



On this day, September 30, 2004,
the U.S. Environmental Protection Agency (U.S. EPA)

Determines that the
Sharon Steel Superfund Site
Is Ready for Residential and Mixed Reuse

U.S. EPA Region 8 Assistant Regional Administrator
Office of Ecosystems Protection and Remediation

A handwritten signature in black ink, appearing to read "Mary H. Roberts", written over a horizontal line.

This Ready for Reuse (RfR) Determination is for the Sharon Steel Superfund site ("Site") owned by Jordan Bluffs, Inc. This RfR Determination provides that U.S. EPA has made a technical determination that the Site, located in the City of Midvale, Salt Lake County, Utah, is ready for residential and mixed reuse and that the Site's remedy will remain protective of human health and the environment, subject to operation and maintenance of the remedy and the limitations as specified in the Record of Decision (ROD), Explanation of Significant Differences (ESD), Site Management Plan (SMP), Five-Year Review, and Institutional Control Process Plan (ICPP), which have been summarized in the attached report, Ready for Reuse Determination, Sharon Steel Superfund Site, September 30, 2004. This RfR Determination remains valid only as long as the requirements and use limitations specified in the ROD, ESD, SMP, Five-Year Review, and ICPP are met.

Limitations on Site uses identified in the ESD include the following: the City of Midvale will periodically inspect covers and final barriers on the Site; prohibit water wells; repair covers and final barriers if the Property Owners Associations (POA) are unresponsive; enforce repair and collection of repair costs; review site plan applications and issue final site plan approval; review road-cut permit applications and issue permits; periodically inspect the Site during initial site development and post-development construction to ensure compliance with construction permits including air quality monitoring plans; oversee landscaping activities of POA (or similar entity); and verify that private covenants and deed restrictions for developments include the requirements of the ICPP relating to landscaping and excavation. The U.S. EPA and Utah Department of Environmental Quality (UDEQ) will continue to coordinate operation and maintenance activities; review and promptly approve amendments to the existing Operations and Maintenance Plan (if proposed); and review construction plans and documents as required by the Site Management Plan (SMP) for compliance with SMP and provide any relevant comments promptly. Following receipt and incorporation of comments the plans and documents will be considered final. EPA and UDEQ will provide oversight to monitor conformance with SMP for any activities which penetrate the Cap's synthetic membrane. The landowners and POA will control Site access as required by the Partial Consent Decree (PCD); enforce compliance with the ICPP; enforce compliance with provisions of construction permits, including air quality monitoring requirements; enforce compliance with the approved SMP; ensure that imported fill conforms with Midvale City Standards and Construction Specifications and the SMP; establish private covenants and deed restrictions requiring that future landowners comply with applicable requirements set forth in the ICPP; maintain and repair covers and barriers within their respective jurisdictional areas; prohibit disturbances of monitoring wells; oversee and enforce excavation and landscaping controls as required by the ICPP; and oversee maintenance of landscaped areas as required by the ICPP.

This RfR Determination is an environmental status report and does not have any legally binding effect and does not expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits of any party. U.S. EPA assumes no responsibility for reuse activities and/or for any possible or potential harm that might result from reuse activities. U.S. EPA retains any and all rights and authorities it has, including but not limited to legal, equitable, or administrative rights. U.S. EPA specifically retains any and all rights and authorities it has to conduct, direct, oversee, and/or require environmental response actions in connection with the Site, including but not limited to instances when new or additional information has been discovered regarding the contamination or conditions at the Site that indicate that the remedy and/or the conditions at the Site are no longer protective of human health or the environment for the types of uses identified in the RfR Determination. The landowner/POA are responsible for ensuring that any limitations specified in the ESD that might be affected by a particular use are complied with during the activity.

The types of uses identified as protective in this RfR Determination remain subject to (i) applicable federal, state, and local regulation, and to (ii) title documents, including but not limited to easements, restrictions, and institutional controls.

**READY FOR REUSE DETERMINATION
SHARON STEEL SUPERFUND SITE**

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I. Executive Summary

This Ready for Reuse (RfR) Determination is for Operable Unit 1 (OU1) at the Sharon Steel Superfund Site (“Site”) owned by Jordan Bluffs, Inc. The Site is 460 acres with two operable units addressed by U.S. EPA. OU1 is 260 acres and is considered to be the primary source of contamination. OU1 includes the currently undeveloped portion of the Site, and includes the former area of the mill facilities, processing plants, and outbuildings, in addition to the ten million cubic yard capped waste tailings pile. The western border of OU1 was extended to include a smaller 2.3-acre site on the western side of the Jordan River that once contained a smaller tailings pile. OU2 includes the eastern 200 acres of the Site, which are residential and commercial properties in Midvale City.

This RfR Determination is based on limitations and requirements established in U.S. EPA decision documents for the Site, including the Record of Decision (ROD), Explanation of Significant Differences (ESD), and Five-Year Review. U.S. EPA has made a technical determination that these parcels of land at the Site, located in the City of Midvale, Salt Lake County, Utah, are ready for residential and mixed¹ use and that the Site’s remedy will remain protective of human health and the environment, subject to operation and maintenance of the remedy and the limitations as specified in the ROD, ESD, Site Management Plan (SMP), the 2004 Five-Year Review, and Institutional Control Process Plan (ICPP), and as summarized in the text of this RfR Determination.²

Responsibility for ensuring implementation of the ICPP falls to landowners, property owners associations, and the City of Midvale. The U.S. EPA and Utah Department of Environmental Quality (UDEQ) will continue conducting operation and maintenance activities and will coordinate five-year reviews at the Site. The operation, maintenance, and monitoring requirements for the Site are to maintain the engineered cover and vegetation; maintain the drainage systems and erosion protection features; prevent the Jordan River from intruding into the site and eroding into the cap or tailings; control Site access, future development at the Site, and restrict the use of groundwater at the Site; and provide reports to document Site conditions including any problems, repairs, and/or development activities.

U.S. EPA has assessed the risk to human health and the environment resulting from contamination at the Site. During U.S. EPA’s investigation of the Site in February 1990, risk assessments of the human and environmental risks associated with residential uses at the Site were conducted. Unacceptable risks identified for the Site included human exposure to arsenic, cadmium, and lead through tailings, dust, and soils, and arsenic through groundwater. In its

¹ Mixed use, for the purposes of this document, refers to a wide range of future uses, including residential, office/commercial, business park/clean industrial, and recreational.

² A complete copy of the Institutional Control Process Plan (ICPP) is included as Appendix A to this RfR Determination. The specific details of the ICPP must be followed to ensure protectiveness. The controls have been paraphrased in this RfR Determination.

ROD, U.S. EPA selected response actions to manage and eliminate these risks. With the completion of the response actions required by the ROD, the Site has attained the CERCLA cleanup goals and remedial action objectives for the Site.

As a result, based on information available as of this date, U.S. EPA has determined that the unacceptable levels of risk to current and future users of the Sharon Steel Superfund Site have been abated for residential and mixed users. The Site is ready for residential and mixed use and the Site's remedy will remain protective of human health and the environment, subject to operation and maintenance of the remedy and limitations as specified in the ROD, ESD, SMP, 2004 Five-Year Review, and ICPP.

U.S. EPA Region 8 issued this Ready for Reuse Determination, effective September 30, 2004.

By: 

Max H. Dodson
Assistant Regional Administrator
Office of Ecosystems Protection and Remediation
U.S. Environmental Protection Agency, Region 8

Documents pertaining to the Site and the RfR Determination are part of the Administrative Record for the Site, which is available for review at the Utah Department of Environmental Quality, Division of Environmental Response and Remediation at 168 North 1950 West, Salt Lake City, Utah 84116 or the EPA Superfund Records Center, 999 18th Street, 5th floor North Terrace, Denver, Colorado 80202. Additional information can be obtained from Rebecca Thomas, the Site's Remedial Project Manager (RPM) for U.S. EPA, who can be reached at 303.312.6552 or thomas.rebecca@epa.gov or Elizabeth Yeomans, the Site's Remedial Project Manager for UDEQ, who can be reached at 801.536.4092 or eyeomans@utah.gov.

II. Site and Parcel Location

The Site is located 12 miles south of Salt Lake City, Utah, and is completely within the city limits of Midvale. Figure 1 provides a location map of the Sharon Steel Site. The Site encompasses approximately 460 acres and is divided into two operable units, OU1 and OU2. OU1 is approximately 260 acres and is considered to be the primary source of contamination. OU2 makes up the eastern 200 acres of the Site, which are residential and commercial properties in Midvale City. OU2 is bounded on the north by 4th Avenue (formerly 400 North Street), on the South by Fern Street (formerly 400 South Street), on the east by Chapel and Oak Streets (formerly 400 East Street) and on the west by Sharon Steel OU1. OU1 is bounded by the following: 7800 South Street on the north, the Jordan River on the west, 8600 South Street on the south, 700 West Street on the east, and Holden Street on the northeast. OU1 encompasses the entire land area of tax parcel number 21-35-400-015-4001. This RfR Determination is for OU1.

The Site is located in the Salt Lake Valley, a north-south oriented topographic feature bounded on the west by the Oquirrh Mountains and on the east by the Wasatch Range. The land south and west of Midvale is used primarily for agricultural and commercial activities; the land north and east of Midvale is mostly urban. The entire area is drained by the Jordan River, which provides cold water habitat for fish, but is primarily used for agricultural irrigation. Adjacent to the Jordan River are wetlands, which provide wildlife habitat to different species of birds and animals.

OU1 is defined by the former Sharon Steel property boundaries and is currently zoned by the City of Midvale as a specialized zone which recognizes its environmental status and provides opportunities for a wide range of uses as long as the protectiveness of the remedy is maintained. The Institutional Control Process Plan (Midvale City, May 2004) (ICPP) is contained in Appendix A to this RfR Determination. The ICPP establishes requirements to maintain protectiveness after redevelopment is completed. With redevelopment the Site will require the use of more diverse and complex institutional controls than originally planned in the OU1 ROD. Figure 2 shows the OU1 site map.

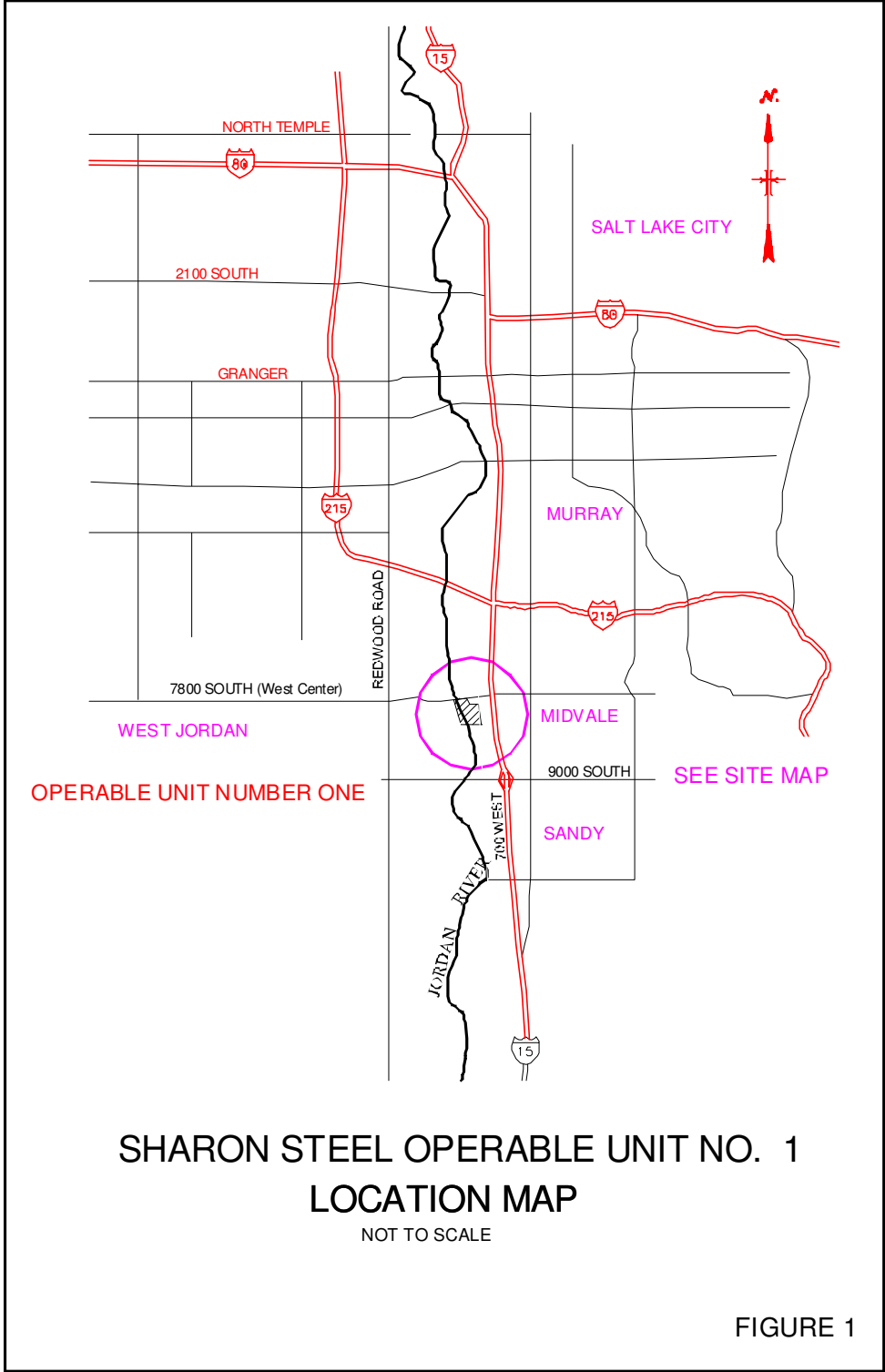


Figure 1: Sharon Steel OU1 Location Map

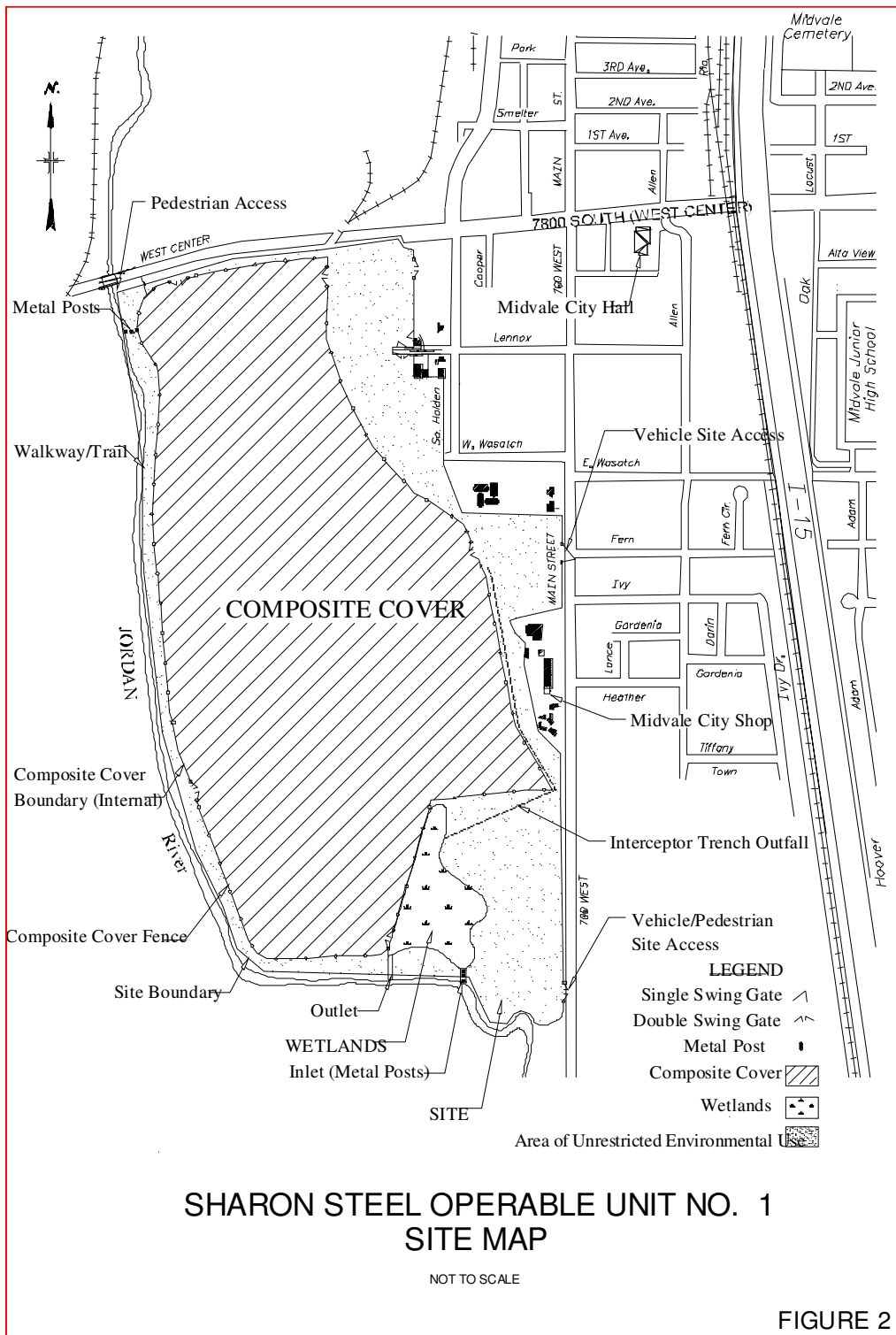


Figure 2: Sharon Steel OU1 Site Map

III. Site Summary

Site and Contaminant History

The Sharon Steel Superfund Site is a 460-acre site located in Midvale City, Salt Lake County, Utah. The Site was listed on the National Priorities List in February 1991. The consolidation of 10,000,000 cubic yards of tailings and contaminated soil and the subsequent capping of a portion of the 260-acre OU1 site took place from 1995 to the end of 1998. Figure 3 shows an aerial view of the OU1 site in 1999.



Figure 3: 1999 Aerial photograph, looking South

Shortly after the turn of the century in 1902, United States Mining Company started operation of their copper smelter south of and contiguous to the Bingham Consolidated Smelter located on the Midvale Slag property immediately north of Sharon Steel. In 1906, the United States Mining Company was acquired by United States Smelting, Refining and Mining Company (USSRMC). The Sharon Steel Site comprised the milling and ore processing portion of USSRMC. Byproducts of ore processing, with high levels of arsenic and lead from the milling operations, were transported from the processing plant to a waste tailings pile west of the mill, as well as to a 2.3 acre site on the west side of the Jordan River. The milling facilities operated for a period of approximately 65 years until 1971. The large smelter facilities were located on Midvale Slag,

and were shut down earlier in 1958. Sharon Steel Company signed an agreement to purchase the Sharon Steel Site in 1979 from the successors to USSRMC and took ownership in November 1981.

The milling operations involved receiving lead, copper and zinc ores, and extracting the sulfide concentrates of these metals through various techniques including froth flotation. The Sharon Steel facility also operated as a custom mill, receiving ores from many places and clients and concentrating and extracting a variety of metals according to the client's specifications. The wastes from the milling operations were disposed of in unconsolidated tailings piles on-site. The mill site included several mill buildings and eventually approximately 10 million cubic yards of tailings in uncovered piles up to 50 feet deep in places. The 260 acres comprising OU1 were contaminated by the accumulation of these mining wastes. Wind transport of tailings caused the contamination of OU2 from OU1 due to the prevailing north and south winds in the valley. Additional transport mechanisms thought to account for contamination of OU2 soils include the following:

1. Unsuspecting residents used the tailings for yard fill, sandboxes and gardens
2. Surface water transport of tailings onto OU2 from the tailings piles on OU1
3. Fallout of smelter emissions onto OU2 from smelter chimneys on the Midvale Slag OU2 site and/or the south chimney on OU1 of the former Sharon Steel Superfund Site
4. Deliberate placement of tailings and possibly other ore processing waste onto OU2 to sand roads in the area during snow or ice events

Investigations conducted by local, State, and Federal agencies from 1982 to 1990 determined that soils on the Sharon Steel property, as well as on nearby residential and commercial properties, had arsenic and lead concentrations at levels that posed unacceptable risks to residents. Several heavy metals were found in the shallow groundwater under the tailings, but arsenic was the primary metal of concern as it was the most mobile.

Description of Risks

Risk assessments were prepared for the Sharon Steel Superfund Site in 1990 as part of the remedial investigation. The risk assessment looked at risks before any remedial activities were completed at the Site. Risk calculations were developed for the following future use conditions:

1. Direct contact and incidental ingestion of site soils by an onsite resident assumed to be exposed both as a child and an adult;
2. Inhalation of wind blown particulates from the Site by an onsite resident;
3. Ingestion of home-grown produce by an onsite resident; and
4. Ingestion of groundwater by onsite and offsite residents.

The risk assessments indicated that the total excess lifetime cancer risk across all exposure pathways combined was 5×10^{-4} and 1×10^{-3} under current and future use conditions, respectively. The higher cancer risk estimates were associated with ingestion of dust and site tailings contaminated with arsenic, lead, and cadmium. Both current and future risks exceeded EPA's acceptable risk. The estimated excess lifetime cancer risks for the groundwater pathway, which had arsenic contamination, combined with the soils/tailings pathways for future scenarios based on current groundwater was 5×10^{-3} for the onsite scenario and 2×10^{-3} for the offsite scenario. While the future use of groundwater was not expected to occur, risks associated with use of groundwater were developed to show future risks if the selected remedy was not implemented. Both current and future risks exceeded EPA's acceptable risk.

Calculations assessing the non-cancer risks associated with exposure to arsenic and cadmium indicated that adverse health effects could occur. This is primarily due to exposures via tailings and dust ingestion under current use conditions and via dust ingestion under future use conditions.

The risk assessments indicated environmental receptors may be at risk from exposure to the contamination at OU1. Receptors that may have been harmed include vegetation, aquatic life and wildlife. Potential risks to the higher receptors in the food chain were the primary results of exposure to contaminated soil as well as contaminated surface water and sediments.

Summary of Cleanup Activities

Figure 4 shows a time line of U.S. EPA activities performed to date at the Sharon Steel Superfund Site. While the time line shows activities for both OU1 and OU2, the discussion of cleanup activities focuses on OU1.

Figure 4: Time Line of U.S. EPA Activities Performed to Date at the Sharon Steel Superfund Site

<i>Date</i>	<i>Event</i>
1906 - 1971	Ore processing and milling conducted at the Site.
1971	The USSRMC mill closes on Sharon Steel.
1979	The Sharon Steel Company agrees to purchase the property from UV Industries
1982	Salt Lake County Health Dept. and the Utah Dept. of Health (UDOH) are alerted to local residents use of mining tailings for sand box, garden and yard fill. Environmental investigations at the Site begun.
March 1983	UDOH and EPA conduct a preliminary assessment of the Site.
June 1986	The U.S. EPA proposes listing the Site on the Superfund's National Priorities List (NPL).
Fall 1989	EPA decides to divide the Site into two Operable Units, OU1 and OU2.
1990	A Removal Action occurs to fence the Site and prohibit access.

Date	Event
August 1990	United States District Court for the District of Utah enters Partial Consent Decree under which Sharon Steel Corporation agrees to pay some \$64 million toward Remedial Action in exchange for covenant not to sue by U.S. EPA and State of Utah.
September 1990	The Record of Decision (ROD) is issued for SS OU2.
January 1991	A removal action takes place for the removal and disposal of chemicals on SS OU1.
February 1991	The SS Superfund Site is listed on the NPL.
1991 – 1998	The SS OU2 remedial work is done in a five-phased approach over a period of 8 years. The State is the lead agency, with the USBR acting as the oversight engineer to UDEQ.
July 1992	Removal Action at SS OU1. Asbestos inventory followed by demolition of mill facilities and salvage.
December 1993	The ROD is issued for SS OU1.
1994	Remedial Design work performed on SS OU1 while Remedial Action work occurred on OU2.
June 1994	An Explanation of Significant Differences (ESD) is issued for SS OU2.
1996	Capping of the tailings pile occurred from June 1996 to October 1996.
Late 1996	Groundwater monitoring wells installed and quarterly monitoring began in May of 1997.
December 1998	ESD issued on SS OU2.
January 1999	Final site inspection conducted by U.S. EPA, UDEQ, and USBR for both RA's completed on SS.
March 1999	BOR completes final Remedial Action reports for UDEQ on SS OU1 and OU2.
March 1999	U.S EPA confirms Remedial Action for SS OU1 and OU2 have been completed.
June 2001	Midvale City annexes southern remainder of OU1 site. Entire OU1 site is now in Midvale City.
May 2001	U.S. EPA determines pump and treat contingency remedy for ground water is not warranted and monitoring of arsenic levels should continue.
January 2004	SS OU1 site purchased by Jordan Bluffs, Inc. from SS successor MRRC.
May 2004	Adoption of an "Institutional Control Process Plan" for OU1 by Midvale City Council. Accepted by U.S. EPA, UDEQ, and Jordan Bluffs, Inc., on that date.
July 2004	ESD for redevelopment of OU1 signed by U.S. EPA
July 2004	UDEQ and U.S. EPA accept Site Modification Plan (SMP) for Redevelopment of OU1.
August 2004	Notice of Deletion issued in Federal Registrar.
September 2004	U.S. EPA issues second Five Year Review.

Removal Actions

Prior to the ROD, U.S. EPA's Emergency Response Team completed interim removal activities including fencing, dust prevention, and slope stabilization of some of the tailings piles.

In June of 1988, a State Administrative Order directed the then current property owner to implement dust suppression of the tailings by spraying them with a polymer coating. In 1990 a removal action fenced the Site and prohibited access. In May through June of 1991, U.S. EPA's Emergency Response Branch (ERB) removed dangerous chemicals and bottled gases from the remaining mill buildings on the Site. Despite the fact that the Site was fenced and the buildings locked, trespassers were entering the buildings, causing possible endangerment to themselves and others. From September of 1992 through December of 1993, U.S. EPA's ERB demolished the remaining mill buildings. Debris from the buildings was placed on the tailings pile and eventually covered when the final remedy for OU1 was completed.

Remedial Activities

U.S. EPA selected a remedy in OU1's 1993 ROD. All of the potential remedies considered for the Site assumed that the likely future reuse of the Site would be for mixed purposes.

The Site's remedial activities included the following remedial components:

- The tailings within 150 feet of the center of the Jordan River, were excavated and removed.
- The contractor removed all contaminated soils from the non-tailings area (mill buildings) and placed them back on the tailings pile to be capped. Clean fill replaced the excavated soil and the area was re-vegetated.
- Wetlands along the Jordan River were dredged and approximately 100,000 cubic yards of contaminated sediments were moved to the tailings pile. Excavation continued until confirmatory sampling demonstrated lead and arsenic levels were below 500 parts per million (ppm) and 70 ppm, respectively. The wetlands area was re-contoured according to a design prepared by Utah State University. The area was raised by 2 feet from the original design to ensure the wetlands would not be under water during the majority of the year.
- Tailings on a 2.3 acre area on the west bank of the Jordan River were excavated and placed on the tailings pile.
- A RCRA-equivalent composite cap was installed over the entire tailings pile. The cap includes a geo-composite drain underlain by a flexible membrane liner which, in turn, is underlain by a geo-synthetic clay liner that reduces the potential for water infiltration through the tailings pile. The cap is overlain by 18 inches of earth fill and 6 inches of top soil and re-vegetated throughout. The cap was designed to allow pedestrian traffic.
- A 4,000-foot long interceptor trench was installed on the eastern side of the Site to further isolate the tailings from contact with water. The interceptor trench averages 15 feet in

depth, and the drain consists of an 8” perforated corrugated polyethylene pipe enveloped in a clean gravel material. The interceptor trench and drain also served as the anchor trench for the geo-synthetics along the cap’s eastern edge. The geo-synthetic clay liner and flexible membrane liner terminate at the trench invert, but the geo-composite drain extends to fully encapsulate the drain envelope material. The interceptor trench was designed to maintain a constant slope of 0.0031, with an average flow of 40 to 50 gallons per minute (pre drought conditions). This water is routed to the wetlands area to provide additional water for the system. An 8” pipe was installed instead of the 6” pipe called for in the specifications, because cost of materials were the same and evidence existed of increased subsurface water flows.

- The Galena Canal had been discontinued and the canal decommissioned prior to the Site’s listing on the NPL. The canal was therefore removed and not rehabilitated. This was the only remedy component change from the ROD.
- Monitoring wells were installed with dedicated pumps along the north and western boundaries of the Site in an effort to contain the arsenic groundwater plume. An arsenic action level for the northern wells was established at 50 µg/L, and a separate action level of 190 µg/L arsenic was established for the western wells bordering the Jordan River.
- The shallow groundwater was monitored during construction by both United States Bureau of Reclamation (USBR) and the contractor. Following sampling of the monitoring wells, U.S. EPA and UDEQ determined that treatment of groundwater was not necessary during the construction.
- Onsite use of groundwater was restricted and was not an issue during the remedial action.
- In case of slope failure due to seismic activity, the cap is designed to contain tailings within a “150-foot setback” buffer zone to protect the Jordan River. The tailings side slopes were constructed at a 2:1 slope. About 1.5 million cubic yards of tailings and material were relocated from the 150-foot setback. During the excavation of this setback along 7800 South, two slope failures occurred between the tailings pile and the street. The failure occurred because of excessive saturation of the soils at the toe of the tailings and within the tailings embankment. The saturated material was removed and placed on top of the tailings for an extensive drying process. To prevent further failures in this area, the tailings embankment was adjusted to a 3:1 slope.

Both Operable Units of the Site were declared construction complete in January 1999. The Site was effectively deleted on September 24, 2004.



Figure 5: View to east of north slope of the cap along 7800 So. Street.



Figure 6: New fill material placed by new property owner on NE corner of OU1 site near former mill building facilities. View to W – NW

Redevelopment/Reuse History

The current owner of the Site is Jordan Bluffs, Inc., who completed a Site Modification Plan for Redevelopment (SMP) in 2004. The SMP incorporates a wide range of uses including residential, office/commercial and business park/clean industrial. Geotechnical and structural design studies will be conducted in support of the development by the Development Group and submitted to U.S. EPA and UDEQ. All studies will be shared with the regulatory Agencies

affiliated with the Site. The development is expected to incorporate mixed uses, including numerous parks and open spaces and a neighborhood town center. Groundbreaking for the new development is expected to occur in Spring 2005.

IV. U.S. EPA's Basis for the Ready for Reuse (RfR) Determination

The Sharon Steel Superfund Site RfR Determination is based on U.S. EPA documents produced during the course of remedial activities at the Site. These documents provide evidence that the Site is ready for residential and mixed use and that the Site's remedy will remain protective of human health and the environment, subject to operation and maintenance of the remedy and limitations as specified in the ROD, ESD, 2004 Five-Year Review, and Institutional Control Process Plan. The RfR Determination is based primarily on the Site's risk assessments, completed in 1990 for both soils/tailings (May, 1990) and groundwater (October, 1990) to evaluate potential human health risks associated with site contamination in the absence of any remedial action. The risk assessments were completed prior to the designation of OU1 and OU2; thus, the risks presented here present site-wide risks and are not specific to OU1. Additional information about the risks present at the Site before remediation can be found in the Baseline Risk Assessments, which are available as part of the Administrative Record for the Site. The Administrative Record is available for review at the Utah Department of Environmental Quality, Division of Environmental Response and Remediation at 168 North 1950 West, Salt Lake City, Utah 84116 or the U.S. EPA Superfund Records Center, 999 18th Street, 5th floor North Terrace, Denver, Colorado 80202.

The Site's risk assessments analyzed the risks associated with using the Sharon Steel Superfund Site for residential purposes. The risk assessments determined that the Site posed risks to future residents because of ingestion and dermal absorption of soils, dust, and tailings contaminated with arsenic, cadmium, and lead and use of groundwater contaminated with arsenic, which is presently limited to groundwater located under the mill site. Prior to remediation, the Site's 1993 ROD, which describes the selected remedy for the Site, concluded that "it is possible that OU1 could be redeveloped for commercial or residential purposes."

U.S. EPA's 2004 Five-Year Review report confirms the successful remediation of the Sharon Steel Superfund Site. The Site's Five-Year Review states that the remedy for OU1 is "functioning as intended by the RODs and subsequent ESDs. Currently the Site is functioning as intended by the decision documents and remains protective of human health and the environment."

V. Ongoing Limitations and Responsibilities Previously Established by U.S. EPA

Institutional and Engineering Controls

The Institutional Control Process Plan (Midvale City, May 2004) (ICPP) is Appendix A of this

RfR Determination. The ICPP establishes legal requirements to maintain protectiveness after redevelopment is completed. With redevelopment the Site will require cooperation between the City of Midvale, U.S. EPA and UDEQ, and landowners or Property Owners Association (POA) in order to comply with institutional controls. The following institutional control responsibilities for three different entities were included in the ICPP:

Midvale City Responsibilities:

1. Periodic inspection of covers and final barriers on the Site.
2. Prohibition of water wells.
3. Repair of covers and final barriers, if the POA is unresponsive. City will enforce repair and collection of costs through Title 7 – Administrative Code Enforcement Program of the Midvale City Municipal Code.
4. Review of site plan applications and issuance of final site plan approval.
5. Review of road-cut permit applications and issuance of permits.
6. Periodic inspections during initial site development and post-development construction to ensure compliance with construction permit including air quality monitoring plans.
7. Oversight of landscaping activities of POA (or similar entity).
8. Verification that private covenants and deed restrictions for developments include the requirements of the ICPP relating to landscaping and excavation.

U.S. EPA and UDEQ Responsibilities:

1. Continue coordinating Operations and Maintenance (O&M) activities as outlined in the O&M Manual to the extent practical.
2. Review and approve promptly amendments to existing O&M Plan (if proposed).
3. Review construction plans and documents as required by the SMP for compliance with SMP and provide any relevant comments promptly. Following receipt and incorporation of comments the plans and documents will be considered final.
4. Provide oversight to monitor conformance with SMP for any activities which penetrate the Cap's synthetic membrane.

Landowner/POA Responsibilities:

1. Control Site access as required by the Partial Consent Decree.
2. Enforce compliance with the ICPP.
3. Enforce compliance with provisions of construction permit, including air quality monitoring requirements.
4. Enforce compliance with the approved SMP.
5. Ensure that imported fill conforms with Midvale City Standards and Construction Specifications and the SMP.
6. Establish private covenants and deed restrictions requiring that future landowners comply with applicable requirements set forth in the ICPP.
7. Maintain and repair covers and barriers within their respective jurisdictional areas.

8. Prohibit disturbances of monitoring wells.
9. Oversee and enforce excavation and landscaping controls as required by the ICPP.
10. Oversee maintenance of landscaped areas as required by the ICPP.

Operation and Maintenance Requirements

As stated in the 2004 Five-Year Review for the Site, the objectives for operation, maintenance, and monitoring at the OU1 site are to:

1. Maintain the engineered cover and vegetation.
2. Maintain the drainage systems and erosion protection features.
3. Prevent the Jordan River from intruding into the Site and eroding into the cap or tailings.
4. Control site access, future development at the Site, and restrict the use of groundwater at the Site.
5. Provide reports to document site conditions including any problems, repairs, and/or development activities.

Utah Department of Environmental Quality (UDEQ) is the lead agency for implementation of work associated with operations, maintenance, and monitoring at the OU1 site, with the U.S. EPA as the support agency. UDEQ is responsible for establishing and maintaining the Operations, Maintenance, and Monitoring (OM&M) files, performing regular quarterly inspections and monitoring results, and for submitting quarterly reports on OM&M activities to the U.S. EPA in accordance with the Cooperative Agreement on OM&M between UDEQ and the U.S. EPA.

All excavations performed within Midvale City rights of way shall conform to Midvale City Code Chapter 12.12, "Excavations Within City Rights of Way." All work will be conducted in accordance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations. Any contractor hired to perform maintenance or repairs will be required to have a Health and Safety Plan prior to beginning any work at the OU1 site.

Development shall be permitted on the capped area if and only if it will maintain the integrity of the composite cover. Development of water wells for any purposes on the capped area, except for any testing, sampling or monitoring wells required by the State or the U.S. EPA, shall be prohibited. The composite cover shall not be disturbed in any manner, whether by excavation or otherwise, without the prior written consent of the U.S. EPA and UDEQ.

Reviews will be performed at the Site every five years to ensure that the remedy remains protective of human health and the environment. The second Five-Year Review for OU1 is due in September 2004.

VI. Provisos

This RfR Determination is an environmental status report and does not have any legally binding effect and does not expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits of any party. U.S. EPA assumes no responsibility for reuse activities and/or for any potential harm that might result from reuse activities. U.S. EPA retains any and all rights and authorities it has, including, but not limited to legal, equitable, or administrative rights. U.S. EPA specifically retains any and all rights and authorities it has to conduct, direct, oversee, and/or require environmental response actions in connection with the Site, including but not limited to instances when new or additional information has been discovered regarding the contamination or conditions at the Site that indicate that the response and/or the conditions at the Site are no longer protective of human health or the environment for the types of uses identified in the Ready for Reuse Determination.

The types of uses identified as protective in this RfR Determination remain subject to (i) applicable federal, state, and local regulation and to (ii) title documents, including, but not limited to, easements, restrictions, and institutional controls.

This RfR Determination remains valid only as long as the requirements specified in the ROD, ESD, SMP, 2004 Five-Year Review, and ICPP are met.

APPENDIX A

ICPP

INSTITUTIONAL CONTROL PROCESS PLAN

Operable Unit No. 1

Sharon Steel
Midvale, Utah

Introduction

This Institutional Control Process Plan ("Plan") has been prepared to document the requirements and procedures for the Institutional Controls ("ICs") for the capped portion of Operable Unit No. 1 ("OU1") and areas where monitoring wells are present in the Sharon Steel Superfund Site (the "Site") as illustrated in Figure 1. This Plan does not supercede any federal, state, or local statutes, regulations, or ordinances pertaining to the environment and current and future holders of interests of property within the Site will remain obligated to comply with the same. This document will be used to facilitate the redevelopment of the Site in compliance with the Explanation of Significant Differences ("ESD") (Exhibit A) and the accepted Site Modification Plan ("SMP") (Exhibit B) which has been prepared to outline general construction practices for redevelopment of the Site and future management thereof. The primary purposes of these controls are (i) to limit or prohibit exposure of people and the environment to subsurface contaminants remaining at the Site by ensuring the protection and maintenance of the three piece membrane remedy which was constructed per the Record of Decision ("ROD") for the Site (the "Cap"); (ii) to prevent or limit activities in certain areas of the Site that may increase the risk of damage to the Cap; and (iii) to manage stormwater and irrigation water to prevent unacceptable impact to the cap and underlying groundwater. Public controls may be imposed, for example, through building permits, subdivision regulations, excavation permits, or zoning ordinances. Private controls are typically imposed through covenants, deed restrictions on the land, or contractual agreements between the property owner or lessee and regulatory agencies. This plan is not intended to impose or require private controls.

This Plan has been prepared as a mechanism to assure that consistent and effective inspection and maintenance and enforcement activities are occurring and will occur in the future throughout the Site. These objectives and those detailed below will be achieved primarily through the implementation of ICs defined in this Plan. Future owners of any portion of the Site will be bound by the provisions of this Plan that are relevant to the portion of the property they own or control on the Site.

The specific objectives of this Plan are as follows:

- To describe the process through which binding and enforceable ICs will be developed and implemented that will facilitate future construction activities on the Site while at the same time maintaining the short-term and long-term effectiveness of the remedy established in the ROD.
- To establish controls on future and post construction-related activities (deep excavations, borings, or foundations) to prevent damage to the Cap within the defined area of the Site.
- To establish controls on groundwater use.
- To establish the requirements through which development including single family residential uses will be allowed.
- To identify the specific mechanisms (such as City of Midvale (“City”) ordinance(s), building permit and inspection requirements, deed restrictions, etc.) that will be used to establish and enforce the ICs established in this Plan.
- To identify the roles and responsibilities that private parties and federal, state, local, and municipal entities will perform and undertake in order to implement this Plan, including oversight and enforcement.

Covers and Materials Management

To reduce the risk of exposure to contaminants through the redevelopment process at the Site, the SMP has been prepared by the developers and reviewed and accepted by the Utah Department of Environmental Quality (“DEQ”) and US Environmental Protection Agency (“EPA”). The SMP establishes the requirements for handling of materials and soil covers during redevelopment and will be referenced when related issues arise during the redevelopment process. A summary of the objectives of the SMP relating to soil covers and solid media left at the site are as follows:

- To minimize human exposure, during and after construction to wastes remaining in place.
- To maintain the integrity of the Cap.
- To effectively manage excavated material, including wastes, during construction and ensure appropriate handling of all wastes.

- To ensure that appropriate final covers are installed, inspected and maintained during and after Site redevelopment.

Description of Specific Institutional Controls:

Site plan approval as required by chapter 17-7-3 and regulated by 17-7-10 of the Midvale City Zoning Ordinance and Title 16, Subdivisions shall be obtained before initial Site development, future redevelopment or change in land use. Applications shall be made available through the City Community and Economic Development Department. In conjunction with the submittal of the preliminary site plan application, the applicant shall submit documentation that shall include an attestation that the applicant is aware of the current Site condition and will comply with all Institutional Controls. Applicant submittals and requirements under the site plan approval process are summarized below which are in addition to and in conjunction with the requirements identified in 17-7-3 and 17-7-10 of the Midvale City Zoning Ordinance:

- (a) Applicant shall submit a plan illustrating the proposed construction and development. Preliminary and final site plans for development shall be submitted for review and approval. Preliminary and final development plans shall specify the amount of existing and proposed soil cover over the Cap as well as any proposed penetrations or alterations of the Cap. Any proposal which includes penetrations or alterations of the Cap must include detailed plans for repairing the Cap in accordance with the SMP.
- (b) Grading and drainage plans are required and shall specifically assure the protection of soil covers from erosion over the Cap membranes and provide adequate drainage to prevent accumulation of water on the Cap.
- (c) Alterations to the existing Operations and Maintenance plan may be proposed by the applicant, the City or other party. EPA and UDEQ shall consider alterations to assure the proposed development site will be maintained in a manner which shall preserve the effectiveness of the Cap.
- (d) An air quality monitoring and dust suppression plan shall be provided. The plan must ensure that National Ambient Air Quality Standards and state and local air quality requirements are met for site contaminants at the boundary between the construction area and the developed areas. Applicant may request a waiver of the air monitoring requirements by submitting relevant data demonstrating compliance with all air quality standards under similar

circumstances (similar weather conditions, construction operations, site materials, etc.).

If any intrusive exploratory activities (such as excavations, borings, CPT soundings) or foundations (including piles or drilled shafts) are proposed for the Cap Area (as defined in Exhibit C) at depths that penetrate the Cap, approval must first be obtained from the City of Midvale. The request for approval must include a detailed description of the proposed exploration or construction activity as well as the mechanism(s) that will be used to prevent contamination of the aquifer and release of contaminated material. In addition, the plan shall be in conformance with the accepted SMP. The request must be approved by the City of Midvale prior to implementation of the work.

A road cut permit shall be required for any work in the public right-of-way, per ordinance 12.12.150 of the Midvale City Municipal Code.

All property within the Site will be included within one or more Property Owner's Association(s) ("POA"). The POA will be established by the owner or authorized representative prior to subdivision plat approval for the Site. Membership in any and all POAs is a condition of development on the Site. The POA shall be responsible for maintenance and repair of the Cap (including soil covers) beneath property within its boundaries. The City shall make necessary repairs to covers and barriers if the landowner or POA fails to do so in a timely or appropriate manner. In that event, the City shall have the right to recover its costs from the landowner or POA. The City shall also have the right, in its sole discretion, to charge the landowner a surcharge for the costs of the City's work related to the property, in an amount established by ordinance.

Reasonable efforts must be used to minimize penetration of the Cap. Excess soil or tailings generated from underneath the Cap either during development or after development will be managed in accordance with the accepted SMP.

Mechanism of implementation:

Sections 17-7-3 and 17-7-10 of the Midvale City Zoning Ordinance will be amended by Ordinance of the City Council to include the provisions of Sections II.A.1 and 4 of this Plan.

Section 12.12.150 of the Midvale City Municipal Code will be amended by Ordinance of the City Council to include the Site within the control area currently identified as Sharon Steel OU2 in accordance with Section II.A.3 of this Plan.

Section 12.12.150 of the Midvale City Municipal Code will be amended by Ordinance of the City Council to provide that all construction and redevelopment activities within the Site shall be in accordance with the accepted SMP including all notification requirements in accordance with Section II.A.2 of this Plan.

Water Management

The shallow aquifer beneath the Site is contaminated with some heavy metals, primarily arsenic. Water management on the Site will focus on preventing new sources of water from infiltrating the Cap and tailings and eroding soil covers over the Cap.

The objectives of the ICs relating to water management are as follows:

- To minimize human and environmental exposure to contaminated groundwater.
- To minimize the possibility of damage to the Cap that could introduce water which travels through contaminated tailings and introduces new contaminants to the shallow ground water aquifer.
- To effectively manage storm water.

Description of Specific Institutional Controls:

Prohibit all water wells on the Site (excluding groundwater monitoring wells).

Prohibit the disturbance of existing groundwater monitoring wells without prior approval by UDEQ. A rehabilitation or well replacement plan must accompany any request to disturb a monitoring well. Access to monitoring wells, the interceptor drain, and the interceptor trench outfall by the regulatory agencies shall be maintained.

Prohibit utilities underneath the Cap

Insure effectiveness of the Cap as per section II of this Plan.

Have all future construction including storm water management comply with the SMP.

Mechanism of implementation:

Sections 17-7-3 and 17-7-10 of the Midvale City Zoning Ordinance will be amended by Ordinance of the City Council to include the provisions of Section III.A. 1 of this Plan. This provision will also include a requirement that private covenants and deed restrictions will acknowledge this Plan and require compliance therewith.

The Midvale City Standard Construction Specifications will be amended by Ordinance of the City Council to include the provisions of Section III.A.2-5 of this Plan.

Measures to Allow Development

The ROD and ESD prepared by EPA and DEQ do not prohibit development including residential development. Such development may require the placement of additional soils above the existing Cap as outlined in the SMP. The following controls have been developed to permit development on the Site.

With respect to any and all structures that will be constructed on the Site the POA shall oversee all landscaped areas. A range of controls may be included within the responsibilities of the POA.

Property improvements after initial construction involving excavations deeper than 24-inches shall be controlled by a POA (or similar entity). Any excavations which penetrate the Cap (membrane) shall require a permit from Midvale City, and be performed in compliance with the SMP.

All landscaping shall be completed and maintained by the POA in accordance with the SMP. A list of approved plants has been included as part of the SMP.

Specific Institutional Controls:

With respect to any and all development that will be constructed on the Site, the POA shall oversee all landscaped areas. A range of controls may be included within the responsibilities of the POA. At a minimum the controls shall include: For areas with less than three (3) feet of cover soil over the cap, the POA shall take responsibility for any and all landscape installation and maintenance. For areas with greater than three (3) feet thickness of soil covers, the POA may allow individual property owners to install and maintain landscaping insofar as regrading of the property does not occur. All landscape plans on individual properties shall be reviewed and approved by the POA to ensure adequate soil covers, appropriate irrigation, and approved planting plans.

All plants must be on the approved list contained in the SMP.

Mechanism of Implementation:

Section 17-7-10 of the Midvale City Zoning Ordinance will be amended by Ordinance of the City Council to include the provisions of Section IV A, 1 of this Plan. This amendment will include a provision limiting development only where POAs (or similar entities) are created to oversee all landscaped areas and prohibiting excavation over 24" deep except by the association. The POA may have a range of controls in place. In addition, the amendment will include language to require the use of landscaping per the approved plant list in the SMP.

Oversight and Enforcement Roles and Responsibilities

Midvale City (the City) Department of Community and Economic Development will be the primary enforcement and oversight agency. Compliance with the ICs is the responsibility of the landowner, contractors and subcontractors working within the Site. This IC Process Plan may be revised to reflect requirements that may change over time. The landowner(s), Midvale City, DEQ, or EPA may propose changes to this plan. All proposed changes will be reviewed by the landowner(s), Midvale City, DEQ and EPA prior to finalization. Revised pages will be sent to all entities with oversight and enforcement roles and responsibilities listed below. The type and frequency of inspections and required maintenance of remedy components, including an on-site repository (if established) and related Site security will be detailed in amendments to the existing O&M Manual (if necessary).

Midvale City responsibilities:

- Periodic inspection of covers and final barriers on the Site.
- Prohibition of water wells.
- Repair of covers and final barriers, if the POA is unresponsive. City will enforce repair and collection of costs through Title 7 – Administrative Code Enforcement Program of the Midvale City Municipal Code.
- Review of site plan applications and issuance of final site plan approval.
- Review of road cut permit applications and issuance of permits.
- Periodic inspections during initial site development and post-development construction to ensure compliance with construction permit including air quality monitoring plans.
- Oversight of landscaping activities of POA (or similar entity).
- Verification of private covenants and deed restrictions for developments include the requirements of this Plan relating to landscaping and excavation.

EPA and UDEQ Responsibilities:

- Continue coordinating O&M activities as outlined in the O&M Manual to the extent practical.
- Review and approval promptly of amendments to existing O&M Plan (if proposed).
- Review construction plans and documents, as required by the SMP, for compliance with SMP and provide any relevant comments promptly. Following receipt and incorporation of comments the plans and documents will be considered final.
- Provide oversight to monitor conformance with SMP for any activities which penetrate the Cap's synthetic membrane.

Landowner/POA Responsibilities:

- Control Site access.
- Enforce compliance with the Plan.
- Enforce compliance with provisions of construction permit, including air quality monitoring requirements.
- Enforce compliance with the approved SMP.
- Ensure that imported fill conforms with Midvale City Standards and Construction Specifications and the SMP.
- Establish private covenants and deed restrictions requiring that future landowners comply with applicable requirements set forth in this Plan.
- Maintain and repair covers and barriers (within their respective jurisdictional areas).
- Prohibit disturbances of monitoring wells.
- Oversee and enforce excavation and landscaping controls.
- Oversee maintenance of landscaped areas.

APPENDIX B

ABBREVIATIONS AND ACRONYMS

AR - Administrative Record	POA - Property Owners Association
CC - Construction Completion	PRP - Potentially Responsible Party
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund)	RA - Remedial Action
CERCLIS - Comprehensive Environmental Response, Compensation, and Liability Information System	RCRA - Resource Conservation and Recovery Act
COC - Contaminant of Concern	RD - Remedial Design
ELCR - Excess Lifetime Cancer Risks	RfR - Ready for Reuse Determination
ERB - Emergency Response Branch	RI/FS - Remedial Investigation/Feasibility Study
ESD - Explanation of Significant Differences	ROD - Record of Decision
ESI - Expanded Site Inspection	RPM - Remedial Project Manager
FCOR - Final Closeout Report	SARA - Superfund Amendments and Reauthorization Act of 1986
GIS - Geographic Information System	SI - Site Inspection
HRS - Hazard Ranking System	SMP - Site Management Plan
ICPP - Institutional Control Process Plan	SRI - Superfund Redevelopment Initiative
µg/L - microgram per liter	SS - Sharon Steel
MRRC - Mining Remedial Recovery Company	TSDF - Treatment, Storage, and Disposal Facility
NOID - Notice of Intent to Delete	UDEQ - Utah Department of Environmental Quality
NOD - Notice of Deletion	UDOH - Utah Department of Health
NPL - (N)ational (P)riorities (L)ist of Superfund Hazardous Waste Sites	USBR - United States Department of Interior, Bureau of Reclamation
O&M - Operations and Maintenance	U.S. EPA - United States Environmental Protection Agency
OM&M - Operations, Monitoring, & Maintenance	USSRMC - United States Smelting, Refining, and Mining Company
OSRTI - Office of Superfund Remediation and Technological Innovation	
OU - Operable Unit	
OSHA - Occupational Safety and Health Administration	
OSWER - Office of Solid Waste and Emergency Response	
PA - Preliminary Assessment	
PCD - Partial Consent Decree	
PCOR - Preliminary Closeout Report	
PHA - Public Health Assessment	

APPENDIX C

GLOSSARY

Baseline Risk Assessment (BLRA): A qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants. A risk assessment characterizes the current or potential threat to public health and the environment that may be posed by chemicals originating at or migrating from a contaminated site.

Cap: A layer of clay or other impermeable material installed over the top of a closed landfill to prevent entry of rainwater and minimize leachate.

Carcinogenic: A carcinogenic chemical is one which is believed to be capable of causing cancer.

Closeout report: A report submitted by the Remedial Program Manager (RPM) verifying that the conditions of the site comply with the Record of Decision (ROD) findings and design specifications and that activities performed at the site are sufficient to achieve protection of public health and the environment. This is a Remedial Action (RA) or ROD sub-event.

Construction Completion (CC): The CCL is a compilation of sites presently or formerly on the NPL. Sites qualify for the CCL when: any necessary physical construction is complete; U.S. EPA has determined that the response action should be limited to measures that do not involve construction; or the site qualifies for deletion from the NPL.

Deed restrictions: Restrictions placed within a deed that control the use of the property. Restrictions travel with the deed, and cannot generally be removed by new owners.

Dermal absorption: Absorption through the skin.

Discovery: The process by which a potential hazardous waste site is brought to the attention of the U.S. EPA. The process can occur through the use of several mechanisms such as a phone call or referral by another government agency.

Ecological risk assessment: Assessment of the risks posed by the site to ecological receptors.

Engineering controls: Engineering controls eliminate or reduce exposure to a chemical or physical hazard through the use or substitution of engineered machinery or equipment. An example of an engineering control is a protective cover over waste left on site.

Expanded Site Inspection (ESI): Functions performed to collect additional data, beyond that required for Hazard Ranking System scoring, in order to expedite the Remedial Investigation/Feasibility Study (RI/FS) project planning phase for National Priorities List (NPL) sites. The site inspection focus on pathways and receptors has been expanded to include site and source characterization. The information facilitates the development of RI/FS workplan and sampling and analysis plan.

Explanation of Significant Differences (ESD): A significant change to a Record of Decision (ROD) that does not fundamentally alter the remedy. An ESD may be initiated by U.S. EPA.

Exposure pathways: Exposure pathways are means by which contaminants can reach populations of people, plants, or animals. Exposure pathways include groundwater, surface water, soil, and air.

Feasibility Study (FS): A study of a hazardous waste site intended to (1) evaluate alternative remedial actions from technical, environmental, and cost-effectiveness perspectives; (2) recommend the cost-effective remedial action; and (3) prepare a conceptual design, a cost estimate for budgetary purposes, and a preliminary construction schedule.

Fugitive landfill gas: Fugitive landfill gas is formed in landfills and could reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

Geosynthetic clay liner: Used in landfill cap applications; thin (approximately 1/4-inch thick) “blankets” of bentonite sandwiched between woven and non-woven geotextiles that are needle-punched (i.e., reinforced) together.

Hazard Index (HI): The sum of hazard quotients for substances that affect the same target organ or organ system. Because different pollutants may cause similar adverse health effects, it is often appropriate to combine hazard quotients associated with different substances. As with the hazard quotient, aggregate exposures below a HI of 1.0 will likely not result in adverse non-cancer health effects over a lifetime of exposure.

Hazard Ranking System (HRS) Scoring: The HRS is a screening mechanism used to place sites on the NPL. In order for a site to be listed, it must have: 1) contaminants listed on U.S. EPA’s Target Compound List of sufficient concentration to warrant concern; 2) a sensitive receptor population that would be negatively affected by the contaminants; and 3) pathways of exposure that would introduce the contaminant into the sensitive receptor population. Theoretically, a site meeting these conditions would score 28.5 or higher on the HRS, the threshold for placement on the NPL. The report detailing the findings of the scoring is referred to as the *HRS Scoring Package*.

Institutional controls: Institutional controls (ICs) are non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land or resource use.

National Priorities List (NPL): Sites are listed on the National Priorities List (NPL) upon completion of Hazard Ranking System (HRS) screening, public solicitation of comments about the proposed site, and consideration of all comments. The NPL primarily serves as an information and management tool. The identification of a site for the NPL is intended primarily to guide U.S. EPA in: determining which sites warrant further investigation to assess the nature and extent of the human health and environmental risks associated with a site; identifying what CERCLA-financed remedial actions may be appropriate; notifying the public of sites U.S. EPA believes warrant further investigation; and serving notice to potentially responsible parties that U.S. EPA may initiate CERCLA-financed remedial action.

Notice of Deletion (NOD): Notification of a site’s deletion from the NPL, published in the *Federal Register*.

Notice of Intent to Delete (NOID): Notification of U.S. EPA’s intention to delete a site from the NPL, published in both the *Federal Register* and a newspaper of record.

NPL site deletions: With state concurrence, the U.S. EPA determines when no further response is required at a site to protect human health or the environment. U.S. EPA approves a close out report verifying that response actions have been taken or that no action is required. U.S. EPA then publishes a deletion notice in the *Federal Register*.

NPL site listing process: The NPL is a list of the most serious sites identified for possible long-term remediation. A proposed NPL site is listed when U.S. EPA issues a final rule in the *Federal Register*, which enables U.S. EPA to use federal monies to pay for long-term remedial actions. U.S. EPA issues a proposed rule in the *Federal Register* to solicit comments on proposed NPL sites. U.S. EPA responds to comments and adds sites to the NPL that continue to meet requirements for listing.

Operation and Maintenance (O&M): O&M activities are conducted after remedial actions are complete in order to

ensure that remedies are operational and effective.

Potentially Responsible Parties (PRPs): The Superfund law (CERCLA) allows U.S. EPA to respond to releases or threatened releases of hazardous substances into the environment. Under CERCLA, potentially responsible parties (PRPs) are expected to conduct or pay for the cleanup. The Superfund enforcement program identifies the PRPs at the site; negotiates with PRPs to do the cleanup; and recovers from PRPs the costs spent by U.S. EPA at Superfund cleanups.

Preliminary Assessment (PA): Preliminary assessments are investigations of site conditions to ascertain the source, nature, extent, and magnitude of the contamination.

Preliminary Closeout Report (PCOR): A precursor to the close out report, it is a report submitted by the Remedial Program Manager (RPM) verifying that the conditions of the site comply with the Record of Decision (ROD) findings and design specifications and that activities performed at the site are sufficient to achieve protection of public health and the environment.

Remedial Action (RA): The implementation of a permanent resolution to address a release or potential release of a hazardous substance from a site.

Remedial Design (RD): The process of fully detailing and specifying the selected remedy identified in the Record of Decision.

Remedial Investigation (RI): An investigation intended to gather the data necessary to: (1) determine the nature and extent of problems at the site; (2) establish cleanup criteria for the site; (3) identify preliminary alternative remedial actions; and (4) support the technical and cost analyses of the alternatives.

Record of Decision (ROD): The ROD documents the cleanup alternatives that will be used at NPL sites, and the supporting analyses.

Restrictive covenants: Restrictive covenants are deed restrictions that apply to a specific real estate parcel.

Site Inspection (SI): The process of collecting site data and samples to characterize the severity of the hazard for the hazard ranking score and/or enforcement support.