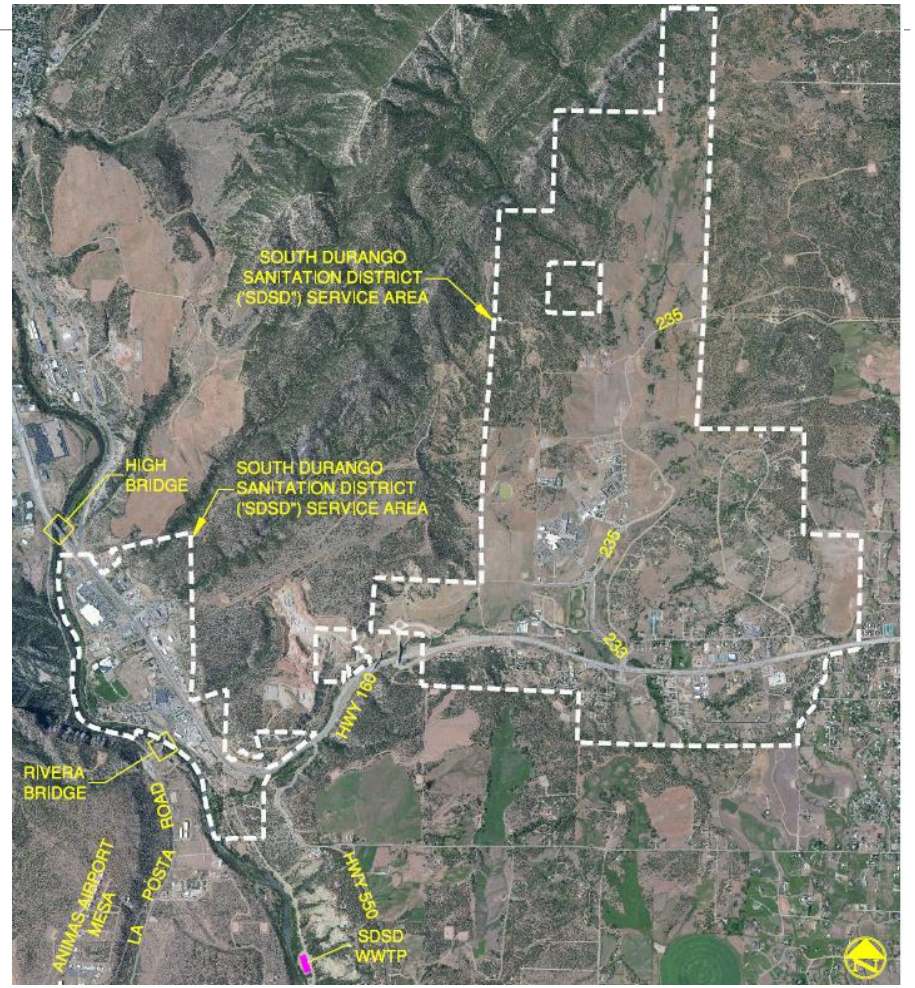


ALP Pumping Plant Site (continued)

- Site has topographical challenges
- Substantial grading and removal of material would be required which raises the possibility of encroaching into contaminated areas.
- A failure in the 72 inch pipeline on this site could significantly damage water treatment plant structures
- Site remains on the river corridor and visible to highway traffic
- Not a viable alternative

South Durango Sanitation District Plant Site

- The site is poorly suited for a WWTP of the necessary size due to the topography.
- Much of the area south of the High Bridge is currently served, or service is available from, South Durango Sanitation District
- SDSD is using 35% of its available capacity. It has capacity to serve the La Posta Road Area and additional development that may occur south of the high bridge



WWTP Size – 20 Year Planning Horizon

- Durango – 3.28 MGD and 26,294 people served (125 gallon/capita)
- Fort Lewis College
- Tourist Destination
- 30+ hotels, 1,604 hotel rooms
- Daily population, 34,000

WWTP Size – 20 Year Planning Horizon (cont.)

- The proposed plant will be designed for a capacity of 3.28 MGD and 7825 ppd BOD5
  - 9.3 % increase in flow
  - 30% increase in load
- 20 year planning horizon (SRF and CDPHE require a 20 year planning horizon)
- This is down from 4.04 MGD and 9,606 ppd BOD5

Over the past 6 months, the WWTP has treated between 4100 and 5900 ppd BOD5 (68% & 98% of the WWTPs rated capacity).

WWTP Size

Population is not the only consideration

- Daily population fluctuations
- Maximum daily flows/loads
- Peak hour flow (325% based on historical data)
- Composition and strength of waste

Biggest challenge: BOD and nitrogen load from winter weekend festivals (short duration and high load)

WWTP Size

- Population estimates are intended to be conservative
- Marginal cost of making a plant larger initially is much less than the cost of expanding capacity in the future
- The $58 million improvement to Santa Rita Plant addresses both nutrient removal and expanded capacity
- Treatment Plants are designed for both hydraulic capacity and biological loads and it is the biological load that is currently driving expansion of the plant
- It is a not correct assumption that the plant is only at half of the ultimate capacity today. Instead the current plant is pushing the limits of treatment for what was designed as a 3 MGD plant.

WWTP Size

- If the plant were downsized by say 20%, it would not result in a proportional reduction in plant size or plant cost. Instead it is more likely that it would result in closer to a 10% reduction in size and cost.

Capital Costs for Alternative Treatment Plant Locations

Alternative	Treatment Plant Cost	Lift Station Costs	Conveyance Pipelines	Land	Total Project Cost
Santa Rita	$58,194,000				**$58,194,000**
La Posta	$62,370,000	$5,010,000	$20,511,000	$5,857,000	**$93,748,000**
Off-River	$63,110,000	$5,010,000	$7,320,000	$3,833,000	**$79,273,000**

WWTP Size

- It does not make sense to reduce the plant size for the amount of cost savings and risk that future loadings or new regulatory requirements cannot be accommodated on a smaller site.
- If you are going to the expense of moving the plant site, you do not want to limit the ability to respond to future treatment requirements because of too small a site.

WWTP Size

- *Louisville WWTP - 2.5 MGD capacity will serve a population of 23,000 people. (109 gal/capita)*
- *Superior WWTF - 1.75 MGD and will serve a population of 17,000 people. (103 gal/capita)*
- *Northglenn WWTP - 6 MGD and will serve a population of 41,000 people (146 gal/capita)*
- *Greeley – 14.7 MGD and serves a population of 96,000 (student population of 12,000) (153 gal/capita)*
- *Evans – 2.88 MGD and will serve population of 25,000 people. (115 gal/capita)*
- *Erie – Two WWTPs with combined capacity of 3.6 MGD and will service 34,000 people. (106 gal/capita)*
- *Vail – 2.5 MGD and serves a population of 7,000 people (significant tourism contribution) (357 gal/capita)*
- *Avon – 4.3 MGD and serves a population of 15,000 people (significant tourism contribution) (286 gal/capita)*
- *Edwards – 2.95 MGD and serves a population of 10,000 people (significant tourism contribution) (296 gal/capita)*

More Information

Visit: www.durangogov.org/utilities