

Annual Assessment of the Effectiveness of Site-Wide Institutional Controls Applied to the Former DOE Mound Site Property

June 2011



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

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Abbreviations

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COS	Central Office Space
CRP	Comprehensive Reuse Plan
DOE	U.S. Department of Energy
EM	Office of Environmental Management
EPA	U.S. Environmental Protection Agency
GH	Guard House
GP	Guard Post
IC	institutional control
LM	Office of Legacy Management
MDC	Mound Development Corporation (formerly MMCIC)
MMCIC	Miamisburg Mound Community Improvement Corporation
MNA	monitored natural attenuation
NESHAPs	National Emission Standards for Hazardous Air Pollutants
O&M	Operations and Maintenance
ODH	Ohio Department of Health
OEPA	Ohio Environmental Protection Agency
OSE	Office Space East
OSW	Office Space West
OU-1	Operable Unit 1
ROD	record of decision

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1.0 Introduction

This report documents the U.S. Department of Energy (DOE) Office of Legacy Management (LM) 2011 annual assessment of the effectiveness of site-wide institutional controls (ICs) for the Mound Site¹ in Miamisburg, Ohio, for the period from April 14, 2010, to April 30, 2011. This annual assessment covers parcels that have completed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 120(h) requirements for property transfer. The ICs, which are legal and administrative tools in the form of deed restrictions, are defined in the record of decision (ROD) for each parcel (DOE 1999a, 1999b, 2001a, 2001b, 2003, and 2009b) and are described in the *Operation and Maintenance (O&M) Plan for the Implementation of Institutional Controls at the 1998 Mound Plant Property, Phase I Parcel* (DOE 2004a) (O&M Plan).

This annual assessment covers the entire Mound Site. The Mound Development Corporation (MDC), formerly called the Miamisburg Mound Community Improvement Corporation (MMCIC), owns Parcels D, H, 3, and 4 and the Phase I parcel (comprising sub-parcels A, B, and C) as shown in Figure 1. The DOE Office of Environmental Management (EM) owns Parcels 6, 7, 8, and 9. EM is currently processing an amendment to the Operable Unit 1 (OU-1) ROD that expands the footprint to include the former rail loadout area and identifies the area as Parcel 9.

ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. The ICs were developed and presented in the ROD process, which includes input from the public, the City of Miamisburg, the regulators, and MDC. RODs require that DOE perform an annual assessment to document the effectiveness of the ICs (in the form of deed restrictions) and to confirm that all site changes comply with them. Section 3.0 describes the ICs in detail.

Each annual assessment includes a physical inspection of land parcels; discussions with the property owners; a review of all applicable records, including construction, street opening, occupancy, and other permits; zoning modification requests; and well drilling logs.

Although not an IC, groundwater monitoring is required by CERCLA remedies for some parcels. This inspection includes the physical conditions of wells and seeps associated with these remedies.

DOE contacted the U.S. Environmental Protection Agency (EPA), the Ohio Environmental Protection Agency (OEPA), and the Ohio Department of Health (ODH) 30 days before the visual inspection. DOE must submit the annual assessment report to EPA and OEPA no later than June 13 of each year.

2.0 Overview of Parcel Transfer Process

In January 1998, DOE executed the original sales agreement with MDC. The agreement called for the transfer of discrete land parcels to MDC, via a series of quitclaim deeds, after the parcels were declared excess to DOE's needs and after all requirements of CERCLA 120(h) for property

¹ The Mound Site was also formerly identified as the Mound Laboratory and the Mound Plant.

transfer were met. As MDC acquired a parcel, it became part of the Mound Advanced Technology Center, which is a light industrial/technology park operated by MDC. The same parcel transfer process was continued in the revised sales agreement, *Sales Contract by and between the United States Department of Energy and the Miamisburg Mound Community Improvement Corporation, August 28, 2008* (DOE 2008).

The O&M Plan for site-wide ICs applies to parcels that have completed the CERCLA 120(h) process for property transfer, whether or not title to those parcels has been transferred to MDC. The O&M Plan was updated to include Parcels 6, 7, and 8 and will be finalized when the Parcel 9 ROD amendment is issued.

Table 1 provides details of the sizes, transfer dates, and status of the parcels covered by this annual assessment.

Table 1. Mound Site Parcel Information

Parcel	Former ID	Acres	Number of Structures	DOE Building Names/Numbers (See Table 3 for current street addresses)	Completed CERCLA 120(h) Process?	Date Transferred	Owner
D	Release Block D	12.43	2	100, 105	Yes	March 1999	MDC
H	Release Block H	14.29	0		Yes	August 1999	MDC
3		5.581	2	Guard House (GH), Guard Post (GP)-1 (MDC demolished GP-1)	Yes	August 2002	MDC
4		94.838	0	MDC built Flex Bldg.	Yes	April 2001	MDC
Phase I	A	2.542	8	87, 3 Magazines 80–84 Salt storage shed	Yes	February 2009	MDC
	B	42.882					
	C	6.568					
6 ^a		13.636	3	Office Space East (OSE), 28, 45	Yes		EM
7		42.307	3	2, 61, 63	Yes		EM
8		45.247	3	Central Office Space (COS), Office Space West (OSW), T	Yes		EM
9		23.148	4	300, 301, Trailers 1 and 16	In process		EM
6A	Within Parcel 7	2.352	1	126	Not applicable		EM
Totals		305.821	26				

^a Parcels 6, 7, and 8 are combined into one ROD.

Figure 1 shows the original boundaries of the former DOE Mound Site Property divided into parcels. The shaded areas show the parcels that have been transferred to MDC.

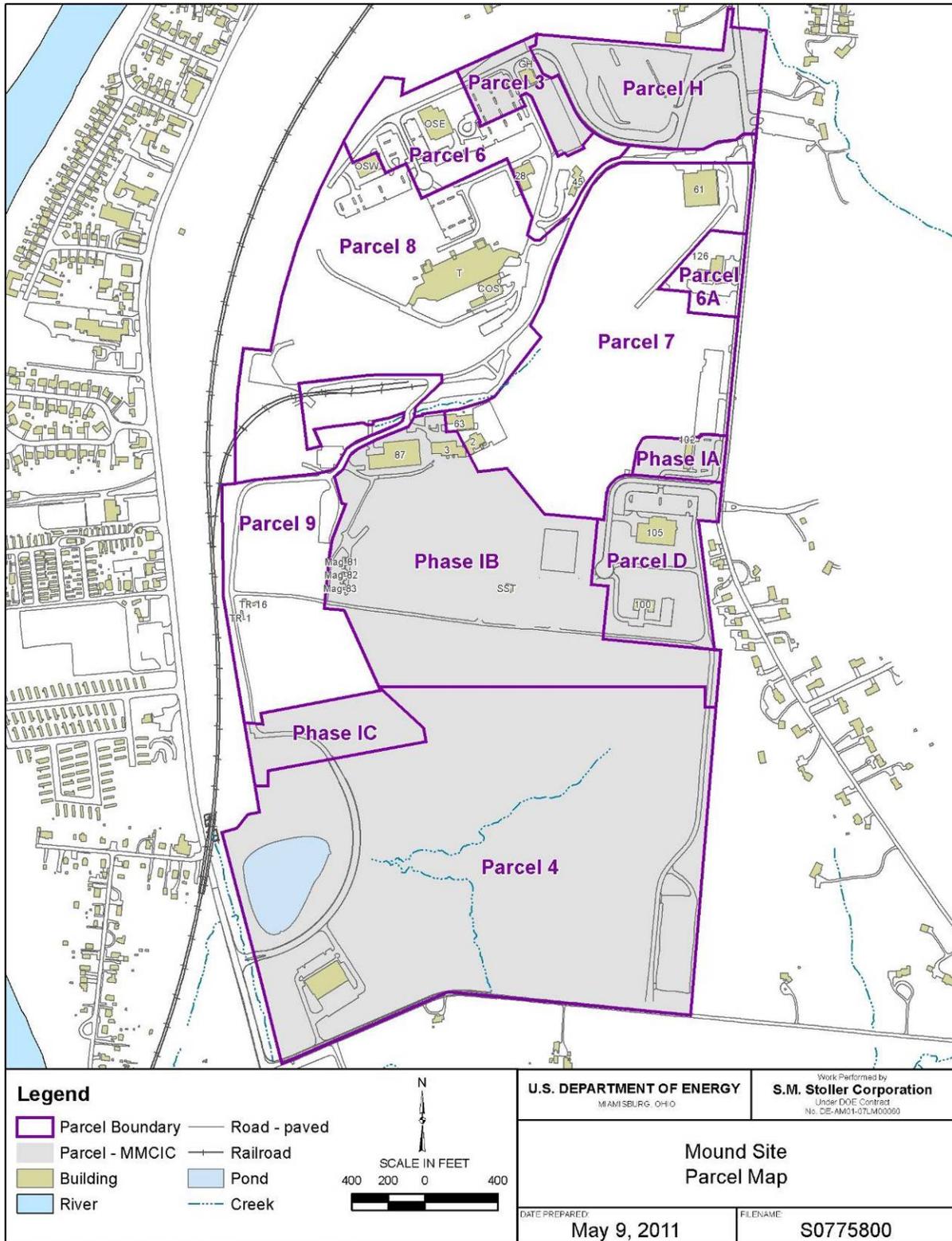


Figure 1. Parcel Map of the Former DOE Mound Site Property, Miamisburg, Ohio

3.0 Overview of Institutional Controls (ICs)

ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. ICs are defined in each ROD and described in the O&M Plan. Additional information on ICs can be found in the February 2005 EPA document, EPA-540-R-04-004, *Institutional Controls: A Citizen's Guide to Understanding Institutional Controls at Superfund, Brownfields, Federal Facilities, Underground Storage Tank, and Resource Conservation and Recovery Act Cleanups*, which is available on the EPA website at http://www.epa.gov/fedfac/pdf/ic_ctzns_guide.pdf.

The Mound Site ICs, which were imposed as part of the CERCLA remedy, are in the form of deed restrictions which were developed with input from the public, the City of Miamisburg, the regulators, and MDC.

DOE remediated the former DOE Mound Site Property to EPA's risk-based standards for industrial/commercial use only.

Each ROD contains the deed-restriction language to be embedded in the quitclaim deed and the CERCLA 120(h) for the parcel it covers. The quitclaim deed and the CERCLA Summary Notice are recorded with Montgomery County, Ohio, so that all future property owners will know about the deed restrictions.

The deed restrictions are designed to:

1. **Prohibit the removal of soil** from the original DOE Mound Site Property boundaries, unless prior written approval from OEPA and ODH has been obtained.
2. **Prohibit the extraction or consumption of, exposure to, or the use in any way of the groundwater** underlying the premises, unless prior written approval from EPA and OEPA has been obtained.
3. **Limit land use to industrial/commercial only.** Each parcel ROD identifies land uses that will not be permitted, but the list is not all-inclusive. Parcels may not be used for any residential or farming activities, or any activities that could result in the chronic exposure of children less than 18 years of age to soil or groundwater from the premises. Restricted uses include:
 - Single or multi-family dwellings or rental units.
 - Daycare facilities.
 - Schools or other educational facilities for children under 18 years of age.
 - Community centers, playgrounds, or other recreational or religious facilities for children less than 18 years of age.
4. **Prohibit the removal of concrete floor material** in specified rooms of T Building (Figure 11) to off-site locations without prior approval from EPA, OEPA, and ODH.
5. **Prohibit the penetration of concrete floors** in specified rooms of T Building (Figure 11) without prior approval from EPA, OEPA, and ODH.
6. **Allow site access for federal and state agencies** for sampling and monitoring.

The preceding deed restriction language is a summary only. The RODs contain the parcel-specific deed-restriction language. RODs and other CERCLA administrative record documents are available in the CERCLA Public Reading Room and electronically on the LM Mound website, <http://www.lm.doe.gov/land/sites/oh/mound/mound.htm>.

OU-1; the Phase I parcel; and Parcels 6, 7, and 8 have CERCLA remedies that also require groundwater monitoring. The physical conditions of the wells and seeps covered by those remedies were inspected for this assessment and are included in this report.

4.0 Period of Review

This annual assessment covers the period from April 14, 2010, to April 30, 2011.

Each annual assessment identifies new information, such as new construction, demolition, or excavation; lot-splits or the sale of parcels to new landowners; and permit applications filed by property owners or their agents since the last reporting period. Previous annual assessments are available in the CERCLA Public Reading Room or online at the LM Mound website (<http://www.lm.doe.gov/land/sites/oh/mound/mound.htm>).

5.0 Aerial View of the Mound Site Property

Figure 2 is a photo taken in March 2011 that shows the entire site from the south.

Figure 3 shows the parcel boundaries laid over a March 2011 aerial photograph of the Mound Site. The actual photographs were taken at a low altitude, using a nominal negative scale of 1:4800, and were developed using 1"=100' scale planimetric mapping (the scale sizes of figures in this assessment vary). Photographic-controls points were Horizontal Datum: NAD83, Vertical Datum: NAVD88, U.S. Survey Feet, and State Plane – Ohio South Zone.



Figure 2. March 2011 photo of Mound Site from the south



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Figure 3. March 2011 Aerial View of Mound Plant Showing Parcel Boundaries

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6.0 Summary of Previous Year's Annual Assessment

The 2010 *Annual Assessment of the Effectiveness of Site-Wide Institutional Controls Applied to the Former DOE Mound Site Property* (DOE 2010) concluded that the ICs functioned as designed, adequate oversight mechanisms appeared to be in place to identify possible violations, and adequate resources were available to correct or mitigate any problems if a violation were to occur.

The 2010 annual assessment made four recommendations for site improvements. These were:

1. Improve marking labels at seeps.
2. Remove the water sampling station and fencing over Seep 0607, and return the area to its original condition.
3. Ensure that the signs by the pond in Parcel 4 are present at all times.
4. Paint well 0124 in the old canal area.

7.0 Summary of 2011 Physical Inspections Performed

S.M. Stoller Corporation (Stoller) personnel conducted thorough physical inspections in March and April 2011 before the annual walkdown with the regulators. Those inspections looked for violations of ICs, such as soil removal, well installation, nonindustrial/noncommercial use, and the physical conditions of wells and seeps.

The annual walkaround with the regulators and stakeholders occurred on April 12, 2011. The physical inspection for the CERCLA Five-Year Review was held concurrently. Art Kleinrath, LM Mound Site Manager, began the walkaround with a presentation that defined the scope of the annual assessment, reviewed the 2010 assessment recommendations, and presented the results of the 2011 preliminary inspections. Participants were given a safety briefing, a copy of the presentation, and the IC checklist for the walkaround.

The annual walkaround consisted of a driving tour of the site and a walkaround inside T Building.

Participants in the annual walkaround included:

- Frank Bullock, MDC.
- Becky Cato, Stoller.
- Joe Crombie, ODH.
- Tim Fisher, EPA.
- Chuck Friedman, Stoller.
- Ken Karp, Stoller.
- Art Kleinrath, LM.
- Joyce Massie, JGMS.

- Brian Nickel, OEPA.
- Jane Powell, LM.
- Bob Ransbottom, Stoller.
- Karen Reed, LM.
- Jeff Smith, OEPA.
- Ellen Stanifer, City of Miamisburg.
- Gary Weidenbach, Stoller.



Figure 4. Art Kleinrath leading discussion at 2011 annual IC assessment walkdown ([L–R] Bob Ransbottom, Anthony Campbell, Joe Crombie, Chuck Friedman, Ellen Stanifer, Jeff Smith, Ken Karp, Karen Reed, Jane Powell, Brian Nickel, Tim Fisher, Frank Bullock)

The following sections summarize the results of the preliminary inspections and the physical walkdown on April 12. Appendix A contains the completed checklist.

7.1 Parcel D

There were no observations of noncompliance with the ICs. In particular, there was no evidence of unauthorized well installation, soil removal, or site activities inconsistent with industrial/commercial use within this parcel.

7.2 Parcel H (Formerly Release Block H)

There were no observations of noncompliance with the ICs. In particular, there was no evidence of unauthorized well installation, soil removal, or site activities inconsistent with industrial/commercial use within this parcel.

One area of Parcel H, shown in purple in Figure 5, is exempt from the soil removal restriction. Modifications to the entry and the rerouting of Mound Road isolated this area from the original Mound property.

7.3 Parcel 3

There were no observations of noncompliance with the ICs. In particular, there was no evidence of unauthorized well installation, soil removal, or site activities inconsistent with industrial use within this parcel.

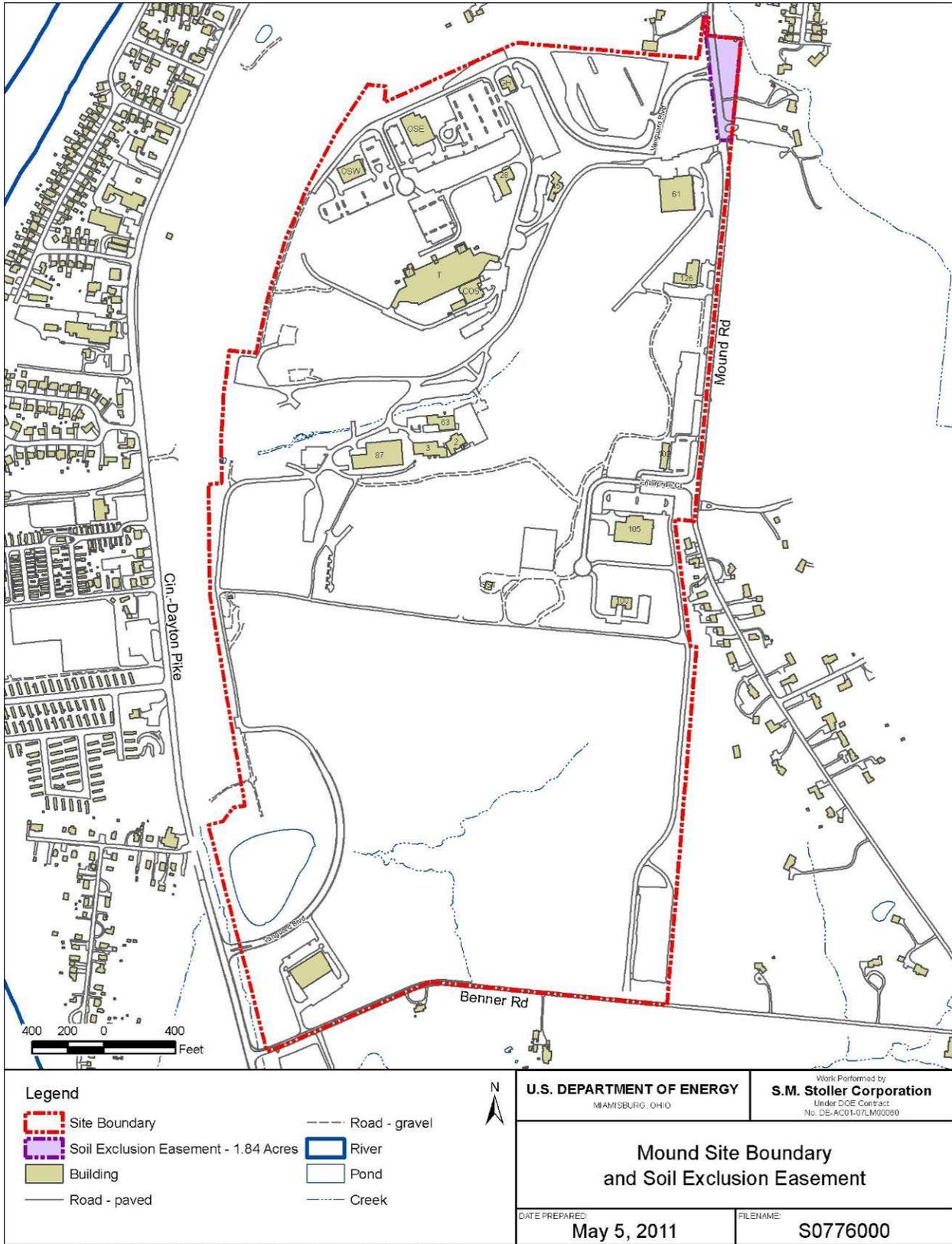


Figure 5. Parcel H Soil Removal Exclusion Area within the Original Mound Site Boundary

7.4 Parcel 4

There was no evidence of unauthorized well installation or soil removal within this parcel.

One sign, which states, “Recreational Use Prohibited,” was observed at the pond used for retaining and detaining storm-water runoff in the southwest part of Parcel 4 (Figure 6).



Figure 6. Parcel 4 sign at retention pond, with bike path at left

On April 25, 2011, Stoller personnel observed two individuals fishing at the pond and reported that information to EM. Paul Lucas of EMCBC and Bob Ransbottom of Stoller approached the fishermen and advised them that fishing was not permitted. They also advised them that the site is cleared for industrial reuse, but not for recreational use.

The second five-year review for the DOE Mound site recommended that the issue of adequate signage around the Parcel 4 retention basin be addressed by DOE, EPA, and OEPA. Signs placed around the basin to inform area visitors that recreational use around the basin is prohibited have been damaged and removed on several occasions by members of the public.

After reconsidering the exposure assumptions that were used to develop the industrial/commercial cleanup standards for the Mound site, DOE, EPA, and OEPA have reached the conclusion that occasional visits to the retention pond by area residents will not result in an unacceptable risk to the visitors. Even so, DOE and the Mound Development Corporation will continue to monitor and discourage these unauthorized uses of the Parcel 4 retention basin area. No further action is required to assure protectiveness of human health or the environment.



Figure 7. Fishermen observed at pond in Parcel 4 on April 25, 2011

7.5 Parcels 6, 7, and 8

7.5.1 Parcel 6, 7, and 8 Physical Inspection

There were no observations of noncompliance with the ICs. In particular, there was no evidence of unauthorized well installation, soil removal, or site activities inconsistent with industrial/commercial use within this parcel.

The solar array shown in Figure 8 was installed west of COS Building. This work was covered by City of Miamisburg permits and was overseen by MDC.



Figure 8. Solar array west of COS Building

The physical inspection included the areas within T Building to which special ICs—which prohibit the penetration of concrete in some areas, and the removal of concrete in others, without prior approval—apply.

Figure 9 and Figure 10 are photos taken during the April 12 physical inspection of the building. There are cracks across the red concrete, but these are not of concern to the Core Team at this time. The Figure 11 drawing of the 1st floor of T Building identifies the special IC areas with crosshatching.

Appendix C provides additional information regarding these areas with special ICs. It includes the four-page agreement and position paper, *T Building Special ICs Core Team Agreement and Position Paper, 6-29-09*, which provided policy guidelines. It also includes the 2010 baseline photos of each room covered by these special ICs.



Figure 9. Tim Fischer, Jane Powell, Art Kleinrath, Ken Karp, Anthony Campbell, Jeff Smith, and Frank Bullock inspecting T Building Red Concrete Area where penetration is prohibited without prior approval



Figure 10. Art Kleinrath and Anthony Campbell examine edge of red concrete slab in T Building areas where penetration of concrete floor is prohibited without prior approval

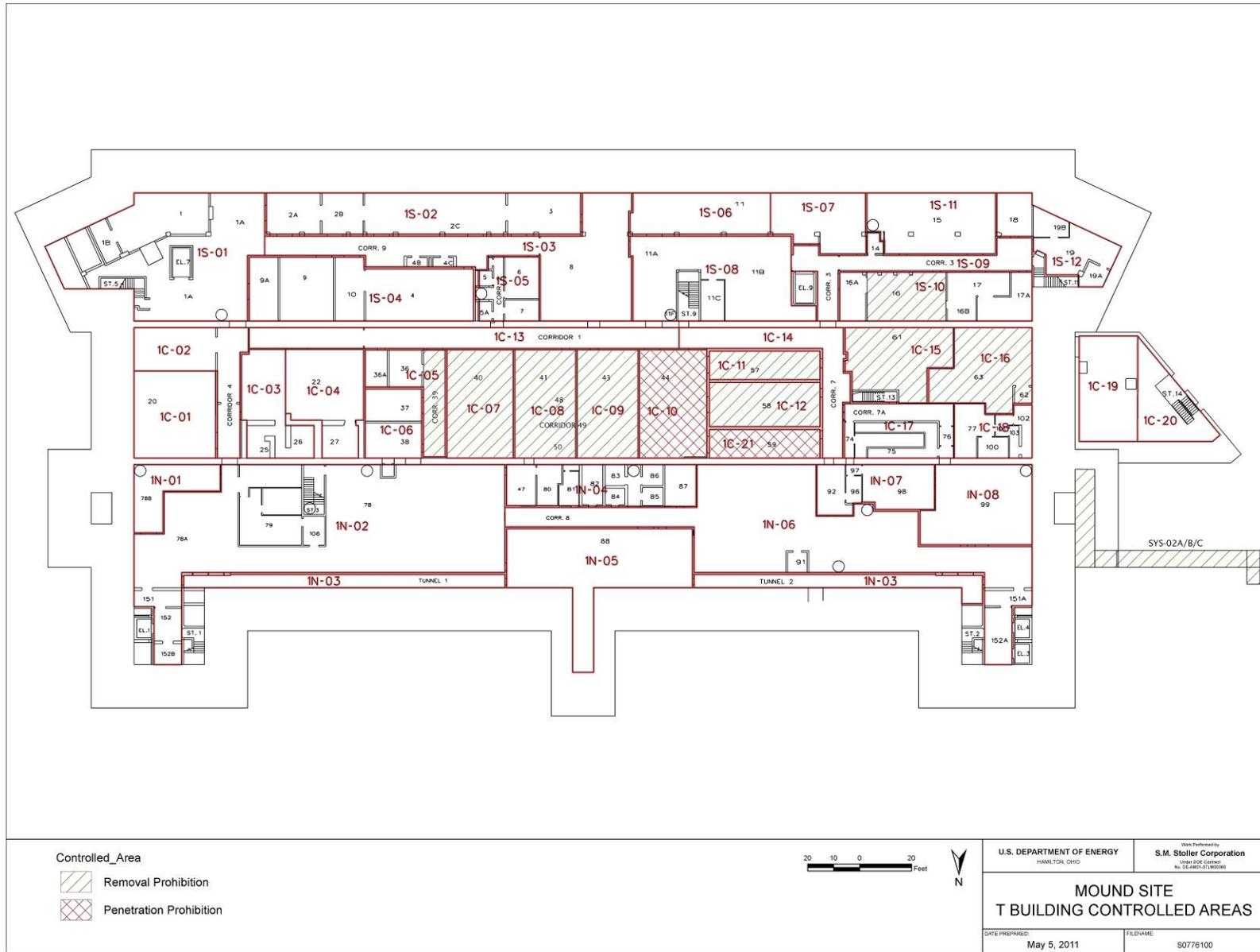


Figure 11. T Building Areas with Additional ICs

7.5.2 Parcel 6, 7, and 8 Wells and Seeps

Appendix D lists the Parcel 6, 7, and 8 groundwater monitoring wells and seeps, maps the locations, and provides photos taken during the physical inspections.

Because the groundwater monitoring is not an IC, the annual IC assessment only verifies the conditions of the wells and seeps, and it does not determine the effectiveness of the monitored natural attenuation (MNA) remedy. The remedy for Parcels 6, 7, and 8 includes ICs for the land and MNA, which include groundwater monitoring requirements described in the *Parcel 6, 7, and 8 Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan, Final* (DOE 2006b). The *Parcel 6, 7, and 8 Groundwater Monitoring Report Calendar Year 2010* (DOE 2011b) includes an analysis of the groundwater monitoring. Both of these documents are available on the LM website at <http://www.lm.doe.gov/mound/Sites.aspx>.

All of the Parcel 6, 7, and 8 wells were locked and in good condition. Well 0124, which was rusty and needed painting last year (Figure 12), was painted and locked in 2011 (Figure 13).



Figure 12. Well 0124 offsite condition during 2010 IC assessment



Figure 13. Well 0124 offsite condition during 2011 IC assessment

The 2010 inspection report recommended that the seeps be marked with a sturdier marker. However, it was decided that adding more visible markers would call unwanted attention to the seep locations. Since the samplers use the GPS locations and sample the seeps often, no further marking would be added at this time.

It was observed in 2010 that the old tritium sampler over Seep 0607 was no longer required or functional (Figure 14). This sampler and the surrounding fence were removed, and the area was returned to its original state (Figure 15).



Figure 14. Unused tritium sampler and fencing at Seep 0607 in 2010



Figure 15. Seep 0607 in 2011 after sampler and fencing were removed and area was restored

7.6 Parcel 9 (Currently OU-1)

The OU-1 area is covered by the *Operable Unit 1 Record of Decision* (DOE 1995) and the selected remedy, which included:

- The collection and treatment of groundwater contaminated with volatile organic compounds, and the disposal of treated water, using the pump-and-treat system.
- The control of surface water in the OU-1 area, and long-term groundwater monitoring.
- ICs to control access to the OU-1 area.

Between 2006 and 2010, EM removed much of the landfill contents with two large excavations funded by Congress and the American Resource and Recovery Act. EM will issue an amended ROD, which will incorporate the physical changes in OU-1, expand the area to include all of Parcel 9, and add the general site ICs described in Section 3.0. EM expects to complete the ROD amendment in 2011.

7.6.1 Parcel 9 Physical Inspection

There were no observations of noncompliance with the ICs. In particular, there was no evidence of unauthorized well installation, soil removal, or site activities inconsistent with industrial/commercial use within this parcel.

7.6.2 Parcel 9 (OU-1) Wells

Appendix D lists the OU-1 wells, maps their locations, and provides photos taken of them during the physical inspections.

Because the groundwater monitoring is not an IC, the annual IC assessment only verifies the conditions of the wells and seeps, and it does not determine the effectiveness of the remedy. Environmental restoration monthly reports provide data on the OU-1 pump-and-treat system and the results of groundwater monitoring. Historical water quality and water level data for existing

wells can be found at the LM website

http://gems.lm.doe.gov/imf/ext/gems/jsp/launch.jsp?default_site=MND. Photographs, maps, and physical features can also be viewed on this website.

All of the OU-1 wells were locked and in good condition.

7.7 Phase I Parcel

The Phase I parcel consists of three noncontiguous sub-parcels (A, B, and C), which were transferred to MDC in February 2009. The remedy for the Phase I parcel includes ICs for the land and MNA to address trichloroethylene-impacted groundwater.

There were no observations of noncompliance with the ICs. In particular, there was no evidence of unauthorized well installation, soil removal, or site activities inconsistent with industrial/commercial use within this parcel.

7.7.1 Phase I Parcel Wells and Seep

Appendix D lists the Phase I wells and seep, maps their locations, and provides photos taken of them during the physical inspections.

Because the groundwater monitoring is not an IC, the annual IC assessment only verifies the conditions of the wells and seeps, and it does not determine the effectiveness of the MNA remedy. The Phase I remedy includes ICs and MNA, which include groundwater monitoring requirements describe in the *Phase I Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan* (DOE 2004b). The *Phase I Groundwater Monitoring Report Calendar Year 2010* (DOE 2011a) includes an analysis of the groundwater monitoring. Both of these documents are available on the LM website <http://www.lm.doe.gov/mound/Sites.aspx>.

All wells were locked, had permanent markers, and were in good condition.

One outstanding recommendation from the 2009 annual assessment was to improve the drainage around well 0353. This was completed after the excavation at OU-1, as shown in Figure 16.



Figure 16. Well 0353 in 2009, with drainage problems, and in 2011, with water diverted away from well

8.0 Interviews and Records Reviews

8.1 Interviews with City Personnel and Review of City or MDC Records

In addition to conducting the physical inspections for the annual assessment, DOE reviews documents from local governments to ensure that ICs are being followed. These may include construction, street opening, occupancy, or other permits; zoning modification requests; City Planning Commission requests; and well logs issued for land parcels that have completed the CERCLA 120(h) process for property transfer. Documents may be at the City of Miamisburg, at Miami Township, at Montgomery County, or in the Ohio Department of Natural Resources' well log files.

LM and Stoller personnel requested the City of Miamisburg Engineering Department to query their computer tracking system for permits issued to any addresses, on Capstone Drive, on Vanguard Boulevard, on Enterprise Court, on Vantage Point, on Mound Road (between 885 and 1195), and on Benner Road (between 799 and Dayton Cincinnati Road, odd-numbered side of street). In addition, the Engineering Department checked for other construction work or other activities, such as the creation of parking lots or roads, that require any City Planning approvals.

The following tables do not repeat information on permits included in previous years' DOE assessment reports on the effectiveness of the site-wide ICs. Furthermore, each year's report does not necessarily list permits filed by MDC or its tenants or subcontractors for work performed on DOE-owned, MDC-leased property. Instead, the following tables are typically limited to permits filed after a ROD has been executed for a particular parcel, since DOE is responsible for the O&M of the site-wide ICs remedy (regardless of whether DOE has conveyed title of that parcel, in whole or in part, to MDC).

Although the property is not subject to City of Miamisburg permitting requirements until DOE conveys the land parcel to MDC, the City-permitting process familiarizes the City with the Mound Site. This can reduce the time it takes for MDC to receive City approval (e.g., for a building occupancy permit) in the future. City files are maintained by street address. DOE has

performed spot-checks of permits in the City Engineering Department files since May 2001 to confirm that the permits are maintained under configuration control. The City of Miamisburg does not maintain files on buildings that MDC plans to demolish. City files do exist on buildings that have been demolished; however, those files are now considered obsolete.

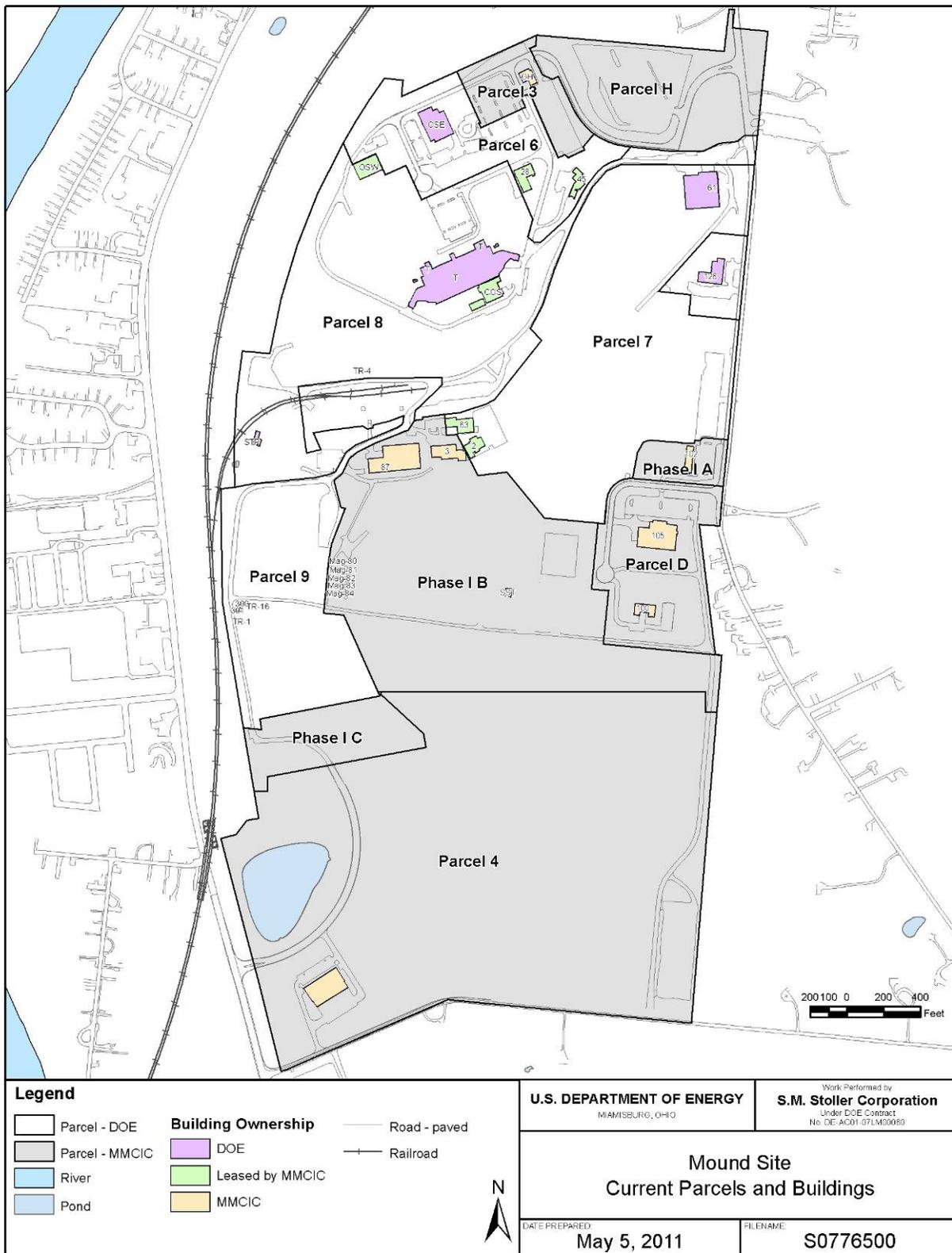
Table 2 shows the DOE building identification and the Miamisburg street addresses for each building. Seven buildings (3, 87, 100, 102, 105, Flex, and GH), five magazines (80 through 84), and a salt storage shed are in land parcels transferred to MDC. Figure 17 shows the location of site buildings.

Since City permits are filed according to address, MDC must inform DOE of changes to the street names or building addresses.

Table 2. Crosswalk of Street Addresses to DOE Building Identifications

DOE Building ID	Former Address	Current Miamisburg Street Address	Parcel
2		To be demolished	7
28		925 Capstone Drive	6
45		930 Capstone Drive	6
61		885 Mound Road	7
63		1070 Vanguard Boulevard	7
87 and 3		1100 Vanguard Boulevard	IB ^a
100		790 Enterprise Court	D ^a
102		1075 Mound Road	IA ^a
105		1195 Mound Road	D ^a
126		955 Mound Road	6A
COS		965 Capstone Drive	8
GH	500 Capstone Circle	500 Vantage Point	3 ^a
OSE	480 Capstone Circle	480 Vantage Point	6
OSW	460 Capstone Circle	460 Vantage Point	8
T		945 Capstone Drive	8
Magazines 80–84	None	None	IB ^a
(New) Flex Building		1390 Vanguard Boulevard (main building)	4 ^a
	1390 Vanguard Boulevard	1388 Vanguard Boulevard (lighting)	4 ^a
	1390 Vanguard Boulevard	1384 Vanguard Boulevard	4 ^a
	1390 Vanguard Boulevard	1380 Vanguard Boulevard	4 ^a
	1390 Vanguard Boulevard	1374 Vanguard Boulevard	4 ^a
	1390 Vanguard Boulevard	1370 Vanguard Boulevard	4 ^a

^a Parcel has been transferred to MDC.



\\Hawklen\projects\EBM\MLTS\111\0061\09\004\IS07765\IS0776500.mxd brownnc 05/05/2011 10:09:50 AM

Figure 17. Mound Site Building and Parcel Ownership

Table 3 lists all permits on file that were issued for the site during the period being assessed. The City of Miamisburg Building Inspection Department provided a permit report on April 28, 2011.

Table 3. City of Miamisburg Permit Files for Mound Site (April 1, 2010, to March 31, 2011)

Location of Work	Permit Number	Date of Permit Application	Nature of Work	Work Performed By
Building 3 1100 Vanguard Blvd.	20090175E	5/3/10	Electric	Kastle Electric
Trailer 1275 Vanguard Blvd.	20100044B	5/3/10	Certificate of occupancy	MMCIC (now MDC)
Building 3 1100 Vanguard Blvd.	20100104B	8/20/10	Interior renovation, new roof	MMCIC (now MDC)
Building 3 1100 Vanguard Blvd.	20100159H	8/31/10	Heating, ventilation, and air-conditioning	Mechanical Systems of Dayton
Building 3 1100 Vanguard Blvd.	20100134E	9/13/10	Remodel, electric	Kastle Electric
Building 3 1100 Vanguard Blvd.	20100149B	11/11/10	Fire-alarm update	Kastle Electric
Building 3 1100 Vanguard Blvd.	20100150B	11/11/10	Sprinkler modifications	Dayton Fire Protection

Table 4 lists work requests that did not require a City permit but did require review by the City Planning Commission. These requests included excavation and paving activities.

Table 4. City of Miamisburg Files—Planning Commission Reviews

Location of Work	ID Number	Date of Application	Submitted By	Nature of Work	Parcel/ Building	Status
City Building Inspection Department reported that no City Commission reviews were performed during this period.						

All work performed by MDC or other parties (e.g., contractors to MDC) on the former DOE Mound Site Property that Art Kleinrath (LM) and Frank Bullock (MDC) were aware of during the 12-month reporting period appeared to be adequately covered by permits submitted to, and approved by, the City of Miamisburg.

In 2003, the City of Miamisburg implemented a database that allows permits to be searched by keyword (e.g., permit number, date, location, nature of work). Permits issued before the database was implemented (i.e., permits documented in DOE's annual reports dating back to 2001) may not be in the City's database. However, the City retains hard copies of all permits in accordance with a records-retention plan that meets all State of Ohio requirements.

Permits filed with the City of Miamisburg do not have an expiration date. Therefore, DOE and the property owner (at present, MDC) should remain knowledgeable of permits filed with the City of Miamisburg, where work covered by that permit may have been postponed. This will provide a checks-and-balances system to ensure that the appropriate City officials approve work that requires a permit and has been performed since the last DOE annual assessment.

In general, the permit-review process demonstrated that the City of Miamisburg's recordkeeping system is adequate.

8.2 Records, Other Than Permits, Issued by the City of Miamisburg

MDC and all future property owners must comply with the ICs associated with the former DOE Mound Site Property to maintain the CERCLA remedy. MDC currently ensures that contractors performing work for MDC (e.g., landscaping, utility work involving excavation, construction) are aware of and comply with the ICs. MDC includes the following language in the "Technical Requirements" section of its requests for proposal and subsequent work orders:

Excavated soils must be managed and remain on MDC property. Soils from excavation shall be placed at an on-site location, as directed by MDC.

The MDC project manager, who oversees site work, monitors the vendor's work and conformance to technical requirements in the work order. MDC provides the vendor with a real estate easement in addition to the technical requirements. This easement is recorded with Montgomery County as a matter of public record. An example of a real estate easement used for utility work on MDC property is included as Appendix B. Note that Section 2 of the easement gives the utility provider or vendor detailed information on the ICs associated with MDC's property. This requires compliance with restrictions, which are the ICs.

Continuing public education is an important component of DOE's post-closure responsibilities. Educating all future property owners about their responsibility to comply with the ICs is an important element of DOE's public-education campaign. It is also important to educate the general public on the importance of adhering to the site-wide ICs. Therefore, postings (such as warning signs near the MDC pond, which state that recreational use is prohibited) are an important part of teaching the public to comply with ICs.

Prior to initiating construction on any land parcel, MDC will provide the builder with a pre-construction package that includes a description of the ICs associated with that particular parcel. This is how MDC ensures that the builder is aware of applicable ICs. In a new-construction scenario, probably the most important IC to educate builders about is the prohibition against removing any soils from the original boundaries of the approximately 306 acres that constitute the former DOE Mound Site Property.

As recommended in the 2008 annual assessment, DOE will examine these documents during the annual IC assessments after the site has been transferred. This will ensure that the necessary wording continues to be included in contracts or easements after site transfer.

MMCIC's *Comprehensive Reuse Plan Update* (MMCIC 2003) (CRP) identifies each building at the Mound Advanced Technology Center with its own lot. A copy of the CRP is available in the CERCLA Reading Room and online at <http://www.lm.doe.gov/mound/Sites.aspx>.

Eventually, MDC plans to plat the entire former DOE Mound Site Property. In order to receive financing (i.e., for new construction) on land parcels that make up the original DOE Mound Site Property, MDC will record a lot-split with the Montgomery County Recorder's Office. If MDC does not require financing for property improvements within a parcel, MDC does not have to immediately record a Miamisburg Planning Commission-approved lot-split with the County.

However, if MDC decides to sell the property, MDC has to record the lot-split with the County at that time. The recorded real estate documentation would include the original quitclaim deed that DOE issued to MDC for the parcel, as a whole, as well as the CERCLA Summary Notice associated with the original parcel. This will ensure that future property owners of individual lot-splits know of the site-wide ICs imposed on acreage that lies within the boundaries of the parcels as originally conveyed by DOE to MDC.

The property owner's adherence to the ICs imposed on a land parcel is vital to the effective maintenance of those ICs. MDC currently coordinates the movement of soil and site grading, and this should be an effective way for the property owners to ensure that soil is not being removed from the site as a whole. To accomplish this task, MDC's CRP establishes locations where future construction and property improvements will occur on the former DOE Mound Site Property. The CRP also includes a site-wide soil-grading plan. The CRP was adopted by the City of Miamisburg, and it was incorporated into the City's comprehensive plan. The City's comprehensive plan is the basis for the zoning of properties that fall within the city limits. If MDC subdivides the former DOE Mound Site Property and sells portions (or all) of the property, the new property owners will be required to comply with the CRP and the City's comprehensive plan.

9.0 Conclusions

The ICs for the Mound Site, including Parcels D, H, 3, 4, 6, 7, 8, and 9 and the Phase I parcel, continue to function as designed. Adequate oversight mechanisms appear to be in place to identify possible violations of ICs, and adequate resources are available to correct or mitigate any problems if violations occur.

10.0 Recommendations

Table 5 lists previous inspections' recommendations for improving ICs (DOE 2008, DOE 2009a, DOE 2010), and the status of those recommendations. Table 6 lists new recommendations from this year's inspection. There were no recommendations resulting from the 2011 annual IC assessment.

Table 5. Outstanding Recommendations from Previous Annual or Five-Year CERCLA Inspections of ICs

	Origin	Issue/ Recommendation	Status 2010 Report	Corrected?	Current Status 2011 Report
1	2008 Annual	Landowner or management organization will notify LM when there are changes of address or street names on site. Building permits are filed by street addresses.	No process	Yes	No formal process. MDC notified DOE of most recent street address changes
2	2009 Annual	Improve drainage in the area north of well 0353.	Pending OU-1 excavation	Yes	Area around well 0353 now diverts water away from well
3	2010 Annual	Improve marking labels at seeps.	New	No change	Will use GPS to locate
4	2010 Annual	Paint well 0124 in old canal area.	New	Yes	Complete
5	2010 Annual	Remove water sampling station and fencing over Seep 0607, and return area to its original condition.	New	Yes	Complete
6	2010 Annual	Ensure that signs by pond in Parcel 4 are present at all times.	New	Yes	Core Team resolved. See Section 7.4.

Table 6. Recommendations from 2011 Annual Inspection for ICs

Number	Issue/Recommendation	Responsible
	There were no recommendations resulting from the 2011 assessment.	

11.0 For Further Information

For further information on the content of this annual report or the former DOE Mound Site Property in general, contact:

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 Office of Legacy Management
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For further information on the regulatory guidelines governing the CERCLA 120(h) process for property transfer at the former DOE Mound Site Property, contact:

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12.0 References

- DOE (U.S. Department of Energy), 1995. *Operable Unit 1 Record of Decision* (1995), Final, June.
- DOE (U.S. Department of Energy), 1999a. *Record of Decision for Release Block D*, Final, February.
- DOE (U.S. Department of Energy), 1999b. *Record of Decision for Release Block H*, Final, June.
- DOE (U.S. Department of Energy), 2001a. *Parcel 3 Record of Decision*, Final, August.
- DOE (U.S. Department of Energy), 2001b. *Parcel 4 Record of Decision*, Final, February.
- DOE (U.S. Department of Energy), 2003. *Phase I Record of Decision*, Final, July.
- DOE (U.S. Department of Energy), 2004a. *Operation and Maintenance (O&M) Plan for the Implementation of Institutional Controls at the 1998 Mound Plant Property, Phase I Parcel*, update, Rev. 1, February.
- DOE (U.S. Department of Energy), 2004b. *Phase I Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan*, Final, September.
- DOE (U.S. Department of Energy), 2006a. *Second Five-Year Review for the Mound, Ohio, Site, Miamisburg, Ohio*, September.
- DOE (U.S. Department of Energy), 2006b. *Parcel 6, 7, and 8 Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan*, Final, December.

DOE (U.S. Department of Energy), 2008. *Sales Contract by and between the United States Department of Energy and the Miamisburg Mound Community Improvement Corporation, August 28, 2008*, August.

DOE (U.S. Department of Energy), 2009a. *Annual Assessment of the Effectiveness of Site-Wide Institutional Controls Applied to the Former Mound Site Property*, LMS/MND/S05263, U.S. Department of Energy Office of Legacy Management, June.

DOE (U.S. Department of Energy), 2009b. *Parcels 6, 7, 8 Record of Decision*, August.

DOE (U.S. Department of Energy), 2010. *Annual Assessment of the Effectiveness of Site-Wide Institutional Controls Applied to the Former Mound Site Property*, LMS/MND/S06401, U.S. Department of Energy Office of Legacy Management, June.

DOE (U.S. Department of Energy) 2011a. *Phase I Groundwater Monitoring Report Calendar Year 2010*, LMS/MND/S07535, U.S. Department of Energy Office of Legacy Management, March.

DOE (U.S. Department of Energy), 2011b. *Parcel 6, 7, 8 Groundwater Monitoring Report Calendar Year 2010*, LMS/MND/S07540, U.S. Department of Energy Office of Legacy Management, March.

EPA (U.S. Environmental Protection Agency) 2005. *Institutional Controls: A Citizen's Guide to Understanding Institutional Controls at Superfund, Brownfields, Federal Facilities, Underground Storage Tank, and Resource Conservation and Recovery Act Cleanups*, OSWER 9255.0-98 EPA-540-R-04-004, February

MMCIC (Miamisburg Mound Community Improvement Corporation), 2003. *Comprehensive Reuse Plan Update*, December.

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