Jordan River & Midvale Slag Beneficial Use

Presented by

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History of Midvale Slag

446-acre is located 12 miles south of Salt Lake City
1871-1958 Smelters and Mineral Processing
History of Midvale Slag

Treated ores from Bingham Canyon and other mines
Lead and arsenic were primary products
1984 - Studies determine groundwater and soils are contaminated with metals
1990 - EPA initiated cleanup actions to address immediate threats at the site
1991 - Listed on EPA National Priorities List (NPL)
2006 - EPA issued ESD that changed land use restrictions to accommodate multiple land use and created an approach for riparian management
2008-EPA hires USGS:

- Create a 2D model to evaluate the river’s velocities and also where the river is constrained, eroding, and migrating out of current channel
- Borehole sample map to avoid pockets of slag during construction
EPA replaced damaged sheet pile dam

- 2008-Sheet pile dam was dangerous and replaced with a grouted boulder structure
- 2008-Three spur dikes installed east (Midvale) bank of river to redirect flow to away from bank
- 2009-Secondary high flow channel created due to scouring from high flows
Sheet Pile Dam

Grouted boulder structure becomes a kayakers recreational amenity

Midvale Slag
Beneficial Use
Sheet Pile Dam-Grouted Boulder Structure

2010 and 2011- High Flows cause damage to the grouted boulder structure
Sheet Pile Dam-Grouted Boulder Structure

2014-Grouted boulder structure repaired with two added cross-veins to aid in navigability
2009-EPA installed two design build box culverts to increase holding capacity of river
Ecosystem Restoration

SALT LAKE COUNTY WATERSHED PLANNING AND RESTORATION PROGRAM
PHASE III ECO SYSTEM RESTORATION -
6400 South to 7200 South

Winchester Estates Reach

7200 S. Apartments Reach

Midvale Slag
Beneficial Use
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Ecosystem Restoration
Emergent Bench

RIPARIAN PLANTINGS

EXISTING RIVER BANK

RIVER

EMERGENT/WILLOW
WIDE BENCH

3:1
TRANSITION SLOPE

EXISTING GRADE

EROSION CONTROL BLANKET

ROCK TOE

25° - 30°
Ecosystem Restoration Challenges and Opportunities

Minimal excavation due to regulated material

- **USGS Borehole map** to determine where could excavate
- **Toe protection and RipRap in areas unable to excavate**
Highly Managed River

- Utah Lake Compromise (1985)
- Tributaries
- Canals
- Point Sources
- Stormwater (MS4)
- Nonpoint Sources
- Diversions
- Multiple jurisdictions and entities
Ecosystem Restoration
Challenges and Opportunities

Vegetation Establishment
- Drip Irrigation
- Native upland and riparian vegetation
- Weed mapping and mitigation

- Soil Survey
- Beaver fencing
Ecosystem Restoration
Drop Structure Site - Emergent Bench

During Construction

Revegetation

Midvale Slag
Beneficial Use
Ecosystem Restoration
Drop Structure Site - Emergent Bench

May 30 2013
July 17 2014
Midvale 4th Grade Stewardship Project
Midvale 4th Grade Stewardship Project

During Construction

2008 - 2009
Midvale 4th Grade Stewardship Project

Clean up after your pets.

Keep our Earth Clean.
Wash your cars in the grass or at a car wash. Clean up after your pets. These things will help the water animals, our environment also be clean.
Development of Site

Midvale Slag Beneficial Use
Recreation on the Jordan River

Midvale Slag
Beneficial Use
Recreation on the Jordan River

Photo Courtesy of Jordan River Commission

Photo Courtesy of City Weekly

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Questions?

thank you!