www.epa.gov/aml/revital

Out of the Dust: Recreational Reuse After Vermiculite Mining The Libby Asbestos Superfund Site in Libby, Montana

Introduction

Sometimes, the value of a place goes far beyond trees, picnic tables and open space. In Libby, Montana, Riverfront Park has come to symbolize the community's resilience, healing and recovery from environmental tragedy. The park, dedicated in August 2013, points the way to a brighter future, while honoring the memory of those who have suffered or died from asbestos-related disease.

For decades, a mine near Libby run by W.R. Grace and Company (Grace) was the source of more than 70 percent of all vermiculite sold in the United States. Vermiculite is a remarkably versatile mineral used to insulate homes, improve garden soils and make shipping materials. Unfortunately, vermiculite from the Libby mine was contaminated with a toxic form of naturally occurring asbestos. Many residents and workers exposed to the contamination developed asbestos-related disease. To date, about 400 people have died. Another 2,000 people have been diagnosed with some form of the disease.

Part of the Libby Asbestos Superfund site was the former Export Plant area, where Grace stored mined vermiculite before shipping it nationwide. Located on the south side of the Kootenai River, just north of downtown, the 17-acre area was mostly a fenced-off, overgrown eyesore for years. The City of Libby came together with EPA, the Montana Department of Environmental Quality (MDEQ), Lincoln County and community organizations to develop a coordinated approach to the area's cleanup and redevelopment.

In August 2013, after several years of planning, cleanup and restoration, the City of Libby officially opened Riverfront Park. The multi-use recreation facility includes river access, pavilions, a memorial, parking and picnic tables. People put in boats to experience one of the area's many renowned fisheries. At dusk, others take a quiet moment to sit and enjoy the park's mountain views and watch the water flow past. Groups come together for community gatherings and celebrations. Libby's annual Riverfront Blues Festival recently attracted more than 900 people to the park.

Libby is a small town in the northwest corner of Montana, 35 miles east of Idaho and 65 miles south of Canada. The town lies in a picturesque valley carved by the Kootenai River and framed by the Cabinet Mountains to the south.

This case study explores the partnerships and tools that have led to the successful cleanup and reuse of the former Export Plant area at the Libby Asbestos Superfund site. In the following pages, the case study discusses how local planning efforts and community coordination with EPA and MDEQ made Riverfront Park possible. The case study provides detailed information and lessons learned for parties interested in Superfund site and mine land reuse, local government leadership and recreational reuse of contaminated lands.

Cleanup, tree plantings and the official opening of Libby's Riverfront Park in August 2013.

Site History, Contamination and Remediation

While many hard rock mines have operated in the Libby area since the 1880s, the dominant impact to human health and the environment in Libby has been from vermiculite mining and processing. Prospectors first located vermiculite deposits on Rainy Creek northeast of Libby. In 1919, Edward Alley, a local rancher, bought the Rainy Creek claims and started the vermiculite mining operation called the "Zonolite Company."

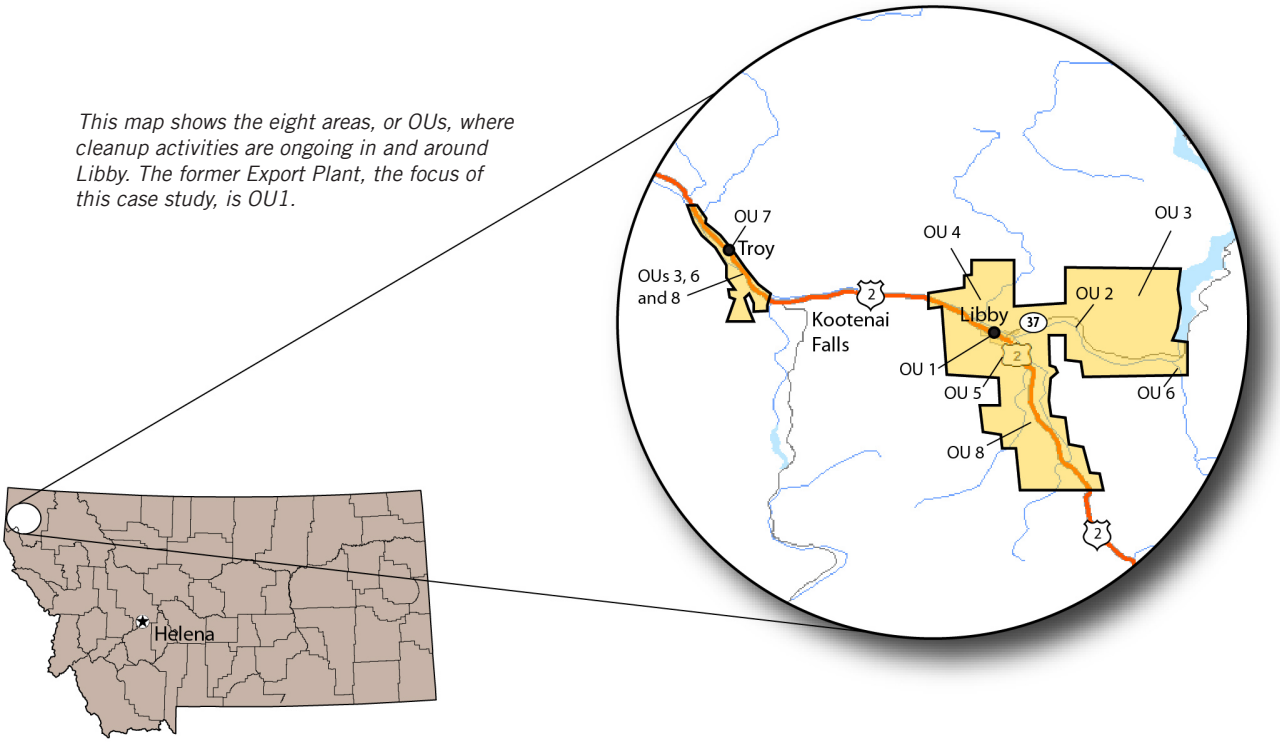
Over time, vermiculite became a product used in insulation, feed additives, fertilizer and soil amendments, construction materials, absorbents and packing materials. Many people used vermiculite products for insulation in their houses in and around the site and as soil additives in their gardens. Grace bought the mine and its processing facilities in 1963 and operated them until 1990. Vermiculite mining and processing activities led to widespread contamination in and around Libby.

The vermiculite mine near Libby operated for more than 70 years.

1940s advertisement for vermiculite insulation from Libby.

The former Export Plant – referred to by EPA as operable unit 1 (OU1) – is located on the south side of the Kootenai River, just north of downtown Libby. Grace owned and used the 17-acre area for stockpiling, staging and distributing vermiculite and vermiculite concentrate to vermiculite processing areas and insulation distributors outside of Libby. EPA's work in Libby began when the Agency sent an Emergency Response Team to investigate local concerns about asbestos-contaminated vermiculite in 1999. Since then, EPA has been working closely with the community to clean up contamination and reduce risks to human health. EPA listed the site on the National Priorities List (NPL), the Agency's list of top-priority Superfund sites, in October 2002.

This map shows the eight areas, or OUs, where cleanup activities are ongoing in and around Libby. The former Export Plant, the focus of this case study, is OU1.

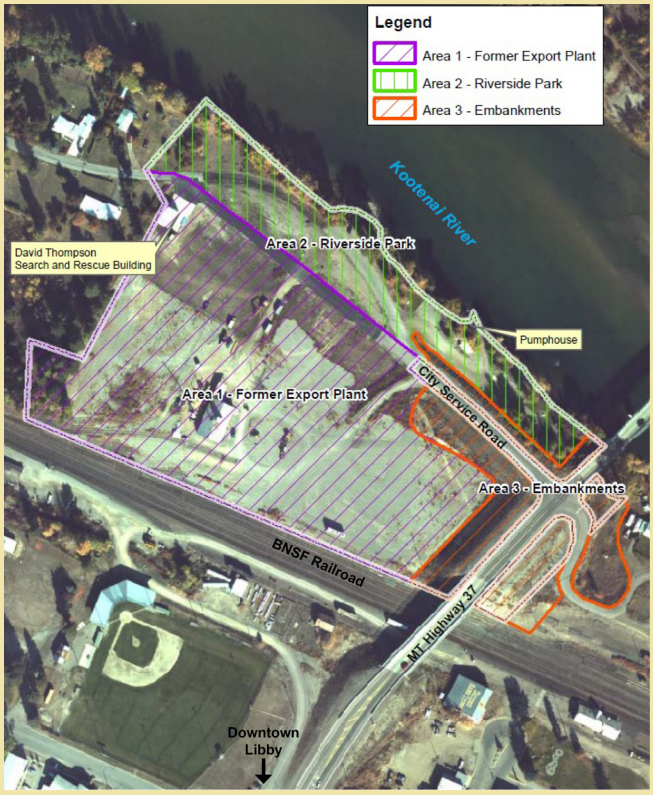


EPA and MDEQ remove asbestos from about 150 properties each year.

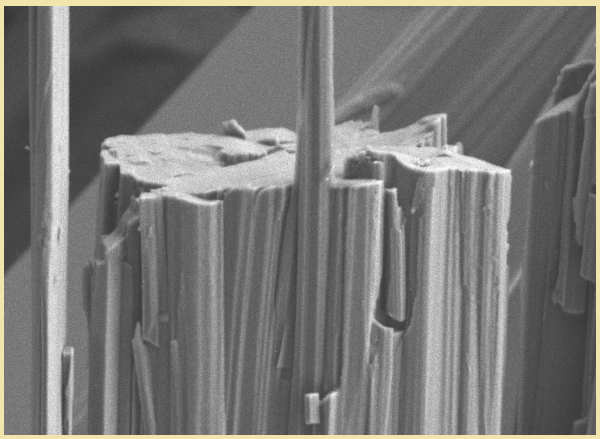
Beginning in 1999, EPA started a series of short-term cleanups called removals to protect human health and the environment in and around Libby. These efforts have included soil and debris excavation, attic and yard cleanups, and building demolition. In 2009, for the first time in the history of the Agency, EPA declared a Public Health Emergency in Libby, to provide federal health care assistance for victims of asbestos-related disease. In 2010, EPA selected the long-term remedy for the former Export Plant. Cleanup started in 2011 and finished in August 2012, removing 25,656 cubic yards of contaminated soil. After a year of restoration activities, the ribbon-cutting ceremony for Riverfront Park took place on August 3, 2013.

Cleanup of the rest of the site's operable units is ongoing. While remaining cleanup will take years, major progress has been made. Sitewide, as of fall 2013, EPA and MDEQ have cleaned up 1,861 properties and removed and replaced more than 1 million cubic yards of impacted soil, significantly reducing risks to area families. EPA has also conducted response actions to reduce risks at other former processing facilities, schoolyards and various abandoned waste piles.

Throughout all planning and cleanup activities, EPA Region 8 and MDEQ staff meet regularly with community stakeholders to share information and updates and to incorporate community feedback into the Superfund process. EPA maintains an information center in Libby. EPA uses various outreach tools, maintains a website (www.epa.gov/libby) and holds public meetings to keep the community informed. EPA also provides support to the Libby Community Advisory Group (CAG), which serves as a focal point for the exchange of information, and funds a Technical Assistance Grant (TAG) to allow a local group to hire independent consultants to review technical documents and offer input into Agency decisions.



Aerial view of the former Export Plant area during cleanup.



What is Libby Asbestos (LA)?

The vermiculite mine near Libby contains a distinct form of naturally occurring amphibole asbestos. This form of amphibole asbestos, often called Libby asbestos, or LA, refers to amphibole materials from the Libby vermiculite deposit that can form durable, long thin structures. They are generally respirable and can reasonably be expected to cause disease. Accordingly, they are the contaminant of concern at the site.

Project History

Mid-1990s – 2003:
New Beginnings

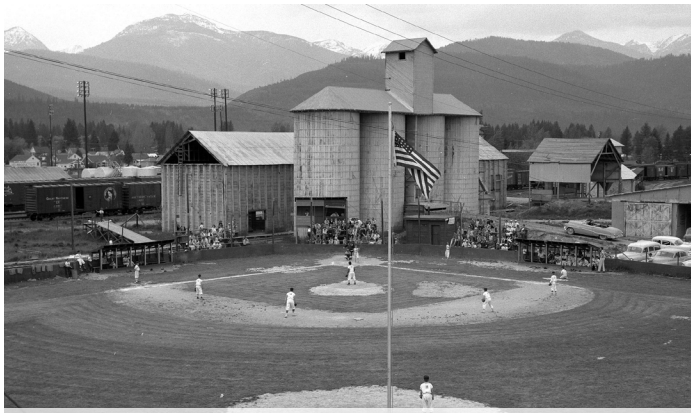
After Grace transferred ownership of the former Export Plant area to the City of Libby in the mid-1990s, the community thought it knew what should happen next. "The area had been used for industrial purposes for decades," recalled Libby Mayor Doug Roll. "It made sense to keep it that way." The City leased some of the area to a lumberyard. The community continued to use two ballfields on part of the site. Even after EPA's emergency response activities began in 1999, Grace's short-term cleanup actions in 2001 and 2002 focused on making the area safe for industrial users. The $2 million cleanup demolished several structures and took away contaminated soils, backfilling with gravel at the City's request.

More broadly, the community saw the 17-acre area as a functional space for municipal purposes, according to City Administrator Jim Hammons. A city service road extended across the land, connecting to the city's wastewater plant and an equipment storage facility. The BNSF Railway rail line and Montana State Route 37 hemmed in the area to the east and south, with a rail spur located on site. "It was mostly a mess," said Libby Councilwoman Vicky Lawrence. "Most of [the former Export Plant area] was full of weeds and debris, and surrounded by orange hazard fencing. It was a constant reminder to the community of the questionable safety of living here."

EPA had been working closely with the community since 1999 on short-term cleanups in and around Libby. In 2003, the community first began coordinating with EPA regarding the future use of the former Export Plant area. With the David Thompson Search and Rescue organization working on a new facility, the City developed plans for a new boat ramp on site for its operations. During construction, the City discovered a 2-inch-thick layer of vermiculite along the boat ramp. EPA led a short-term cleanup to remove vermiculite and contaminated soils, and cover the riverbank with protective riprap.

"The community has been through so much, from the urgent health issues to a cleanup that has come into people's homes, schools and workplaces," said long-time EPA project manager Rebecca Thomas. "But people have refused to give up. The gradual reuse of OU1 has been a bright spot for everyone involved. Early cleanup activities

The Export Plant area, 1968.



View of the ballfields at the Export Plant area. Leagues would sometimes postpone games due to thick clouds of dust from the loading of boxcars on site.

Aerial view of the area in 2002, after initial cleanup activities by Grace.

like the riverbank work have led to a long and productive partnership between site agencies and the community."

According to Mayor Roll, the new boat ramp was an important first step toward the community seeing the former Export Plant area in a new light. "The ramp led to more traffic down there, for recreation," he noted. "Outfitters were using it to take people fishing. People were going out boating." The City put in picnic tables. A local bank donated money for new trees. The City, EPA and MDEQ agreed to coordinate as long-term cleanup plans for the former Export Plant area came together. The seeds had been planted.

2003 – 2009:
Taking Steps, Developing Plans

Over the next few years, several events spurred further change in community perspectives. In 2005, a group called the Community Asbestos Memorial Project met with Libby's City Council, proposing to build a pavilion next to the river, as part of a memorial to asbestos victims. "When the pavilion was built [in 2006], we were reminded that the riverside there could be a beautiful place," recalled Vicky Lawrence. "It wasn't just about cleanup or bringing in industry at that point."

A proposal to build a second, much larger community pavilion next to the river in 2008 met with broad community support. According to the City, funding for the $250,000 project, led by the local Amish community, came almost entirely through a loan repayment and community donations of time and supplies. Prior to its construction, EPA excavated vermiculite and contaminated soil from the area, enabling placement of foundation footings and a full concrete slab for the new pavilion. The community dedicated the Fred Brown pavilion, named for the long-time mayor of Libby, in November 2008.

Around the same time, the City of Libby and Lincoln County's long-term economic development efforts were starting to pay off after a long period of post-mining economic decline. As part of a regional economic development strategy, the localities had been working for several years to transform the nearby Stimson Lumber Mill into the Kootenai Business Park Industrial District. Stimson Lumber Company had donated the property to the Lincoln County Port Authority after lumber production stopped in 2003. The 400-acre area, located on the northwest edge of Libby, is also part of the Libby Asbestos Superfund site.

"By 2008, it was clear the proposed business park was a much better fit for industrial uses. It was a larger property, with better access and infrastructure," said Lincoln County Planning Director Kristin Smith. Plans became

The riverside Community Asbestos Memorial Project pavilion, built on site in 2006.

The Fred Brown pavilion, built on site in 2008.

reality in 2009 – the industrial district received several million dollars in state and federal grants and loans, and a bridge manufacturer agreed to locate there. The park's development was a major achievement for the community, representing another milestone on its journey back from years of economic hardship and environmental tragedy.

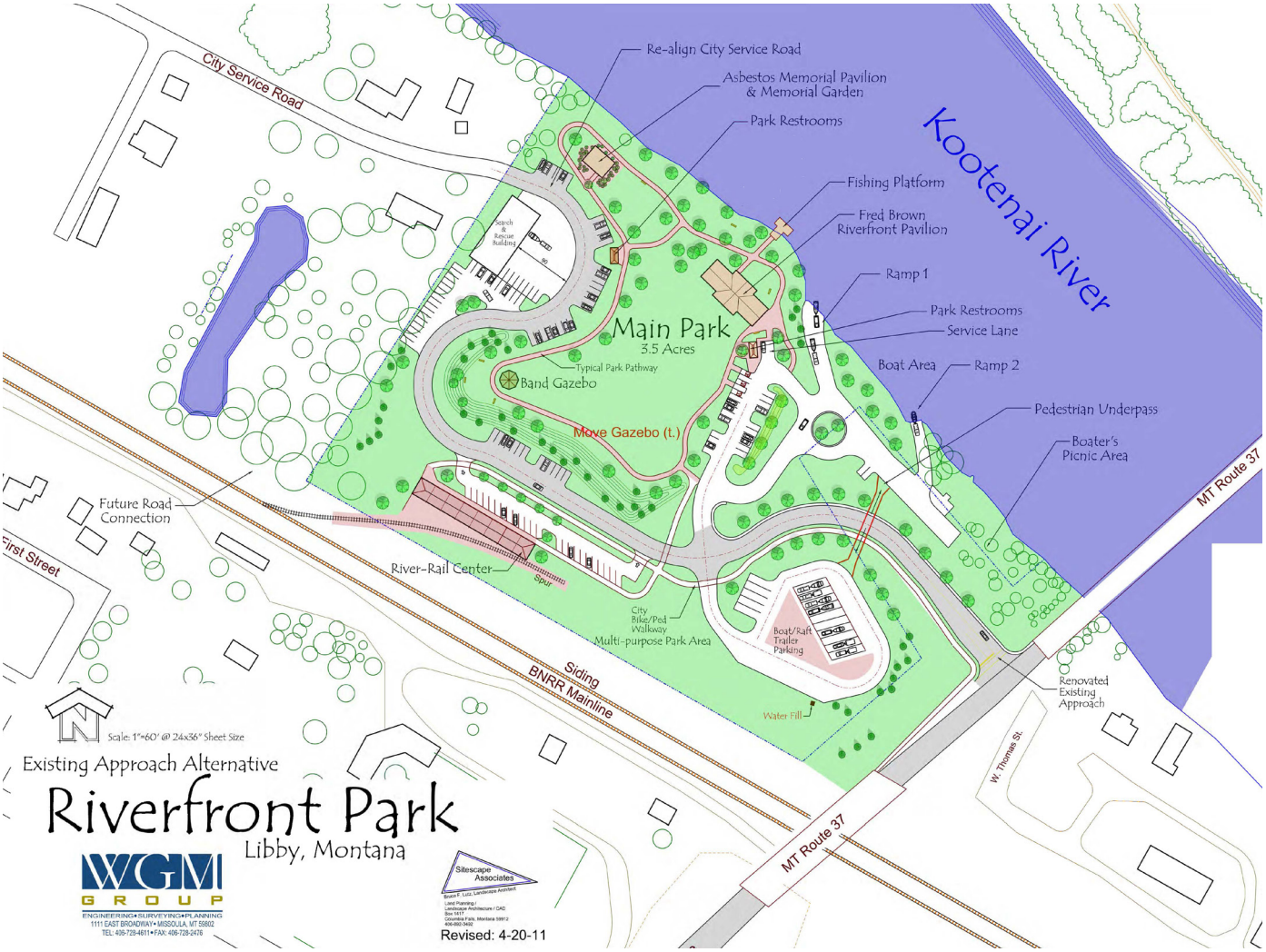
As a result, in 2009, the community decided to focus on turning the entire former Export Plant area into a park. Following a public meeting with near-unanimous support for the area's recreational reuse, Libby City Council commissioned a conceptual plan for a riverfront park. Working with landscape architect Bruce Lutz during a series of community meetings, initial interest in maintaining an industrial presence along the site's rail spur faded. "The main focus became how to realign the city service road to maximize park space and connect all of the recreation areas,"

Lutz recalled. In addition to the boat ramp and pavilions, community priorities included trails, environmental education, boat and trailer parking, restrooms, a gazebo and a fishing platform.

"A lot of people had arrived on the same page. They were using the pavilions and the boat ramp and wanted to see everything else become a park as well," said Vicky Lawrence. "Now we were asking new questions. The main one was, 'how are we going to make this happen?'"

New partnerships and opportunities for collaboration lay ahead. Over the next two years, the City of Libby would work closely with EPA and MDEQ to integrate the site's remedy and reuse.

In 2009, while the riverside area was in reuse, much of the former Export Plant area remained idle.



The final conceptual plan for Riverfront Park. The final plan followed almost two years of community review and detailed discussions with EPA and MDEQ.

2009 – 2011:
Working on the Details

By 2009, EPA project managers Rebecca Thomas and Mike Cirian had been working with the community on cleanup issues for more than five years. "Those relationships set the stage for the work that was to come," recalled Mike Cirian. "Integrating reuse as part of the area's long-term remedy was a big next step."

Helping the community understand EPA's responsibilities was key. Under federal law, EPA can use Superfund monies only for actions that are necessary for a protective remedy or to enhance protectiveness. "Our mission is to protect human health and the environment," said Rebecca Thomas. "But we were also looking to incorporate the community's priorities as part of the cleanup process."

"EPA and MDEQ were not there to build us a park," said Vicky Lawrence. "But we also knew we couldn't afford to go back in afterward to put in the infrastructure. The City was willing to do its part, to find ways to fund what we needed to do."

For its part, EPA faced an additional complexity. Cleanup criteria for levels of concern and the basis for those levels are typically included in site cleanup plans. While the Agency did a human health risk assessment for the area, LA-specific toxicity values were not yet available. "The proposed remedy was fairly straightforward – removing waste and replacing it with clean fill," noted EPA project manager Mike Cirian. "Even without final toxicity values, removing the contaminated soil and replacing with clean fill broke the exposure pathway."

The Agency also agreed to conduct a post-construction risk assessment with activity-based sampling to show the effectiveness of the remedy. If the assessment identifies any health risks, EPA will undertake additional cleanup as needed.

After community and City Council meetings and outreach activities, EPA issued the Record of Decision for the former Export Plant area in May 2010. The document provided the flexibility

Timeline of Events

Early 1900s:	Vermiculite deposits first discovered near Libby
1919:	Zonolite Company operations begin
1963-1990:	Grace acquires and operates the vermiculite mine
1960s-1990:	Former Export Plant area used for vermiculite storage and shipping
1977-1997:	Part of the area used for ballfields
1987-2000:	Other industrial businesses operate on site, including lumberyard, metal scrap dealer and larch tree gum manufacturer
Mid-1990s:	Grace transfers ownership of former Export Plant area to City of Libby
1999-2010:	EPA conducts investigations and short-term cleanups
2001-2002:	Grace conducts short-term cleanups at former Export Plant area
Oct. 2002:	EPA places site on NPL
2003-2004:	City installs new boat ramp, David Thompson Search and Rescue facility built
2006:	Asbestos memorial pavilion built
2008:	Fred Brown community pavilion built
Mar. 2008:	EPA negotiates largest cash settlement in Superfund history ($250 million) to recover cleanup costs from Grace
2009:	City commissions conceptual plan for Riverfront Park
Jun. 2009:	EPA declares Public Health Emergency in Libby
2010:	EPA selects final long-term remedy for former Export Plant area
2010-2011:	Remedy design process integrates remedy and reuse
2011:	EPA releases draft Libby Amphibole asbestos-specific toxicity values for public comment, review by Science Advisory Board
Apr. 2011:	City finalizes engineered park design
Aug. 2011 - Aug. 2012:	Final cleanup of former Export Plant area
Jul. 2012 - Aug. 2013:	Site restoration, plantings and park preparation activities
Aug. 2013:	Riverfront Park ribbon-cutting ceremony

needed for site agencies and the City of Libby to work together on designing the site's remedy. EPA would:

- Put in soil covers to contain some areas of surface contamination.
- Remove contaminated materials in proposed utility corridor areas and dispose of them off site.
- Place a visible marker layer at the bottom of the cover to show the extent of cleanup.
- Use clean fill for excavated areas and soil covers from outside the Libby valley.

EPA also added an additional option to the remedy, retaining flexibility to remove other areas of contamination as needed due to land use issues. For example, as the ROD states, "future land use might include construction of a structure that would necessitate excavation for a foundation. In that event, it would be important to have a remedial option that allows for at-depth removal in selected areas rather than just in utility corridors." The ROD also included a statement explicitly recognizing the importance of integrating remedy and reuse: "EPA will also work closely with the City of Libby during design so that the remedy can complement any planned future uses."

Downtown Libby.

For detailed cleanup planning to move forward, the community's conceptual plan for Riverfront Park now needed to turn into detailed engineering drawings. The City of Libby issued a Request for Proposals for engineering assistance in fall 2010, and selected a trio of local and regional firms – WGM Group, 48 North Engineering and Sitescape Associates – for

EPA and Reuse

Since the start of the Superfund program, EPA has been building on its expertise in conducting site characterization and cleanup to make sure contamination is not a barrier to the reuse of property. Today, consideration of future use is an integral part of EPA's cleanup programs from initial site investigations and remedy selection through to the design, implementation, and operation and maintenance of a site's remedy.

"At older sites, EPA did not focus on taking reuse considerations into account early in the cleanup process," reflected EPA's Matthew Mankowski, a former project manager at Superfund sites. "Today, that has changed. Superfund cleanups can be very creative and flexible in allowing for future site uses, but that information needs to be plugged in early to be as effective as possible."

At the former Export Plant area, future land use considerations were able to inform EPA Region 8's selection of the remedy, which enabled the area's reuse for recreational purposes. The integrated cleanup and redevelopment of the area meant that the City of Libby could coordinate infrastructure installation with the cleanup of the site.

Thanks to lessons learned at Superfund sites across the country, EPA has developed additional tools to ensure an integrated approach to the cleanup and redevelopment of contaminated lands. For example, EPA has developed a partial deletions guidance. Partial deletions allow EPA to remove the cleaned and uncontaminated portions of a Superfund site from the NPL, expediting the reuse of those properties.

EPA also works with site stakeholders to consider how future land use considerations can inform the implementation and long-term stewardship of site remedies as well as cleanup planning. At some sites, for example, reuse considerations can inform the location of ground water monitoring wells and other equipment that might inadvertently hinder redevelopment efforts.

Libby is also known as the "City of Eagles," on account of the eagles who live along the Kootenai River, as well as the avian artwork found throughout the community.

the job. "The pieces were in place [for the engineering work] to move quickly," recalled Melissa Matassa-Stone, Project Manager/Engineer with WGM Group. "The community was on board with the park plan, and the City had been working with EPA and MDEQ. We were able to focus quickly on what was needed – plans for grading, drainage, utility corridors, access and road design."

From there, a new process began, according to Nick Raines. Now with Lincoln County, Raines at the time was an engineer for CDM Smith, EPA's cleanup contractor. "It was a back-and-forth process," he explained. "Multiple phases of the cleanup design were key to figuring out exactly how the cleanup and Riverfront Park plans were going to work together. That back-and-forth continued right through the cleanup. We were on site regularly, making minor adjustments to surface water drainage and other features as needed."

To address specific cleanup and reuse responsibilities, EPA and the City of Libby reached a cooperative agreement in early 2011. EPA agreed to reimburse the City $59,600 for engineering and irrigation costs, planting activities and road removal. The City agreed to take the lead on all site infrastructure related to reuse.

To help meet its commitments, the City reached out to a diverse network of organizations. "The response was remarkable," said Libby Mayor Doug Roll. "From Lincoln County to local businesses and community organizations, everyone stepped up to the plate."

By August 2011, site preparation activities were underway. Within a year, the site's remedy would be in place. A year later, after site restoration, the City of Libby officially dedicated Riverfront Park in August 2013.

City of Libby Responsibilities	EPA Responsibilities
Construction of new sanitary sewer line and all other utilities.	Site cleanup (capping, excavation and disposal of contaminated materials, creation of utility corridors, backfilling with clean fill).
Trees and other plantings for the park.	Site grading and grass seeding.
Road paving and striping.	Road removal, gravel base installation, boat ramp reconstruction.
Engineering and site irrigation.	Partial funding for the City's engineering, site irrigation and road paving costs.
All reuse-related infrastructure (street lighting, restrooms, signage, trails, gazebo, fishing pier).	Stormwater management (detention ponds, swales).

The Former Export Plant Area: The Story in Pictures

Site Cleanup (August 2011 – August 2012)

Soil excavation

Road removal

Backfilling and site grading

Revegetation, stormwater management, roadbed installation

Road and parking lot paving

Riverbank cleanup *(before and after)*

Embankment cleanup *(before and after)*

"The important thing is that EPA didn't have to do this. They could have scrapped 18 inches of soil and left it an open field. It's so pretty down there and it's a great place for a park. I call it an example of our rebirth in Libby."

– Libby Mayor Doug Roll, July 2012 article in the *Flathead Beacon* newspaper

Site Restoration (July 2012 – August 2013)

Following cleanup, Riverside Park unofficially opened to the community in July 2012. Families hosted weddings in the large pavilion. The community's Riverfront Blues Festival attracted hundreds of concertgoers. Over the next year, made possible by the City of Libby's pursuit of grants and donations, the City and its community partners worked to light the new roadway, install restrooms, put in new picnic tables and plant trees.

- The U.S. Forest Service provided 170 tree seedlings and the Montana Department of Natural Resources and Conservation and the Society of American Foresters provided $10,000 in grant money for purchasing trees.
- The Flathead Electric Cooperative's Roundup for Safety program helped fund roadway lighting.
- BNSF Railway, the Plum Creek Foundation and the Libby Parks Board funded new restroom facilities.
- Lincoln County provided equipment and workers, and helped pave the new roadways, with additional resources provided by the county's David Thompson Search and Rescue organization.
- Community volunteers planted several hundred trees.

In total, the City of Libby estimates that park grants and donations came to $296,000, covering almost half of the park's $612,000 cost. "Conserving taxpayer dollars was a priority," noted Libby Councilwoman Vicky Lawrence. EPA's cleanup, funded by the Agency's 2008 settlement with Grace, cost $2.6 million.

Community tree plantings

Project Partners

Local Governments

City of Libby
Lincoln County

Site Agencies

EPA (cleanup lead)
MDEQ (cleanup support)
U.S. Army Corps of Engineers (contract management)

Community Organizations

Amish Community
Avid Gardeners of Libby
Boy Scout Troop #1971
Community Asbestos Memorial Project
Community Volunteers
Girl Scout Troop #3443
Libby Community Advisory Group
Libby Middle School
Libby Park District
Libby Tree Board
Lincoln County Foundation
Lincoln County Veterans Memorial Project

Site Design and Engineering

48 North Engineering
Sitescape Associates
WGM Group

Grant Resources and In-Kind Services

BNSF Railway
David Thompson Search and Rescue
Flathead Electric Cooperative
Montana Department of Natural Resources and Conservation
Plum Creek Foundation
Society of American Foresters
Strom Electric
U.S. Forest Service

Cleanup Contractors

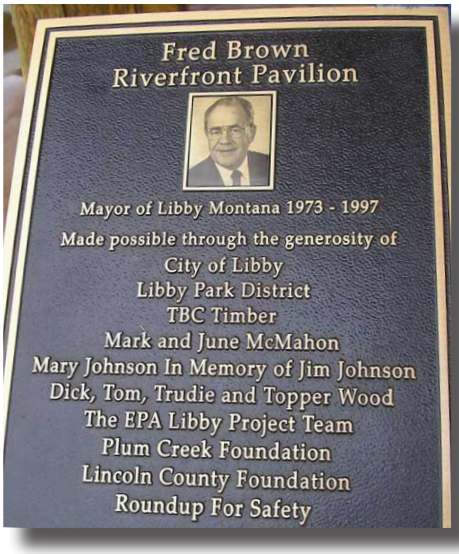
CDM Smith
Environmental Restoration LLC
Project Resources, Inc.

The Riverfront Blues Festival, August 2012

Park boat ramps in use on the Kootenai River

Riverside Park Dedication (August 2013)

The City of Libby's official dedication of Riverfront Park on August 3, 2013, brought the community together with all of the project's partners. "Riverfront Park represents our future," said Libby Mayor Doug Roll. "We look back and recognize our history, and appreciate our steady recovery from environmental tragedy."



Conclusions: 2013

Building on the Past, Looking to the Future

Riverfront Park is now a highly valued community resource. In addition to many unreserved gatherings, people have rented the large park pavilion several dozen times over the past year, for occasions as varied as weddings, class reunions, memorial services and family celebrations, according to the City of Libby's Utility Billing Office. The fifth annual Riverfront Blues Festival in August 2013 brought more than 900 people to Riverfront Park. "Everything feels well established," said Libby Councilwoman Vicky Lawrence. "The grass has grown, the trees are in. It is a beautiful park."

Riverfront Park also remains a work in progress. Future additions include a veteran's memorial. Trails, more trees, historical signage, and a pedestrian overpass to connect the park with downtown Libby are also under consideration. With the park's new utilities and expanded infrastructure, the City is optimistic that its location and popularity may also attract new businesses to the area. "Providing support services to park visitors makes a lot of sense," said City Administrator Jim Hammons. "For outfitters, restaurants, breweries, other businesses. The park makes a big difference in local quality of life, for our economy as well as recreation."

With so much accomplished over the past decade, the City of Libby, EPA and MDEQ are now working together to transition into new roles and responsibilities. "Appropriate institutional controls are critically important," said EPA project manager Rebecca Thomas. "They help us prevent and limit exposure to hazardous materials left in place, making sure the remedy remains protective over the long term. The City of Libby has been great to work with on ICs."

The City has put in place a rental agreement required for users of the Riverfront Park pavilion. It defines how renters may use the area, limiting usage so as to not disturb ground that would cause potential exposures to LA contamination below the protective cap. Any work on embankment areas requires an Encroachment Permit from the Montana Department of Transportation. An agreement with Montana's one-call utility locator service, called U-Dig, puts EPA in touch with anyone excavating in the area. EPA's remedial contractor currently fields U-Dig calls and requests for site information. EPA evaluates and updates the area's institutional controls annually, and has also provided best management practices for contractors and tradespeople working in Libby on Region 8's website.

"MDEQ will remain responsible for monitoring and ensuring the protectiveness of the site's remedy," said MDEQ project manager Carolyn Rutland. "The community is carrying forward the responsibility to use Riverfront Park appropriately." As project partners continue to work together on the cleanup of the rest of the Libby Asbestos site, Riverfront Park serves as a shining example of what is possible. "This park is a symbol of healing for our community," said Vicky Lawrence. "Libby is a special place. We are resilient, and we are ready to move on."

Institutional Controls (ICs): A Brief Overview

ICs are legal and administrative tools used to maintain protection of human health and the environment at sites. They do not involve construction or physical changes to a site.

- ICs play an important role when a cleanup is conducted and when it is too difficult or too costly to remove all contamination from a site.
- ICs are designed to lower the potential for people and the environment to be exposed to contamination.
- There are four types of ICs: government controls (local laws or permits), proprietary controls (private property use restrictions), enforcement tools (consent decrees, unilateral orders), and informational devices (deed notices, public advisories).
- ICs are usually most effective when layered (i.e., multiple ICs of different types working together) to improve protectiveness.
- Seeking community input and involvement can maximize the effectiveness of ICs.
- Most cleanups will need to use a combination of engineered remedies and ICs. ICs provide an additional level of safety and help to make sure a site's remedy remains securely in place.

(Information adapted from EPA's Citizen's Guide to Understanding Institutional Controls)

The large park pavilion under construction in 2008.

Observations

Participants agree that a combination of significant factors have contributed to the cleanup of the former Export Plant area and the successful development of Riverfront Park.

- The area's size, location and proximity to the Kootenai River meant it was well suited to provide multiple recreational amenities.
- The City of Libby energetically pursued the site's cleanup and redevelopment over the long term, putting in place the needed resources, partnerships and infrastructure.
- EPA and MDEQ were engaged partners who understood the community's redevelopment priorities in the context of the site's cleanup and restoration, enabling the development of decision documents that reflected remedy, restoration and redevelopment considerations.
- The community enthusiastically supported the development of Riverfront Park, donating time, materials and money to make it a reality.
- Early and sustained coordination of site plans meant that remediation, restoration and redevelopment could each move forward as part of a linked, phased approach.
- All parties involved were patient and flexible, recognizing that site cleanup and park planning was a complex process reliant on seasonal conditions, available resources, multiple parties and other factors.
- EPA selected a remedy that would be consistent with the area's reasonably anticipated future land uses.

Lessons Learned

While these factors created an ideal climate for the successful reuse of the former Export Plant area, there are also a range of broader lessons learned that can help guide similar projects at contaminated lands across the country.

EPA works with communities, site owners and other stakeholders to support reuse outcomes that are compatible with site cleanups.
The Agency places a high priority on supporting the return of contaminated sites to productive and beneficial uses. In Libby, the community was able to work with EPA and MDEQ to develop plans for Riverfront Park that reflected site conditions and cleanup plans. In turn, the community's reuse plans were able to inform EPA's selected remedy for the site.

While EPA provides tools and resources to support Superfund reuse, communities and public and private sector organizations make it happen.
EPA's mission is to protect human health and the environment. EPA relies on engaged community stakeholders to bring their future land use goals and priorities to the table so that this information can be incorporated as part of the remedial process, linking cleanup and redevelopment.

Mining areas include processing facilities and other infrastructure often located in communities.
While many mines are in remote or rural locations, these support facilities are often well-wired and well-suited for a wide range of reuse opportunities, including recreation.

Local governments can play a unique leadership role in Superfund redevelopment.
As the organizations responsible for their communities' general welfare, local governments are particularly well positioned to host redevelopment projects, bring together diverse stakeholders

to discuss site reuse opportunities, and use planning tools and incentives to foster positive site outcomes.

Think long term.
It can take many years to remediate contamination that has accumulated over decades of site activities. However, this lengthy process also provides a time window for site stakeholders to build partnerships and identify resources, coordinate with EPA and state agencies, and develop a strategy for returning a site to use while protecting future users. In Libby, short-term cleanups at the former Export Plant area led to a gradual expansion of recreational resources and built a strong foundation for the reuse partnerships and coordination with site agencies needed over time.

Avoid business as usual. Site characteristics and community priorities change over time.
The former Export Plant area had been an industrial hub for decades. However, the area's size, riverside location and proximity to downtown were also ideal for recreation. With industrial growth planned for the Kootenai Business Park Industrial District, the City of Libby headed in a new direction and found the resources needed to make Riverfront Park a reality.

Plan for *multiple* uses as well as reuse.
The City of Libby enhanced infrastructure in the area's utility corridors to support surrounding land uses as well as meet the park's needs. "We were thinking long term," said Libby Mayor Doug Roll. "We didn't want to have to dig [the corridors] up in several years' time."

Projects at contaminated lands can be complex undertakings that require diverse expertise.
The project required significant legal and technical expertise. The City worked with an attorney with extensive Superfund experience to provide guidance throughout the process and relied on a landscape architect and an engineering group to ensure that plans for Riverfront Park would be compatible with site conditions and the remedy.

Access site-related information and recognize opportunities provided by the Superfund program.
Superfund sites are among the most comprehensively documented and evaluated areas of land in the United States. At most sites, a completed remedial investigation/feasibility study, draft proposed plan, or Ready for Reuse (RfR) Determination will provide interested parties with extensive site information.

Use a variety of outreach tools to reach different parts of the community.
EPA and the City of Libby both used websites, social media, newspaper articles, fact sheets, and other tools to keep the community updated and engaged. "We learned that different generations get their information in different ways," said City Councilwoman Vicky Lawrence. "Older people might rely on the newspaper or check a website. Younger folks are big with social media."

Build on past experience.
Today, thanks to the bona fide prospective purchase (BFPP) provisions of the 2001 Brownfields Revitalization Act, environmental insurance and EPA tools like RfR Determinations, established resources are available to address stigma and other Superfund site issues. Prospective purchasers can contact EPA site teams to learn more, or see the Resources section on page 17 for additional information.

Libby Vision Statement – Libby 2030

"Libby is a safe, healthy, friendly and attractive community that fosters a sense of belonging and pride. Libby is committed to advancing commerce, tourism and recreation, and to supporting high quality and continuing education…New development and redevelopment is encouraged in areas where public services can be provided and the historic and cultural heritage of the city can be preserved and enhanced. The integrity of natural and scenic resources are maintained and enhanced to protect and maintain Libby's high quality of life…"

Sources and Resources

Sources

Images and maps for this case study were provided by EPA Region 8, the City of Libby, Lincoln County, CDM Smith, Sitescape Associates and WGM Group.

Resources

EPA site profile:
cfpub2.epa.gov/supercpad/cursites/csitinfo.cfm?id=0801744

EPA Region 8 Superfund Program and project Web page:
www.epa.gov/region8/superfund and www2.epa.gov/region8/libby-asbestos

EPA Recommendations for Best Management Practices in Libby:
www2.epa.gov/region8/libby-community-involvement-documents

EPA Abandoned Mine Lands Team:
www.epa.gov/aml

City of Libby:
www.cityoflibby.com

Libby Riverfront Blues Festival:
www.riverfrontbluesfestival.com

Lincoln County:
www.lincolncountymt.us

Montana Department of Environmental Quality, site Web page:
www.deq.mt.gov/libby

Aerial view of Libby.

Out of the Dust: Recreational Reuse After Vermiculite Mining

THE LIBBY ASBESTOS SUPERFUND SITE IN LIBBY, MONTANA

United States
Environmental Protection
Agency

Office of Superfund Remediation and Technology Innovation (OSRTI)
Abandoned Minelands Team
www.epa.gov/aml

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