

Situation Assessment Report for the Rockwell International Corporation Superfund Site Allegan, Michigan

January 2008

*Report cover map source:
Allegan County and Information Services*

E² Inc. Situation Assessment
Allegan, MI: Rockwell International Corporation Superfund Site
January 2008

Introduction

EPA's primary responsibility at Superfund sites is to ensure the protection of human health and the environment. Consideration of a site's potential future use is an important part of this responsibility under the National Contingency Plan (NCP), because it is a part of two of the nine criteria for remedy selection. The first is the threshold criterion of overall protection of human health and the environment. EPA uses its evaluation of reasonably anticipated future land use to establish remedial goals and to select remedies that will allow for those uses whenever possible. Collaboration among EPA, communities, and site stakeholders in the evaluation of future uses establishes realistic expectations for how a site can be used after cleanup. This collaborative process can also help implement appropriate institutional controls, which are a necessary component of protectiveness at sites where waste is left in place.

Consideration of future land use also plays a central role in addressing the modifying community acceptance criterion of the NCP. It has been demonstrated at many Superfund sites that, when EPA works closely with communities and site stakeholders to determine a site's reasonably anticipated future land use, a high degree of community acceptance of the remedy is likely.

Finally, the proper consideration of future site uses can help enable communities to safely return sites to protective, sustainable, and productive uses, a national goal outlined in the Agency's 2006-2011 Strategic Plan. The Superfund Redevelopment Initiative (SRI) was created by EPA in 1999 to help communities and stakeholders in their efforts to return environmentally impaired sites to beneficial use. SRI provides a range of tools and information resources for EPA staff and stakeholders interested in Superfund site reuse.

Situation Assessment Overview

With funding from EPA Region 5, environmental consulting company E² Inc. conducted a situation assessment in the City of Allegan, Michigan in July 2007 to gather information to inform EPA's efforts to help ensure the long-term effectiveness and permanence of remedies implemented at the Rockwell International Corporation Superfund site (Rockwell site).

The situation assessment was conducted following the information collection guidelines outlined in EPA's 2001 Reuse Assessment Guidance (OSWER 9355.7-06P).¹ Information gathered and reviewed included local stakeholders, site features and environmental considerations, site ownership, land use considerations and environmental regulations, community input, public initiatives, and likely future uses.

Activities conducted during the situation assessment included:

- Conference calls with EPA Region 5 and Michigan Department of Environmental Quality (MDEQ) site staff, local government representatives, community residents, and representatives from local organizations;
- Information gathering and review of community planning materials and EPA site reports; and

¹ Reuse Assessments: A Tool to Implement the Superfund Land Use Directive (OSWER 9355.7-06P, 2001):
www.epa.gov/oerrpage/superfund/programs/recycle/pdf/reusefinal.pdf

- July 2007 site and community visit that included meetings with representatives from EPA Region 5, the City of Allegan, and potentially responsible party ArvinMeritor, Inc. (ArvinMeritor), as well as other community and local government stakeholders.

This summary memo provides an overview of the key findings identified during the project’s situation assessment as well as a set of potential next steps for incorporating reuse and long-term stewardship considerations into the remedial planning process at the Rockwell site.

I. Findings

A. Community Introduction

- The City of Allegan (pop. 4,838) is located along the Kalamazoo River in Allegan County (pop. 105,665) in southwest lower Michigan, approximately 40 miles southwest of Grand Rapids. Incorporated in 1907, the City of Allegan is also the Allegan County seat. The city’s total land area is 4.1 square miles – approximately 2,682 acres.²
- In 2000, the city’s population was 88 percent White, five percent African-American, three percent Hispanic, two percent Asian and American Indian, and two percent Other. While Allegan County’s population has grown by at least 11 percent each decade since 1960 and is projected to reach 167,000 by 2030, the City of Allegan’s population has declined or remained constant over the same time period. Based on building permit data, the city anticipates that its population will increase by about 23 persons per year in the future.
- The City of Allegan and Allegan County are localities in transition. While much of the county remains rural, the area’s economy is no longer built predominantly around manufacturing and natural-resource based industries. Increasingly, the area’s economy revolves around service-sector businesses, while increasing numbers of city and county residents commute to Grand Rapids as well as smaller urban areas like Holland and Kalamazoo.
- The City of Allegan’s population has not grown rapidly partly due to its distance from urban centers and the region’s changing economy, but also because the city’s residential areas are almost completely built out. The majority of vacant land in Allegan is zoned for commercial and industrial land uses along the M-89 and M-222 state highways. The table below summarizes existing land uses in Allegan.

Land Cover	Acreage	Percent of City’s Total Land Area
Residential	688.14	25.7 %
Commercial	104.46	3.9 %
Industrial	380.99	14.2%
Institutional	58.94	2.2%
Agricultural	16.30	0.6%
Water/Wetlands	427.71	15.9%
Open/Wooded	661.58	24.7%
Transportation	255.32	9.5%
Outdoor Recreation	88.62	3.3%

² Information presented in this section was gathered from project interviews, the City of Allegan’s March 2004 Comprehensive Plan, and U.S. Census Bureau data.

- According to the city’s comprehensive plan, “Allegan has developed as an urban area surrounded by agricultural uses and open lands. The city has a well-defined downtown located in the center of the town around the Kalamazoo River and surrounded by fairly dense residential land uses with commercial and industrial uses following transportation corridors.”
- The 30-acre Rockwell site is located within walking distance of Allegan’s downtown district and is located adjacent to the Kalamazoo River (see Figure 1 below). The Rockwell site is currently zoned for manufacturing (M-1) land uses. The City of Allegan’s Comprehensive Plan and zoning ordinance were last updated in 2004. In the context of planning for the site’s redevelopment, the city refers to the area as Allegan Prospect Point.

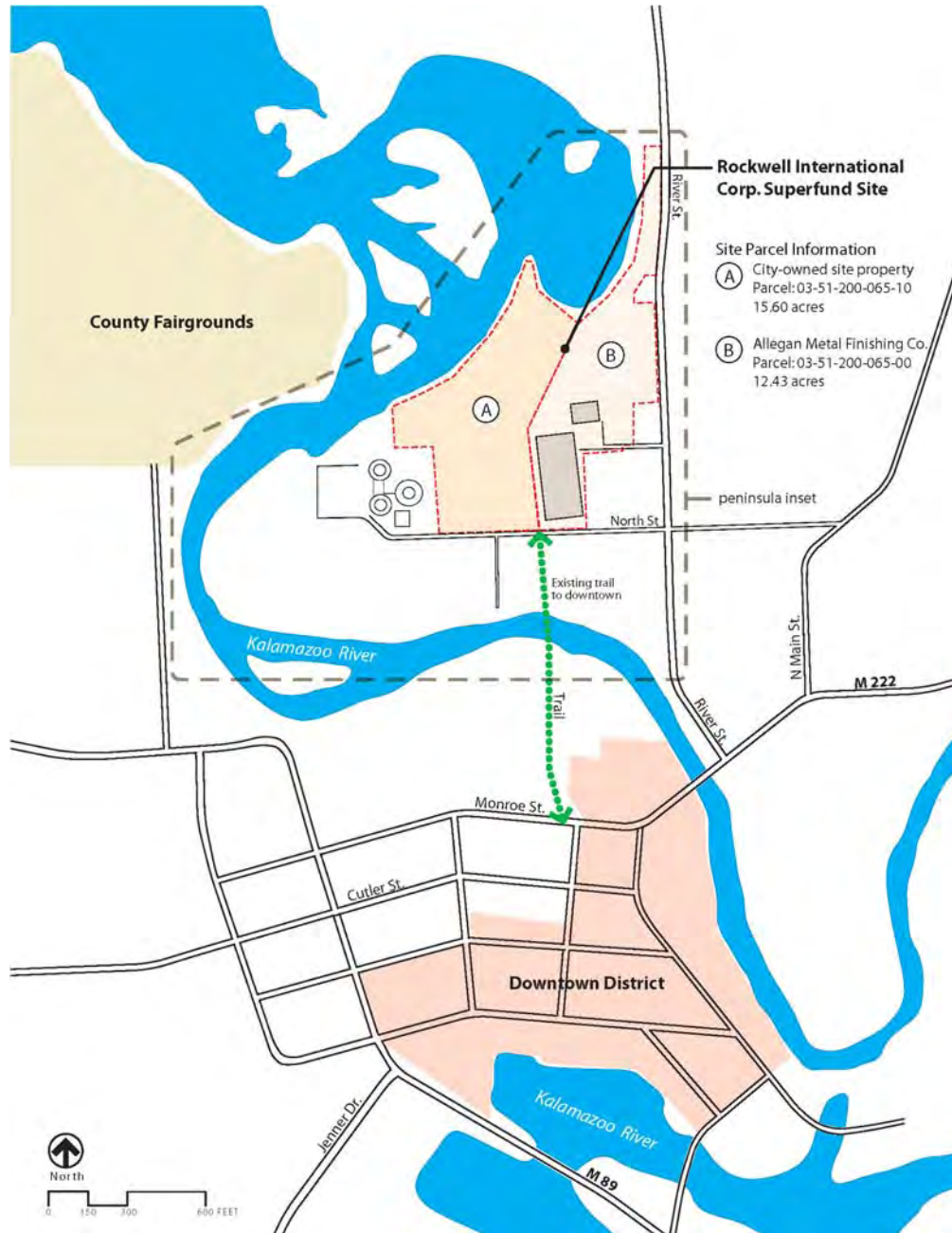


Figure 1. Site Location Map

B. Local Government and Community Concerns and Priorities

- The City of Allegan's general priorities include public infrastructure and infrastructure improvements (water, sewer, and roadways), maintaining and providing access to the city's natural and recreational resources, including the Kalamazoo River, sustaining the city's downtown district as the region's economic and commercial core, targeting new residential development to address local and regional needs for expanded senior housing facilities, and building an increased tax and employment base through new commercial and industrial development located along the M-89 and M-222 state highways.
- Within this context, City of Allegan representatives indicated that the locality has both short- and long-term interest in the reuse of the Rockwell site, which is referred to as Allegan Prospect Point. The city owns approximately 16 acres of the 30-acre site; the rest of the site is in continued use and is owned by the Allegan Metal Finishing Company (see Figure 1 for site property information).
- Funded by a pilot grant from EPA's Superfund Redevelopment Initiative, the City of Allegan developed a reuse plan for the Rockwell site in September 2001. The plan originally focused on the site's reuse as part of a larger, 65-acre area for the Allegan County campus of the Kalamazoo Valley Community College. The reuse plan could not be implemented following an unsuccessful ballot initiative to increase local millage (tax) rates to help fund the project; the city is no longer considering a college facility as a potential site reuse opportunity (see Appendix B for the original reuse plan).
- As of 2007, the city has identified a range of other potential reuses for the city-owned portion of the site. These uses include an expansion of the city's adjacent wastewater treatment plant, an Allegan County correctional facility, commercial and light industrial land uses, a senior housing facility, recreational facilities, and a boat launch on the Kalamazoo River.
- The city is looking for reuses for its site property that will benefit the community and do not require significant municipal investment. The city has not prioritized among the land uses listed above and is looking to work with interested parties that would lead efforts to reuse the site property. The city is currently offering single business tax credits as incentives for parties interested in developing the site property.
- At neighborhood meetings in 2006 and 2007, community residents indicated that the protection of human health and the environment is their top priority at the site. City staff indicated that a correctional facility and heavy industrial land uses would likely not be well-received by neighborhood residents, but that residents would likely support the development of compatible residential, commercial, light industrial, or recreational land uses at the site in the future.

C. *Site Contamination and Remediation*

- *Site history background:* From the 1910s to the 1980s, the site was used for the manufacturing of various automotive related components, including most recently universal joints and drive-line equipment for vehicles. The site was operated by a number of entities, including the Automotive Division of Rockwell International Corporation. The western portion of the site was sold to the Allegan Redevelopment Corporation in 1990. The remainder of the site was sold to the Allegan Metal Finishing Company in 1995. Past activities at the site led to groundwater, surface and subsurface soils, and settling pond sediment contamination with PCBs, VOCs, and metals.³
- *Administrative record summary:* The site's RI/FS was completed in 2001, EPA issued its proposed cleanup plan for the site in summer 2002, and the site's Record of Decision (ROD) was issued in September 2002. In conjunction with the ROD, EPA issued a Unilateral Administrative Order to site PRP ArvinMeritor, Inc. (formerly the entities comprising the Automotive Division of Rockwell International Corporation), for the performance of the Remedial Design and Remedial Action.
- *Removal action summary:* In fall 2001, a removal action addressed PCB-contaminated soil in a residential yard and the oil-impacted soils along the sewer lines in the neighborhood across the street from the site. Removal work was completed in December 2002.
- *Completed response activities:* On-site response activities began in 2005 and included the removal and off-site disposal of contaminated soils and debris. Portions of the site were regraded as part of the soil removal activities. Soils and sediments at depths of up to two feet below ground surface meet Michigan residential cleanup criteria and soils at depths greater than two feet below ground surface to the water table meet Michigan industrial cleanup criteria. Former site buildings have been demolished; large concrete slabs remain and soils underneath the slabs have been sampled to the water table depth. Based on subslab sampling, it is anticipated that slab removal would not impact the protectiveness of the site's remedy. Please see Appendix A for a map summarizing response activities at the Rockwell site.
- *Future response activities:* The ROD also includes groundwater monitoring and installation of a slurry wall to prevent contaminated groundwater from entering the Kalamazoo River. The PRP's contractor submitted a work plan for installing monitoring wells and collecting samples to EPA and MDEQ in July 2007 for review. Sampling from the monitoring wells will be conducted for four to eight quarters to establish baseline data for future sampling. MDEQ will analyze the sampling data in order to make a mixing zone determination – where the ground water and Kalamazoo River intersect. In cooperation with EPA and MDEQ, the PRP contractor is re-evaluating the ground water sampling data to determine the effectiveness of the source removal activities. Based on this assessment, it may be determined that a slurry wall is not necessary and that alternate remedial measures may more effectively and efficiently address any remaining ground water contaminants. If a slurry wall is installed, the PRP contractor estimates that it will take approximately three to six months to construct a slurry wall. Preliminary designs suggest that a slurry wall could work with future site reuse plans. The wall, which would be located underground, would likely run along the site property boundary and require a twenty-foot-wide buffer area; treatment gates may require a bigger buffer area.

³ Information in this section was gathered from interviews with EPA site staff, the site's 2002 Record of Decision, EPA Project Factsheets, and administrative record documents.

- *Protectiveness and residual contamination considerations:* Soil cleanup has been completed under the EPA-approved cleanup plan. From the soil surface to two feet below the surface, the soil cleanup allows for residential, recreational, commercial, or industrial use of the land. Soil deeper than two feet has been cleaned up to meet state criteria for industrial use, as well as allowing placement of building foundations and belowground utilities for non-industrial uses of the land, so long as future residents or recreational or commercial users do not come into contact with that soil through gardening or other digging. Discharge of groundwater to the Kalamazoo River is being evaluated to determine compliance with the final groundwater cleanup criteria, including mercury. Vapor intrusion is not expected to be an issue, because most VOCs have been addressed by removal of contaminated soil. Finally, the adjacent Kalamazoo River is part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site, and it is possible that river sediments near the site could require remediation by that PRP group in the future.
- *Institutional controls summary:* The site's ROD states that deed restrictions need to be placed on the property to ensure protectiveness of the remedy. Legal controls will limit the use of the site to prevent excessive human exposure to contaminated soil remaining deeper than two feet below the surface, and to groundwater that might otherwise be used for drinking or other human use.

D. Site Characteristics and Surrounding Land Uses

- The 30-acre Rockwell site is located on a peninsula created by an oxbow in the Kalamazoo River just north of Allegan's downtown district. The county fairground complex is located across the river, within view of the site. The city-owned site property occupies a large, central portion of the peninsula and is surrounded by a mix of land uses including light industrial to the east, the city's wastewater treatment plant to the west, and neighborhoods intermixed with community service businesses to the south and east (see Figure 2 on page 7).
- The city is evaluating local and regional wastewater treatment needs. Through a state DEQ grant, the city is working with an engineering firm to conduct a needs assessment and develop scenarios for upgrading the existing system. These upgrades may include using a small portion of the western edge of the site property to install a new clarifier unit.
- Vehicular access to the city's site property is provided by North Street, which extends along the site property's southern boundary and terminates at the wastewater treatment plant. Non-vehicular access to the area is accommodated by a paved pedestrian trail that originates across the street from the site and provides access into Allegan's downtown district.
- The city-owned site property is fenced with two distinct, relatively flat terraces of land divided by sloped banks (see Figure 2 on page 7 and site photos on pages 9-10). No portion of the site property is located in the floodplain; two nearby dams on the Kalamazoo River also help manage river levels in the area. The site property's upper terrace comprises much of the southern portion of the property and is covered by concrete slabs. The lower terrace runs along the river in the northern portion of the site. The site property's entrance drive, located along the western boundary of the site property, provides access to the upper terrace and lower terraces.
- Most of the site property is covered in grass; the site's large open areas allow for sweeping views of the Kalamazoo River. Trees currently extend along the banks of the Kalamazoo River, with a cluster of trees occupying the northern point of the city's site property. Access to the river is relatively unobstructed.

- Site infrastructure includes access to city water and sewer service, natural gas, and electricity. A publicly-owned fiber optic network is located blocks from the site. Water and sewer may need to be re-extended across the site because the old system was removed as part of the site's remediation. On-site stormwater is managed through a swale and riprap spillway. Monitoring wells will be installed and data collected routinely.
- The site is currently zoned M-1 Manufacturing District. The wastewater treatment plant and former landfill area to the west of the site is zoned Public/Governmental Lands District. The eastern portion of the peninsula to River Street is zoned Single Family Residential – Medium Density. Mixed land uses, including industrial, residential, and recreational land uses, as well as the North Ward elementary school, are located east of River Street.

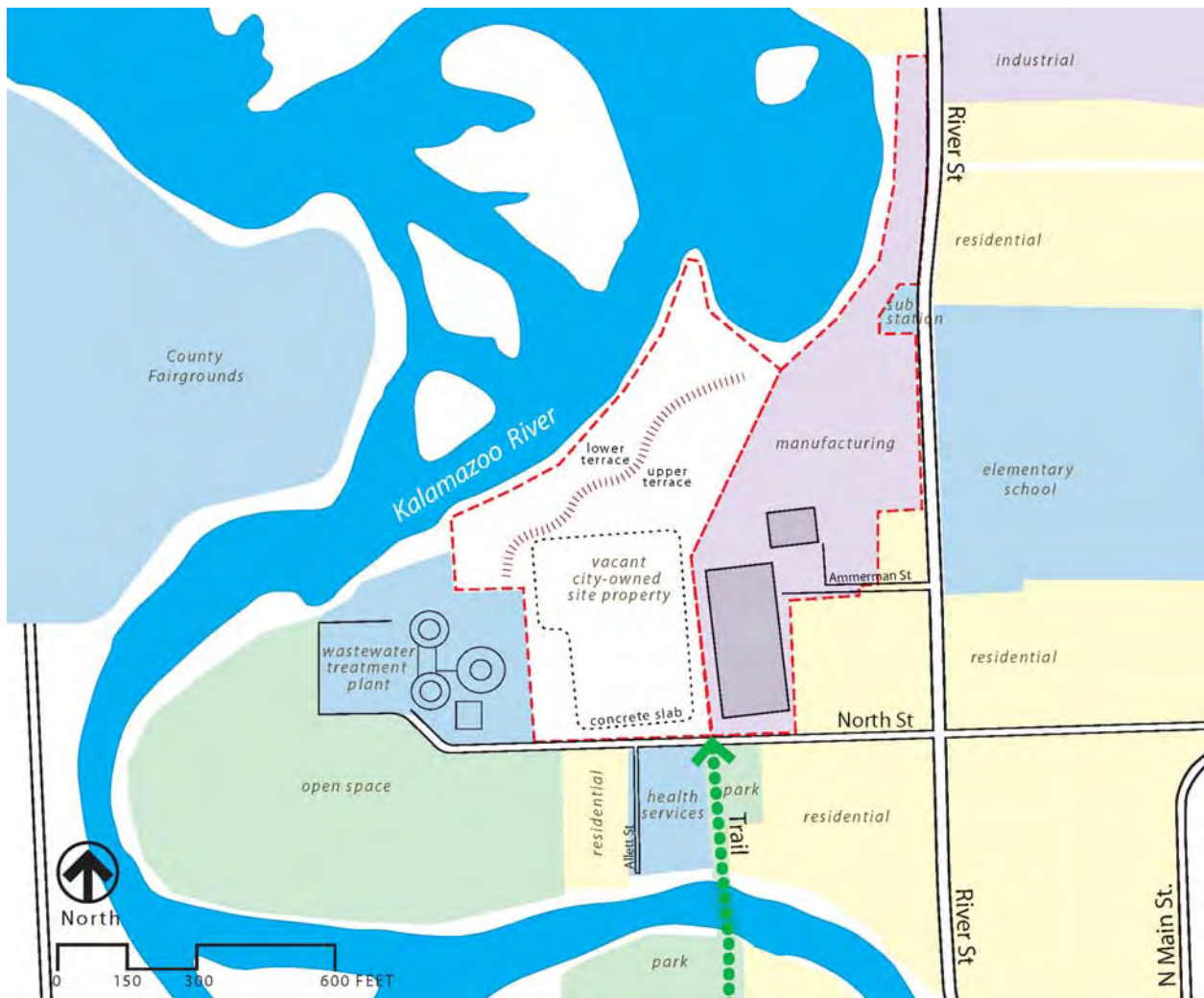


Figure 2. Peninsula Inset: Surrounding Land Uses and Site Characteristics

E. Site Ownership and Potentially Responsible Parties

- The 30-acre Rockwell site is currently owned by the Allegan Metal Finishing Company and the City of Allegan, which owns a 15.60-acre parcel of the site with frontage on the Kalamazoo River to the north and North Street to the south. Previous site owner Rockwell International transferred the western portion of the property to a company called Allegan Redevelopment Company for a nominal amount (\$200). After Rockwell International conveyed the property, it eventually came to the City of Allegan via tax delinquency. To date, adjacent site property owner Allegan Metal Finishing Company has expressed interest in the reuse of the city's site property.
- The site's potentially responsible party, ArvinMeritor, is the successor corporation to the entities that comprised the Automotive Division of the previous site owner Rockwell International Corporation. ArvinMeritor has worked with EPA and MDEQ to address the site's contamination following EPA's issuance of a Unilateral Administrative Order in 2002 for the performance of the site's Remedial Design and Remedial Action. EPA has no current plans to place any liens on the site.
- Several private developers have expressed interest in working with the city to redevelop the city's site property for a range of different uses, including commercial, residential, and recreational land uses. A representative from the Goforth Group, a real estate development company based in nearby South Haven, Michigan, attended the July 2007 site meetings with city and EPA staff.⁴ The representative indicated the company's interest in working with the city to locate a senior housing facility on the site. The representative indicated that the company would be researching whether the site's status as a Superfund site would have any implications for the availability of financing resources from the Michigan State Housing Development Authority in the near future.⁵

⁴ www.goforthgroup.com

⁵ www.michigan.gov/mshda

G. *Site and Surrounding Area Photographs*



View west along North Street towards the Rockwell site and the city's wastewater treatment plant.



View east along North Street, towards River Street.



View north from the city's downtown connector trail. The city-owned site property is visible in the distance.



View of the end of North Street and the entrance to the city's wastewater treatment plant.

G. *Site and Surrounding Area Photographs (continued)*



View southwest towards the city's wastewater treatment plant and concrete slabs that cover a majority of the southern portion of the site.



View southeast across the site towards an adjacent business (Allegan Metal Finishing Company) and residents across North Street.



View of the site's lower terrace, with the Kalamazoo River located to the left.



View of the Kalamazoo River from the site's lower terrace.

F. *Findings: Key Future Land Use Considerations*

- **Based on the situation assessment’s information gathering, reasonably anticipated future land use(s) for the portion of the Rockwell site owned by the City of Allegan – known as Allegan Prospect Point – could include residential, commercial, light industrial, and/or public land uses.** While the City of Allegan is not growing rapidly in general, there are multiple site-specific factors likely to spur the site’s reuse.

The site property has an excellent location, centrally situated on the Kalamazoo River, with flat terrain and striking views that could provide amenities for current residents and attract future residents. The site property has access to existing infrastructure and is located close to the city’s fairgrounds and within walking distance of the city’s downtown district (see Figure 3 on page 14). The site’s remedy will support land uses that take remedial considerations, including groundwater use restrictions and appropriate management of site soils at depths greater than two feet, into account. Developers and the City of Allegan have expressed interest in potential future land use opportunities at the site. Finally, the site property is large enough to support multiple land uses.

- **Many of the potential land uses identified for the site to date are compatible with each other and could fit well with the site’s surroundings, including surrounding neighborhoods.** Given the size of the city’s site property, the city could consider mixed-use compatibility as a potential selection criterion for land uses identified for the site. Compatible land uses at the site could include commercial office and retail space, a senior housing facility, public/community land uses such as recreational facilities, and a boat launch on the Kalamazoo River. Several potential land uses, including a correctional facility and light industrial land uses, would not meet this criterion. A possible expansion of the wastewater treatment plant into the lower terrace adjacent to the plant’s eastern boundary could be compatible with mixed uses. An expansion of the wastewater treatment plant beyond the terrace may not be compatible with the mixed-use concept (see Figure 3).
- **The City of Allegan could take several actions to support the reuse of the Rockwell International Superfund site, including changing the site’s existing M-1 Manufacturing District zoning to reflect planning for Allegan Prospect Point, improving site access and infrastructure, and coordinating with the local community to ensure that community members support future planning efforts for the site.**

The site’s existing zoning currently allows for a range of uses like industrial machinery, heavy construction, and motor freight transportation that may not be compatible with the site’s surroundings and that have not been identified as being among the city’s priority list of land uses for the site.⁶ In terms of alternatives, the city’s Planned Unit Development District would enable mixed residential, commercial, and business development zones at the site. However, this designation would require that a single development proposal address the entire site property. The city could also rezone different parts of the site property for different land uses, using existing zoning districts like the General Commercial District (Section 4.8) or the Public/Governmental Lands District (Section 4.11). Rezoning the site in this manner would likely overdelineate particular parts of the site for particular land uses.

⁶ City of Allegan Zoning Ordinance Section 8.3, Table of Use Regulations by Standard Industrial Code, M-1 Zoning District.

Alternately, the city could create a new, mixed use overlay zoning district, similar to its Historic Preservation District (Section 4.121) and its Floodway/Flood Plain Areas District (Section 4.122), which could encourage the interest of multiple parties in the site's reuse and also address the larger peninsula as well as the site itself. Model overlay district zoning ordinances that encourage mixed land uses and innovative planning and development efforts are available online from several organizations, including the Urban Land Institute and the American Planning Association.⁷

Second, the city could coordinate with neighboring property owners to improve access to the site property. In particular, providing a second access point from River Street, located east of the site, would create opportunities for site circulation. Finally, the city could undertake a review of existing site infrastructure needs – water, sewer, and electric are available adjacent to the site – and plan for site infrastructure improvements over the short and long-term. The city's review will also need to consider any future expansion or upgrade requirements for the adjacent wastewater treatment plant that are identified by the city's forthcoming engineering study. The city could also consider whether it will be possible to adaptively reuse any remaining on-site infrastructure for future site uses.

- **If the city provided community members with access to the Rockwell site in the short-term, via walking trails, bike routes, or other means, it would help reduce site stigma, raise the site's profile in the community and provide opportunities for education and outreach, and build community interest and support for the site's reuse.** With the exception of the potential slurry wall construction, the remediation of the Rockwell International site has been completed and the city's site property is available for reuse. While it may take time to plan for and reuse the site property, access to the site via a bike path or a birding trail along the Kalamazoo River could provide a low-impact, minimal-cost, short-term opportunity to reintroduce the site property as Allegan Prospect Point to the community. The trail system could be either expanded or removed as reuse plans for the site move forward.

City rules and regulations for parks and recreation facilities could be applied to the site property to address trespassing concerns, with trail paths guiding visitors around designated parts of the site. With additional resources, a trail system could include educational stations and handouts summarizing the site's history, contamination and cleanup, and the status of reuse planning activities for the site.

- **Past land uses at the Rockwell site resulted in contamination of the site's soils and groundwater. Planning for the reuse of the city's site property presents an opportunity for the city and other interested site stakeholders to create a new reuse plan for both the site and the larger peninsula that addresses the natural world alongside the community's social and economic priorities in a sustainable, community-focused way.** An ecologically sustainable reuse plan for the city's site property could focus on three areas: resource efficiency, innovative stormwater management, and the protection of natural systems.

Resource efficiency – the efficient use of land, soils, water, minerals, timber, fossil fuels, and energy – is a powerful way to both reduce project costs and provide environmental benefits. An ecologically sustainable reuse plan could evaluate opportunities for resource efficiencies across the city's site property, addressing areas like site layout, building design, materials selection, and systems design processes. Buildings could be designed to incorporate recycled materials and

⁷www.uli.org/Content/NavigationMenu/MyCommunity/SmartGrowth/SmartGrowthAllianceInformationNetwork/Resources/Resources.htm and www.planning.org/smartgrowthcodes/phase1.htm#1.

minimize resource needs, and be situated to maximize natural lighting and harness solar energy, reducing facility energy demands. It may also be possible to adaptively reuse building slabs remaining on the southern part of the site.

Finally, the construction of buildings and impervious surfaces like parking lots can result in high velocity stormwater flows from rain events that erode stream banks, concentrate pollutants, and damage ecosystems. However, innovative approaches to stormwater management like low-impact development (LID) techniques can strengthen a reuse plan and mimic the benefits provided by natural systems. Given the site property's proximity to the Kalamazoo River, an ecologically sustainable reuse plan that incorporates these techniques and recognizes and protects the area's natural systems could be of particular importance.

- **EPA is working to ensure the protectiveness of the site's remedy. There are several ways that EPA's efforts can be coordinated with site reuse outcomes and strengthen relationships between EPA and the community in Allegan.** First, EPA could coordinate with the city and other site property owners to ensure that appropriate institutional controls, including deed restrictions and ground water use restrictions, are implemented at the site. Second, if a slurry wall is required at the site, EPA could work with MDEQ and the site's PRP to determine whether it may be possible to locate low-impact land uses like recreational trails within the slurry wall's buffer area. The site's monitoring wells could also be located and/or relocated, as well as flush-mounted, in coordination with the city's future planning efforts in order to remove any unnecessary obstacles to site reuse opportunities.

EPA could also provide the community with information materials, in the form of a reasonable steps letter, site status letter, Ready for Reuse Determination, or other tools that would provide an environmental status report for the site and identify the types of land uses that can be supported by the site's remedy. Finally, EPA could provide assistance with the development of educational materials for the site, which would summarize the site's history and cleanup and help build local understanding of the site's remedy and current status. These materials could be made available on-site as part of the trail system discussed above.

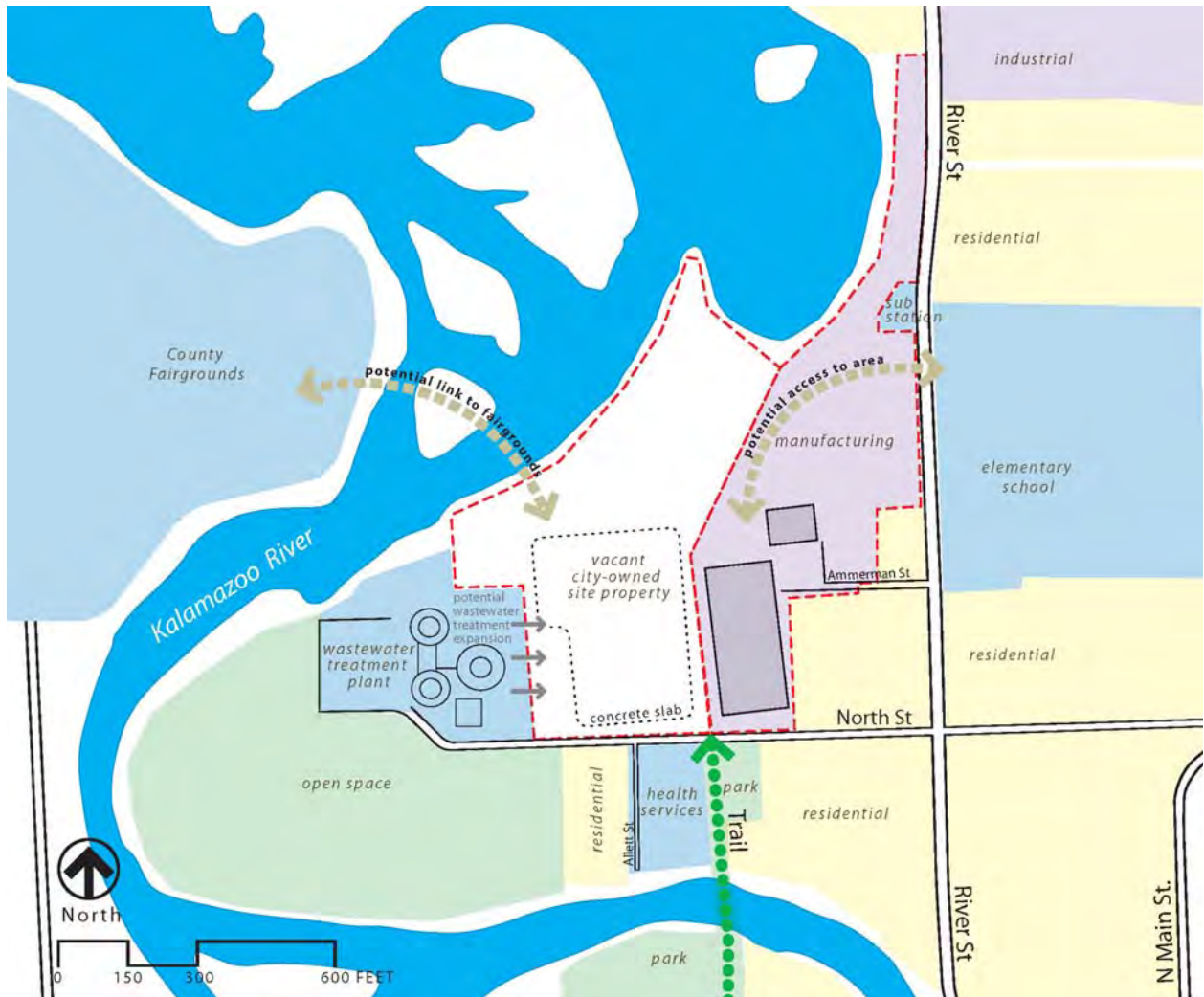


Figure 3. Future Land Use Considerations

Proposed Next Steps

Based on these findings, reuse planning assistance for the City of Allegan at the Rockwell International Superfund site could include:

- The design of an interim educational trail system across the city's site property that would enable community residents to access the site in the short-term, raising community awareness of the site and its current status and helping to address site stigma issues;
- The development of environmental education materials – information stations and handouts – presenting the site's history, contamination and cleanup, and current status as well as the city's future plans for the site. These materials would be posted at regular intervals along the educational trail system; and
- The provision of an environmental status report, in the form of a reasonable steps letter, site status letter, Ready for Reuse Determination, or other tools from EPA Region 5 to the City of Allegan to communicate the site's current status and the types of land uses that can be supported by the site's remedy.

Appendix A

Site map illustrating response activities at the Rockwell site. Source: Remedial Action Progress Update No. 11 December 2006.



Appendix B

The City of Allegan's 2001 reuse plan for the Allegan County campus of the Kalamazoo Valley Community College. The reuse plan focused on the Rockwell site and surrounding area. Source: *Kalamazoo Valley Community College, Allegan County Campus Conceptual Use Framework.*

