

Michigan Department of Environment, Great Lakes, and Energy



Results of the Fiscal Year 2022 Compliance Assistance and Long-Term Monitoring of Institutional Controls Study



Assessment of Land Use Restrictions in Washtenaw County and Gaylord District

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Institutional Controls Study

TABLE OF CONTENTS

1. Background	1
2. Project Objectives	1
3. Outputs and Outcomes	3
4. Process	4
5. Data Analysis	4
6. Environmental Justice	9
7. Recommendations and Future Study Questions	10
8. Example RC Review from Jackson District Fons and Old Wayne Landfill	11
Tables	
1. Population and Demographic Data	2
2. Site Review List	
3. Detailed Responses	
4. Acreage of Sites	6
5. Number of Restrictions Filed/Recorded Per Year in Washtenaw County and Gaylord District	
6. Owner Awareness of RC	7
7. Percent of Owners in Compliance	8
8. Population Data with Employer Establishments and Persons Per Restricted Sites	
Charts	
1. Washtenaw County Population within ½ Mile	
2. Gaylord District Population within ½ Mile	
3. Acreage of Sites in Washtenaw County	
4. Acreage of Sites in Gaylord District	
5. Years of Restrictions Filed with Register of Deeds	
6. Percent of Total Restrictive Elements per Site	
7. Number of Restrictive Elements Per Site	
Maps	
1. Washtenaw County	
2. Alpena County	
3. Ann Arbor and Ypsilanti Area	
4. Charlevoix County	
5. Emmet County	
Attachments	
1. RC Compliance Monitoring Checklist	
2. Land and Resource Use Restrictions Classifications by Restrictive Element	
3. Land Resource and Use Restrictions Classification Totals by Program	

1. Background

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has records of 6,841 restrictive covenants (RCs) recorded on property deeds in Michigan as part of remedial or corrective actions implemented under Michigan's environmental cleanup programs as of June 24, 2022. These RCs include 1,482 that are recorded as part of remedial actions implemented under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended (NREPA). There are 5,202 RCs recorded as part of corrective actions under Part 213, Leaking Underground Storage Tanks, of NREPA. The remaining 157 RCs are for sites regulated under Part 111, Hazardous Waste Management, of NREPA, Part 115, Solid Waste Management, of NREPA, and "other." The number of actual properties that these restrictions are recorded at is 4,194. Many of these have more than one restriction recorded on them or on associated/neighboring properties.



Good Hart General Store - View of site from highway on east side of property, looking west at former tank and dispenser location.

This is the sixth review of land or resource use restrictions designed to explore the development of a regular and routine long-term monitoring program in RRD. As emphasized by the Interstate, Technology, and Regulatory Council's guidance document *Long-term Contaminant Management Using Institutional Controls*, "monitoring land or resource use restrictions not only supports the effectiveness and integrity of the land or resource use restriction but is also paramount to the overall long-term success of the remedy."

2. Project Objectives

As part of EGLE's work plan for the United States Environmental Protection Agency (U.S. EPA) 2022 Fiscal Year 128(a) Brownfield Grant, RRD proposed to conduct a review of RCs under Project Management Task 1. This task was performed to evaluate compliance and monitoring with RCs. The 2022 review focused on recorded RCs in RRD's land or resource use restriction registry. Sites selected for review are located in the Gaylord District (Alpena, Charlevoix, and Emmet Counties) and in the Jackson District (Washtenaw County). These counties were selected to represent rural northern lower peninsula properties with varying exposure pathways restricted (land use, resource use, direct contact), and to represent a more urban county in southeast Michigan (mainly land use and groundwater use restrictions). The general population data for each of the counties is provided in *Table 1* below.

Table 1: Population and Demographic Data

Selected Local Units of Government	Population (July 2021 estimate)	Population Change 2010-2020	Median Household Income	Poverty Rate	Percent Owner-Occupied Housing 2016-2020	Median Value of Owner-Occupied Housing
Michigan	10,050,811	2.0%	\$59,234	12.6%	71.7%	\$162,600
Washtenaw County	369,390	8.0%	\$75,730	12.0%	61.5%	\$278,500
Alpena County	28,893	-2.3%	\$42,603	15.6%	78.4%	\$104,900
Charlevoix County	26,086	0.4%	\$60,433	8.7%	81.7%	\$171,100
Emmet County	34,225	4.3%	\$55,947	8.7%	74.2%	\$206,900

The varied range and age of the restrictions allowed for a streamlined site selection process. *Table 2: Site Review List* shows the sites that were reviewed in the four counties. Maps of each county, showing the locations of the selected properties are included as Maps 1-5.

The primary objectives of this pilot project are to:

1. Determine if recorded RCs are being complied with by current property owners.
2. Determine whether the conditions of the RC were known by the current owners or lessees of the properties prior to EGLE providing that awareness.
3. Evaluate one specific RC.
4. Map sites on an overlay base map which shows the Environmental Justice (EJ) Scores from the Michigan EJ mapping tool.

Additional Objective – Environmental Justice

EGLE's Office of the Environmental Justice Public Advocate was created by Governor Whitmer's Executive Order 2019-06 to serve as an external and internal advocate and catalyst for ensuring Environmental Justice throughout the state. Also in 2019, a University of Michigan Master's degree report, *Assessing the State of Environmental Justice in Michigan* garnered media attention as it identified "hot spots of environmental injustice" across the state where residents are most vulnerable to pollution. In 2022, EGLE posted the draft Michigan Environmental Justice Mapping and Screening Tool (MiEJScreen) that provides percentile scoring of various environmental, health, and socioeconomic indicators to measure relative environmental risk factors in communities.



Federal Screw Works - View of fence running along eastern edge of the property showing the fence in poor condition – leaning, separated from supports. Photo taken looking south.

Michigan defines environmental justice as “the equitable treatment and meaningful involvement of all people, regardless of race, color, national origin, ability, or income and is critical to the development and application of laws, regulations, and policies that affect the environment, as well as the places people live, work, play, worship, and learn.”

To support the understanding of environmental justice in Michigan, this Report reviewed and summarized publicly accessible information regarding environmental justice being discussed in the counties where RCs were reviewed. In addition, the Report assembled data regarding the proximity of the properties with RCs to EJ indicators.

3. Outputs and Outcomes

The outputs of this project are:

1. Project report,
2. Database of site information, and
3. Individual checklists of properties selected for review.

The following outcomes will continue to advance our ability to conduct long-term monitoring of RCs:

1. Increased number of sites tracked for compliance in the Land and Resource Use Restriction (LRUR) database which can be analyzed in future years.
2. Expand outreach to new owners of sites that have restrictions. This is an important outcome of the review program, especially for older RCs.
3. Identification of demographic data/EJ in areas surrounding RC sites and any compliance issues with those RCs. We examined EJ conditions by running queries in the EPA EJ Screen tool, reviewing the primary report for each of the sites, within a radius of 0.5 miles around the facility. We are reporting only on the population, Median Household Income, and EJ Score within that circumference. *Chart 1- Washtenaw County Population Within ½ Mile* and *Chart 2- Gaylord District Population Within ½ Mile* shows the population data in the targeted communities.

4. Process

The reviews were coordinated by the RRD Jackson District and Gaylord District Enforcement Coordinators, Lisa Agosta and Heidi Pixley, with assistance from district project management staff. Ron Smedley and Kevin Schrems developed the project and analyzed the results. Ron and Kevin recognize the efforts that district staff took in implementing the project and conducting the field reviews. The review team selected RCs recorded on 29 properties in Washtenaw County, and 18 properties in Alpena County, Charlevoix County, and in Emmet County for examination. Site selection began by identifying sites shown in the Environmental Mapper and verifying restrictions from the Known Environmental Response Mitigation Information Technology (KERMIT) database which tracks restrictions across the state. The team used the processes described in the 2017 and 2018 reports to prepare a checklist (Attachment 1) for each review and conduct the site visit. Maps showing the general locations of sites within each county are included as maps for Washtenaw, Alpena, Charlevoix, and Emmet County LRUR review locations.



Lewis and Rose Streets Facility - View of site from southeast corner standing on intersection of Lewis & Rose Streets, looking northwest.

Both in-person site walks and less invasive visual reviews, restricted to publicly accessible areas, allowed flexibility in how the assessments were conducted. In addition, the team used site maps and street views from Google Earth to identify locations, site conditions, and land development over time. Project managers reviewed sites and procured access through phone calls or emails to property owners or business managers when necessary and when time allowed. In some cases, access was not provided or necessary due to public accessibility or the ability to conduct remote reviews.

Data from the completed checklists was entered into the LRUR Access database. The database, developed in 2020, allows for a consistent evaluation of site conditions and makes it easier to sort data and convert tables to Excel for further analysis. *Table 3: Detailed Responses* shows the answers for each site checklist.

5. Data Analysis

Comparing data from the May 2021 Land Resource and Use Restrictions Classification Totals by Program Statewide there were:

- 1,399 Part 201 restrictions encompassing 40,643 acres
- 4,965 Part 213 restrictions encompassing 10,703 acres

Results of the Fiscal Year 2022 Compliance Assistance and Long-Term Monitoring of Institutional Controls Study

- 118 Part 111 (Hazardous Waste Management) restrictions encompassing 6,087 acres
- 8 Part 115 (Solid Waste Management) restrictions on 541 acres
- 18 Other restrictions encompassing 3,678 acres

Data from June 24, 2022, report (*Attachment 2*) showed that there were:

- 1,482 Part 201 restrictions encompassing 50,763 acres
- 5,202 Part 213 restrictions encompassing 11,896 acres
- 126 Part 111 restrictions encompassing 6,193 acres
- 13 Part 115 restrictions encompassing 2,760 acres
- 18 Other restrictions at 3,700 acres

Classification	# in May 2021	# in June 2022	Acres in May 2021	Acres in June 2022	Percent Increase in Area
Part 201	1,399	1,482	40,643	50,763	24.9%
Part 213	4,965	5,202	10,703	11,896	11.1%
Part 111	118	126	6,087	6,193	1.7%
Part 115	8	13	541	2,760	410.1%
Other	18	18	3,678	3,700	.6%

As of September 8, 2022, there were a total of:

- 4,194 sites with Restrictions in the State
- 262 sites with restrictions in the Jackson District, 6.2% of the State
- 90 sites with restrictions in Washtenaw County, 34.4% of the Jackson District, and 2.1% of the State
- 121 sites with restrictions in the Gaylord District, 2.9% of the State
- 24 sites with restrictions in Alpena County, 19.8% of the Gaylord District, and .6% of the State
- 17 sites with restrictions in Charlevoix County, 14.0% of the Gaylord District, and .4% of the State
- 17 sites with restrictions in Emmet County, 14.0% of the Gaylord District, and .4% of the State

The total acreage of sites is 3,374.9 acres in Washtenaw County, an average of 11.6 acres per site. The total acreage of sites in Alpena, Charlevoix, and Emmet Counties is 970.7, averaging 16.73 acres per site. The acreage of sites that were reviewed is shown in *Table 4*, with an average of all sites in the counties shown below.

Table 4: Acreage of Sites

State and County	Total Acres	Total Sites	Average Per site	Sites Reviewed	Acres of Sites Reviewed	Average Per site
Michigan	76,773.3	4,194	18.3	N/A	N/A	N/A
Washtenaw	3,374.9	90	37.5	29	377.4	11.6
Alpena	195.4	24	8.1	7	172.3	24.6
Charlevoix	754.1	17	44.4	3	187.5	62.5
Emmet	21.2	17	1.2	8	11.4	14.5

The number of restrictions filed per year from 1995 to 2022 is displayed both in *Table 6* and graphically as *Chart 5- Years of Restrictions Filed with Register of Deeds*. Most restrictions were filed with the register of deeds for the applicable counties in 1997 (7 filed), with the second most filed in 1999 and 2002 (5 filed). Since 2004, only 18 restrictions were filed for those sites that were reviewed. There were 46 out of 47 restrictions that were found upon search with the respective register of deeds (98%). The restrictions were recorded as: declarations, Liber and Page, covenants, restrictions, and miscellaneous.

The primary types of restrictive elements that are included in the sites which were reviewed included groundwater consumption, site specific, exposure barriers, and soil movement amongst others. Older restrictions also had categorized commercial, industrial, recreational, and residential categories associated with them. *Chart 6- Percent of Total Restrictive Elements Per Site*, shows the breakdown of the restrictive elements, while *Chart 7- Number of Restrictive Elements Per Site*, shows the number of elements associated with each site. *Attachment 3* designates the types of restrictive elements across the state.



Brewers, Inc. - Photo of fueling area, parking, and shop door facing north.

Ownership and Awareness of Restrictions

Ownership changes of properties with restrictions is a challenge for the RRD to track, but nonetheless important from a perspective of ensuring long-term compliance with the restrictions. Earlier studies indicated that the longer restrictions were in place, new owners had less knowledge of what the restrictions meant, or how to comply with them. One (although not the only) way that EGLE can gauge owner awareness of the restrictions, is if they or a previous owner has conducted a baseline environmental assessment (BEA) after the restriction has been filed. Completing

a BEA may not always be a primary concern for new purchasers. For the sites that were reviewed, six sites in Washtenaw County completed BEAs after the restrictions

had been filed, and one before the restriction was filed. Property reviews found that at least 19 properties had changed hands since the restriction had been filed. For just Washtenaw County, the percentage of sites with BEAs conducted after the restriction was filed was lower (31.6%) than the results from Kent and Genesee County where 50% of ownership changes had taken place without owners taking advantage of liability protection. In the Gaylord District counties, 2 BEAs, one each in Alpena and Emmet, were conducted before the restrictions had been filed. Four properties had changed hands in the Gaylord District counties.

Combined with only 38.3% awareness of restrictions shows that additional outreach may be necessary to inform owners of their obligations. *Table 6: Owner Awareness Analysis* shows the results below.

Table 6: Owner Awareness Analysis

County	Aware before contact	Not aware before contact	N/A or Undetermined	Total	Percent Aware
Washtenaw	9	11	9	29	31%
Alpena, Charlevoix, Emmet	9	3	6	18	50%
Total	18	14	15	47	38.3%

Locating Filed Restrictions

As noted in the *Results of the Fiscal Year 2021 Compliance Assistance and Long-Term Monitoring of Institutional Controls Study – Assessment of Land Use Restrictions in Genesee and Kent County*, the Department relies on the Register of Deeds (RODs) offices to accurately file these documents/instruments for long-term protectiveness. Washtenaw County has a relatively advanced on-line search to find the documents, which were mostly recorded as Restrictions with a number identifier. County RODs in the Gaylord District varied in on-line capabilities and some counties charge a document fee, even to the agency, taking more time and effort to find the restrictions using various recording methods. The restrictions were not always consistently filed in those counties. Relying on a title search to pick up a document may not always be successful, although in this study only one was not recorded.

General Site Conditions/Compliance Categories

Owners in substantial compliance with restrictions are at much higher rates than awareness. *Table 7: Percent of Sites in Compliance* shows that most properties are generally compliant with specific restrictions. Sites are categorized as: 1. No evident compliance issues, 2. Noticeable conditions needing attention, and 3. Substantial non-compliance. No sites fell into the third category.

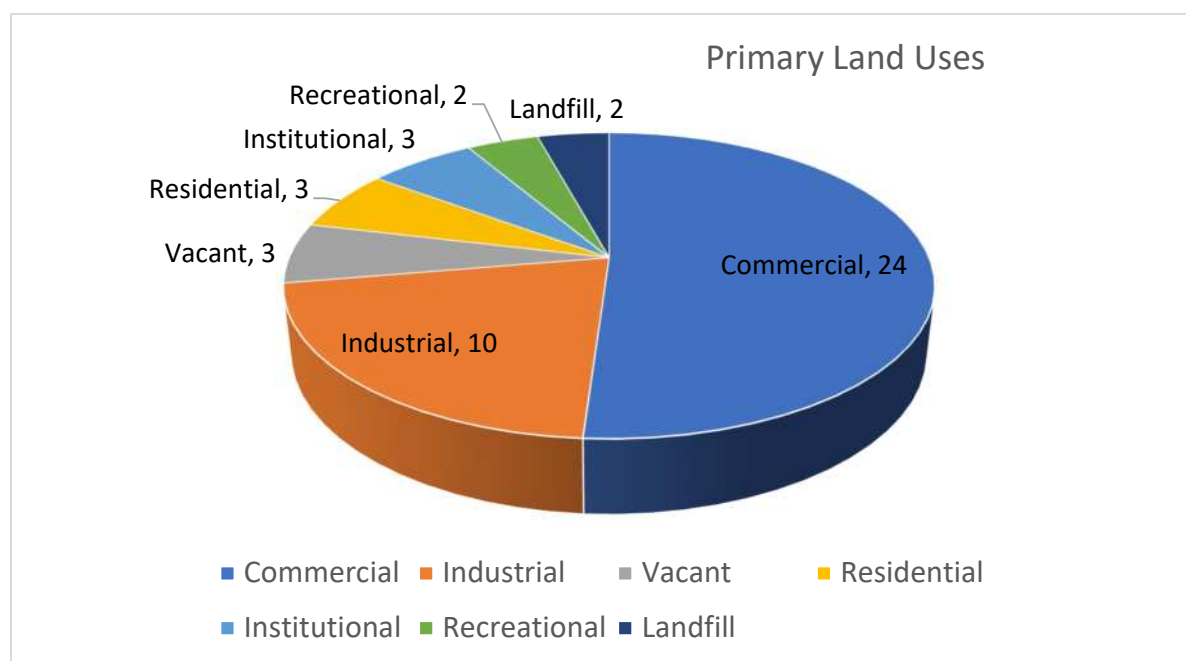
Table 7: Percent of Sites in Compliance

County	No Evident Compliance Issues	Percent of Sites with No Evident Compliance Issues	Noticeable Conditions Needing Attention	Substantial Non-Compliance
Washtenaw	22	76%	7	0
Alpena, Charlevoix, Emmet	16	89%	2	0
Total	38	81%	9	0

Zoning and Land Uses

Specific zoning regulations were not reviewed by the team. Only 3 of the sites had zoning changes from when the restriction was recorded. Out of the 44 sites with known zoning, 13 excluded residential use. Most sites conformed to the current zoning classification for the area they are located. Land use types of both the subject sites and surrounding land uses were noted in the checklists. The land use types used the following categories: Residential, Commercial, Industrial, Institutional (government related), Recreational, and Vacant. *Chart 6* below shows the primary land use types for sites in the counties.

Chart 6: Primary Land Uses



6. Environmental Justice Review

The Project Team limited its evaluation of environmental justice data in this Report to showing the 2020 U.S. Census data for Population within a half mile radius of the sites. County level data is given for Population, Change in Population, Median Household Income, Poverty Rate, Percent of Houses that are Owner-Occupied (2016-2020), the Median Value of Owner-Occupied Housing, and Total Employer Establishments (2020) are shown in *Table 8: Population Data with Employer Establishments and Persons Per Restricted Sites*. The Project Team selected these specific indicators to show the growth in population compared to the number of sites with restricted covenants, as well as comparing the number of overall businesses, most of which are not brownfield sites. The median value of household income was shown as an indicator of wealth in the community, specifically because homeowners normally have more of an economic stake in the community than renters. This is quite evident in Washtenaw County, which has a large student population that rents housing in Ypsilanti and Ann Arbor versus the population of permanent residents in Ann Arbor, Ypsilanti, Chelsea, Dexter, and other more rural areas. It should be noted that Washtenaw County has increased in the rate population four times faster than the state. It also has a higher Median Household Income and higher Median value of owner-occupied housing than the state as a whole. It is also the home of two state universities, lowering its overall percent of owner-occupied housing and increasing its poverty rate.

With a population of about 344,000 people spread among 28 municipalities, issues related to environmental justice in Washtenaw County have been recognized by governmental leaders and community organizations. In 2021, the United Way of Washtenaw County (UWWC) created a [21-Day Equity Challenge](#). As part of the challenge, a day was dedicated to environmental racism and justice. The challenge encouraged participants to watch, listen, or read an article describing the principles of environmental justice. The UWWC also provided some examples of environmental justice issues in Washtenaw County, including contamination issues related to polyfluoroalkyl substances – known as PFAS – and community rental living conditions. Also in 2021, Washtenaw County Commissioner Justin Hodge discussed the successes and challenges related to environmental justice in Washtenaw County with Eastern Michigan University's WEMU 89.1 FM program [Issues of the Environment](#). Commissioner Hodge emphasized the information and tools developed by the Washtenaw County Health Department for improving community health and the County's role in serving as the intermediary between a complainant and the responsible party.

In contrast to Washtenaw County, the economy of northern Michigan is limited by its lower population, few industries and reduced agriculture compared to lower Michigan. Seasonal and tourism related employment is significant. Regardless of population, low-income, tribal, indigenous, and communities of color are more likely to live near contaminated lands, one of the key reasons these communities face increased exposures to environmental hazards. It is recommended that environmental justice issues in northern lower Michigan be further explored and highlighted in information and

resources developed by regional government and community organizations similar to Washtenaw County.

In 2021, the U.S. EPA published a memorandum [Strengthening Environmental Justice Through Cleanup Enforcement Actions](#) (memo). Important to this Project, the memo recommended that regulatory staff “ensure that institutional controls (ICs) are in place and are monitored for compliance on a regular basis and review ICs to determine if they are having the intended effect or if new ICs are needed.” In connection with the review of ICs, the memo recommended that regulatory staff build trust and capacity through community engagement for the effective implementation of the remedy.

During this project, RRD staff shared specific experiences highlighting the benefits of their interactions with property point of contacts and community leaders. In some circumstances, the outreach led to additional conversations and networking (building trust) individuals with RRD staff or staff in other divisions of EGLE. The project team recommends that RRD establish and implement a land or resource use restriction monitoring program to also advance EGLE’s focus on Environmental Justice in Michigan.

7. Recommendations and Future Study Questions

Overall, the project team reaffirms its recommendation from the 2017 Pilot project that EGLE RRD should develop a program to routinely monitor compliance with land or resource use restrictions. In 2023, the project team will focus on uploading the evaluation checklists on Environmental Mapper and finalize and present a policy and procedure to RRD management to execute and memorialize as a process when evaluating compliance with a property owner’s due care obligations or legal agreement.

Documenting Site Conditions

Previous reports have recommended that the Department require that photographs be submitted when the restriction is being filed. The Department would be able to see what the condition the property was in when the restriction commenced and could follow up with additional photos at later dates to better track conditions. This might specifically be for protective covers, permanent markers, well locations, and land use.

Tracking Ownership and Redevelopment

Tracking ownership changes at RC sites will ensure better compliance rates. Just under half of the sites (23) had changed ownership. With only 6 BEAs being submitted after the restrictions were filed, it shows that using this tool to measure property sales or redevelopment is not adequate. For many of the transactions, the purchase may have been between LLCs owned by the same individuals, or were conducted with cash, eliminating financing companies or banks from requiring due diligence. As a side note,



Charlevoix Food Mart-Shell - View of site from southeast/restricted corner, looking northwest.

the Department may want to conduct a study of the facilities that have changed ownership without BEAs being conducted, to determine the broader use, understanding, and need of this tool. The Department should always update RIDE with new owner information as BEAs are submitted.

Property owners (new and old) may be unaware of the restrictions, as shown by 14 (30%) of them not knowing about the RCs or not understanding the elements of the restriction until explained by the reviewers. The percentage of owners/operators not knowing about the restrictions may in fact be higher, as “not applicable” was the selected response in 14 more instances. More outreach to owners is generally a need across the state, but with that comes the need for better ownership information. Part of the restriction could require notification to the Department of any property transaction.

One additional improvement would be when brownfield redevelopment incentives, any state funding source or use of Tax Incremental Financing, are provided to developers, that RIDE is updated and cross referenced to filed restrictions. This would also provide an opportunity to review the need for or alterations to the restrictions after redevelopment.

Links to other public information in local or county property databases, such as the State Equalized Value, and property improvements would assist with tracking ownership changes in the future.

Future Research Questions

The team has generated several questions over the course of the LRUR reviews that need more investigation:

- A. What is the relevance of RCs over time? Do changes in property use/redevelopment make some RCs irrelevant?
- B. Are older restrictions still applicable to current property uses or changes in zoning?
- C. Have resource use restrictions been usurped by the presence of public utilities, specifically municipal water supplies?
- D. After X years, should property conditions be re-evaluated? The team recommends that every 6 to 10 years, or upon receipt of a BEA that the property conditions be re-evaluated.
- E. How are due care obligations adequate to protect the users of the property vs. the use of restrictions alone, or in concert with due care?

8. Example RC Review from Jackson District – Fons and Old Wayne Landfill

The Fons and Old Wayne Landfills are located on approximately 100 acres of land in Ypsilanti Township in Washtenaw County. Willow Run Creek is situated immediately to the east of the landfills, and a branch of the creek separates the Fons Landfill to the north and the Old Wayne Landfill to the south.

The landfills operated from 1960 until about 1973 and accepted both municipal and industrial waste. The landfills did not have liners, and the only cap that had been installed was a semi-permeable clay cover. Leachate was released numerous times into Willow Run Creek for many years.



A remedial action plan (RAP) was approved by EGLE on August 25, 2000, and consisted of installing a “Part 115 cap” on the fills, installing a leachate extraction system, maintaining a cap and fence, and long-term monitoring for both hydraulic and chemical parameters. The performance measure for the hydraulic monitoring was to maintain an inward gradient across the berms surrounding the fill. EGLE issued a construction

completion letter on July 26, 2002, and hydraulic monitoring reports continue to be submitted on an annual schedule.

As a component of the RAP, a Declaration of Restrictive Covenant (RC) was recorded on December 2, 1999, with the Washtenaw County Register of Deeds. The RC included restrictions on land use, groundwater, removal of soil, disturbance of the cap and leachate collection system (and the monitoring well network), and any other uses or activities that interfere with the approved RAP.

In April and May 2022, staff from RRD performed an initial drive-by survey and followed up with a site visit with the site point of contact. RRD staff concluded that both landfill caps appear well-maintained and that the permanent marker installed as part of the RAP was legible. Fencing installed around the perimeter was also in good condition however, the main access gate along McGregor Avenue had been left open and unattended. In addition, the point of contact’s vehicle got stuck during the site evaluation and had to be towed out, leaving ruts. The site owner planned to repair the damage promptly.



Grass cover and leachate collection “wet well” on the north side of the Old Wayne Landfill, facing north.

Tables

Table 2- Sites Reviewed List

ID	Reference number	Facility name	Facility ID	Site ID	Acreage	Square mileage	Address	Township	County	Population within half mile	Property Tax ID	Access Requested	Date Access Granted	Land Use Type	Surrounding Land Use Type	Property Ownership Change	Zoning Excludes residential use?	Zoning same as when filed?	Register of Deed date	Describe how recorded
42	RC-ERD-97-029	Fons/Old Wayne Landfill/WWTP		81000029	99.0100	0.1500	3050 Tyler Road	Ypsilanti	Washtenaw	0	R-013-014-00, 11-013-001-01, ...	TRUE	4/7/2022	Vacant	Residential, Industrial, Vacant	FALSE	Yes	Yes	12/2/1999	Restriction 3917/637
43	RC-RRD-213-04-565	Wastewater Treatment Plant	00010609		78.5414	0.1227	2777 State Road	Ypsilanti	Washtenaw	0	K-11-13-283-001	TRUE	4/8/2022	Industrial	Industrial, Residential, Vacant	FALSE	Yes	Yes	7/17/1998	Restriction 3713/602
44	RC-RRD-213-04-543	Ds Auto Clinic	00038411		0.4026	0.0006	1473 Ecorse Road	Ypsilanti Township	Washtenaw	3,356	12-11-11-333-014	TRUE		Commercial	Residential, Commercial	TRUE	No	Yes	4/23/2003	Restrictions 4248/926
47	RC-RRD-213-04-558	Citgo	00009883		0.3447	0.0005	501 East Michigan Avenue	Ypsilanti	Washtenaw	2,707	11-11-10-262-007	TRUE	4/8/2022	Commercial	Commercial	FALSE	No	Yes	8/28/1996	Restriction 03310/0843
48	RC-RRD-213-04-536	Finishing Services, Inc.	00001374		0.8488	0.0013	Huron River Drive and 877 Ann Street	Ypsilanti	Washtenaw	6,622	11-11-04-265-002	TRUE		Industrial	Residential, Commercial	TRUE	Yes	No	12/4/1997	Restriction
49	RC-RRD-213-04-545	Peninsular Park Residential Project/James River Corp.	00018731	81000537	4.6370	0.0072	1000 North Huron Street	Ypsilanti	Washtenaw	1,140	11-11-05-100-012	TRUE		Residential	Residential, Recreational, Commercial	TRUE	No	Yes	2/8/2001	Restrictions 3994/809
51	RC-RRD-213-05-074	Former Yellow Freight Terminal	00009375		4.5228	0.0070	5070 Carpenter Road	Ypsilanti	Washtenaw	176	12-23-100-009	TRUE	4/25/2022	Industrial	Industrial, Commercial, Vacant	TRUE	Yes	Yes	9/9/1999	Restrictions 3898/939
52	RC-RRD-213-05-070	Crystal Flash Ypsilanti	00015952		2.9834	0.0047	5005 Carpenter Road	Pittsfield Charter Township	Washtenaw	928	L-12-24-200-063	TRUE		Industrial, Commercial	Industrial, Commercial, Vacant	TRUE	Yes	Yes	9/24/1996	Miscellaneous 3322/961
55	RC-RRD-213-04-556	Lincoln Schools Bus Garage	00006811		81.5899	0.1275	7901 Willis Road	Ypsilanti	Washtenaw	36	T-20-04-400-001	TRUE		Institutional	Industrial, Residential	FALSE	No	Yes	1/21/1999	Restriction
56	RC-RRD-213-04-555	Stony Creek Yard #7	00020853		2.4613	0.0038	5222 Bolla Road	Ypsilanti	Washtenaw	165	T-20-06-361-027	TRUE	4/22/2022	Commercial	Residential, Recreational, Commercial	TRUE	No	Yes	11/12/1997	Restrictions 3532/278
57	RC-ERD-96-008	Arkona Rd Landfill		81000052	40.5800	0.0600	Arkona Road	Augusta Township	Washtenaw	0	96-008-1	TRUE	4/7/2022	Landfill	Residential, Recreational, Agricultural	TRUE	Yes	Yes	10/11/1996	Restrictions 3331/39
59	RC-RRD-213-05-077	Crispin-Rowe Investments Inc.	00011196	81000086	0.7573	0.0011	1015 Dexter Road	Milan	Washtenaw	3,217	19-19-35-183-007	TRUE	4/22/2022	Commercial	Residential, Commercial, Vacant	TRUE	No	Yes	6/7/2002	Miscellaneous 4132/457
61	RC-RRD-213-09-037	Equilon Enterprises	00010426		1.1399	0.0018	3240 Washtenaw Avenue	Ann Arbor	Washtenaw	1,684	12-02-204-017	TRUE		Commercial	Commercial	TRUE	No	Yes	6/25/2002	Restriction 4137/492
62	RC-RRD-213-02-010	MIT Petroleum Inc.	00004915		0.3441	0.0005	3720 Washtenaw Avenue	Washtenaw	Washtenaw	2,410	12-02-104-004	TRUE	4/21/2022	Commercial	Commercial	TRUE	No	Yes	8/27/2002	Restriction 415/919
63	RC-RRD-213-09-167	Washtenaw County Sheriff's Office	00033012		0.1809	0.0002	2201 Hogback Road	Ann Arbor	Washtenaw	2,174	L-12-01-200-016	TRUE	4/21/2022	Institutional	Residential, Commercial, Vacant	FALSE	No	No	11/29/2010	Restriction 4818/961
64	RC-RRD-213-04-547	Golfside Oil Inc.	00010423		0.5030	0.0007	4975 Washtenaw Avenue	Ann Arbor	Washtenaw	6,413	L-12-200-018-00, L-12-01-401-019	TRUE	4/21/2022	Commercial	Residential, Commercial	TRUE	No	Yes	10/24/2000	Restriction 3975/478
65	RC-RRD-213-09-040	Washtenaw Fuel LLC	00018148		0.4808	0.0007	4970 Washtenaw Avenue	Ann Arbor	Washtenaw	5,962	12-01-475-001, -002, -003, -010	TRUE	4/22/2022	Commercial	Residential, Commercial	TRUE	No	Yes	4/8/2015	Restrictions 5088/572
67	RC-RRD-213-04-538	Fred's Village Mart-Village Gas & Mart	00019799		1.0379	0.0016	500, 510 Ann Arbor Road	Manchester	Washtenaw	524	PM-16-02-265-055	TRUE	4/21/2022	Commercial	Residential, Vacant	TRUE	No	Yes	12/3/2003	Restrictions 4343/99
69	RC-RRD-213-04-566	Hutzel Plumbing and Heating Co.	00035212		1.0094	0.0015	2311 South Industrial Highway	Ann Arbor	Washtenaw	3,349	09-12-04-403-010	TRUE	4/21/2022	Industrial	Residential, Industrial	FALSE	Yes	Yes	10/10/1995	Restrictions 3163/461
70	RC-RRD-213-04-550	Fingerle Lumber Co.	00021201		1.2607	0.0019	617 South Fifth Avenue	Ann Arbor	Washtenaw	11,118	09-09-29-431-008, -009, -010	TRUE		Vacant Industrial	Residential, Commercial	TRUE	No	Yes	2/26/1997	Restrictions 03389/0116
71	RC-RRD-213-05-057	Bill Muncys Service	00037093		0.2177	0.0003	423 Miller Avenue	Ann Arbor	Washtenaw	5,365	09-29-214-030	TRUE	4/29/2022	Commercial	Residential, Recreational, Commercial	TRUE	No	Yes	11/10/1999	Restrictions 3913/589
72	RC-RRD-213-06-073	1254 N Main-Lotus Engineering	00014122	81000547	3.2921	0.0051	1254 North Main Street	Ann Arbor	Washtenaw	1,447	09-09-20-101-003	TRUE	4/29/2022	Industrial	Residential, Recreational, Commercial, Industrial	TRUE	No	Yes	4/12/2006	Restrictions 4550/978
73	RC-RRD-213-04-563	Brewers Inc- Deihls Auto	00010969		0.7812	0.0012	1763 Plymouth Road	Ann Arbor	Washtenaw	8,531	09-22-201-001	TRUE	4/22/2022	Commercial	Residential, Commercial	TRUE	No	Yes	10/25/2001	Instrution, Infiltration Barrier
74	RC-RRD-213-04-549	North Campus Service Area	00035192		1.6728	0.0026	1655 Dean Road	Ann Arbor	Washtenaw	2,482	09-09-23-201-001	TRUE	4/21/2022	Commercial	Residential, Recreational, Commercial, Vacant	FALSE	No	Yes	5/5/1997	Restrictions 3421/528
80	RC-RRD-213-04-539	R&M Party Liquor Store	00038849		0.7140	0.0011	4675 Jackson Road	Ann Arbor	Washtenaw	545	H-08-22-480-018	FALSE		Vacant	Residential, Commercial, Vacant	FALSE	No	Yes	1/30/1997	Restrictions 3377/825
81	RC-RRD-213-04-541	Exxon Mobil R-S #12823	00016750		1.3231	0.0020	80 North Zeeb Road	Ann Arbor	Washtenaw	366	08-022-031-00/H-08-21-400-042	FALSE		Commercial, Vacant	Vacant	TRUE	Yes	Yes	9/30/1997	Restriction
82	RC-RRD-213-04-560	#5663 Zeeb Inc.- Amoco	00005663		3.4268	0.0054	321 North Zeeb Road	Scio Township	Washtenaw	199	H-08-21-100-004	TRUE	4/29/2022	Commercial	Residential, Commercial, Industrial	TRUE	Yes	Yes	3/21/1997	Restriction
84	RC-RRD-213-04-546	Washtenaw County Rd. Comm Yard #3	00021111		2.9454	0.0046	630 West Middle Street	Chelsea	Washtenaw	1,560	06-06-12-325-010	TRUE	4/20/2022	Industrial	Residential, Industrial	FALSE	No	Yes	8/20/1999	Restriction
85	RC-RRD-201-16-065	425 Congdon Street-Federal Screw Works		81000575	0.4156	0.0006	425 Congdon Street	Chelsea	Washtenaw	1,833	06-06-12-435-005	FALSE		Industrial, Vacant	Residential, Commercial, Industrial, Vacant	FALSE	No	Yes	12/1/2016	Restrictions 5186/364
86	RC-ERD-02-023	City of Alpena Landfill		04000003	160.0200	0.2500	4395 M-32	Wilson Township	Alpena	0		FALSE		Landfill	Residential, Commercial, Vacant	FALSE			8/28/2003	Restrictions
88	RC-RRD-201-18-009	Consumers Energy Former MGP		04000124	1.4136	0.0022	730 State Street	Alpena	Alpena	1,348	093-427-000-012-00, -010-00	FALSE		Residential, Vacant	Residential	FALSE	No	Yes	1/26/2021	Liber and Page
89	RC-RRD-213-08-115	Continental Structural Plastics	00040600		0.4407	0.0007	103 East Sheridan Street	Petoskey	Emmet	1,852	52-19-06-453-101, 102	TRUE	8/18/2022	Commercial, Industrial	Residential, Commercial, Industrial	TRUE	No	Yes	8/22/2008	Restrictions and Covenants
90	RC-RRD-213-16-123	Northwood Oil Shell	00011108		0.1101	0.0001	1308 Bridge Street	Charlevoix	Charlevoix	1,347	052-369-068-10	FALSE		Commercial	Residential, Commercial, Institutional	FALSE	Yes		5/22/2017	Covenant
91	RC-RRD-213-04-314	Good Heart General Store	00012414		2.0093	0.0031	1075 North Lake Shore Drive	Readmond Township	Emmet	75	24-07-25-300-014	FALSE		Commercial	Residential, Commercial, Vacant	FALSE	No		12/22/1998	Restrictions and Covenants
92	RC-RRD-213-04-295	Imperial Store #27	00013366		0.0550	0.0000	804 Spring Street	Petoskey	Emmet	952	52-19-06-300-091	FALSE		Commercial, Industrial	Residential, Commercial, Industrial	TRUE	No		6/28/2002	Covenant
93	RC-RD-213-12-155	Petoskey Public Works Garage	00014878		4.1402	0.0064	110 West Sheridan Street	Petoskey	Emmet	1,701	52-19-06-210-000	FALSE		Institutional	Residential, Recreational, Commercial, Industrial	FALSE	No	Yes	4/23/2014	Declaration
94	RC-RD-213-12-156	Petoskey Public Works Garage	00014878		2.6035	0.0040	110 West Sheridan Street	Petoskey	Emmet	1,701	52-19-06-452-001	FALSE		Commercial, Industrial	Residential, Recreational, Commercial, Industrial	FALSE	No	Yes	4/23/2014	Declaration
95	RC-RRD-201-21-022	Harbor Industries		15000013	14.8049	0.0231	100 Harbor Drive	Charlevoix	Charlevoix	745	052-234-020-10	FALSE		Industrial	Commercial, Industrial	TRUE			6/23/2021	Restrict
96	RC-RRD-03-003	Cemex		15000050	172.8363	0.2701	16000 Bells Bay Road	Charlevoix Township	Charlevoix	0	004-028-004-10	FALSE		Industrial	Residential, Recreational, Commercial, Industrial	FALSE			3/20/2006	Restrict
97	RC-RRD-213-07-029	Perry Oil Co.	00015756		0.2700	0.0004	600 North Ripley	Alpena	Alpena	2,463	093-607-000-476-00	FALSE		Commercial	Residential, Commercial	FALSE	Yes		11/27/2001	Liber 410, Page 89
98	RC-RRD-213-08-120	E-Z Way Store	00019281		1.3804	0.0021	2060 M-32 West	Alpena	Alpena	235	018-090-000-002-00	FALSE		Commercial	Residential	FALSE	Yes		9/28/2009	Liber and Page

Table 2- Sites Reviewed List

ID	Reference number	Facility name	Facility ID	Site ID	Acreage	Square mileage	Address	Township	County	Population within half mile	Property Tax ID	Access Requested	Date Access Granted	Land Use Type	Surrounding Land Use Type	Property Ownership Change	Zoning Excludes residential use?	Zoning same as when filed?	Register of Deed date	Describe how recorded
99	RC-RRD-201-05-020	Petoskey Manufacturing- Municipal Well field		24000011	0.7968	0.0012	200 West Lake Street	Petoskey	Emmet	1,288	52-19-06-206-001	FALSE		Residential	Residential, Recreational	TRUE	No	No	5/12/2005	Restrictions and Covenants
100	RC-ERD-01-002	Lewis and Rose Streets		24000076	1.1931	0.0018	Lewis and Rose Streets and US 31	Petoskey	Emmet	1,155	24-52-16-32-300-005	FALSE		Recreational, Vacant	Residential, Recreational, Commercial	FALSE	No		4/9/2002	Restrictions and Covenants
101	RC-RRD-213-08-193	Dan's Party Store	00034265		1.3771	0.0022	3074 M-32 West	Alpena	Alpena	23	04-084-024-000-793-00	FALSE		Commercial, Industrial	Residential, Commercial	FALSE	No		7/21/2003	Liber and Page
102	RC-RRD-213-08-139	Alpena Oil Co. - Water Street	00003566		6.9172	0.0108	235 Water Street	Alpena	Alpena	758	093-637-000-047-00	FALSE		Commercial	Commercial, Industrial	FALSE	No	Yes	10/3/1996	Restrictive Covenant
103	RC-RRD-213-20-157	Perry Oil Co. - Campbell	00037458		0.9549	0.0014	628 and 634 West Campbell Street	Alpena	Alpena	2,002	093-447-000-059-00, -073-00, -068-00, -080-00	FALSE		Commercial	Commercial	FALSE	Yes		12/15/2020	Liber and Page
104	RC-RRD-213-15-035	Boyne Highlands Resort	00006875		0.1450	0.0002	600 Highlands Drive	Pleasant View Township	Emmet	134	11-13-33-100-006	FALSE				FALSE			8/7/2018	

Table 3- Detailed Responses

ID	Reference number	Facility name	Facility ID	Site ID	Protective Structure	PS functional integrity	Free of erosion/cracks	Water wells present	Method used to verify presence of wells	Are wells being used in compliance with restrictions?	Unauthorized construction or excavation?	Exposure barrier other than concrete, asphalt or gravel?	Ruts, impacts, incursions visible	Permanent Markers, exposure barriers, MWs in place?	Site security measures in place and working?	Measures include	Property owner aware prior to contact?	Need for repairs
42	RC-ERD-97-029	Fons/Old Wayne Landfill/WWTP		81000029	Yes	Yes	Yes	No	Welllogic	N/A	No	Yes	Yes	Yes	Yes	signs, fences, gates	Yes	Some ruts due to driving on the property, capped landfill
43	RC-RRD-213-04-565	Wastewater Treatment Plant	00010609		No	N/A	N/A	No	Welllogic	N/A	No	N/A	N/A	N/A	N/A	fences, gates	No	No issues present, WWTP
44	RC-RRD-213-04-543	Ds Auto Clinic	00038411		No	N/A	N/A	No	Welllogic	N/A		No	N/A	Yes	N/A	N/A	N/A	Part of concrete not replaced.
47	RC-RRD-213-04-558	Citgo	00009883		No	N/A	N/A	No	Welllogic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No issues present
48	RC-RRD-213-04-536	Finishing Services, Inc.	00001374		No	N/A	N/A	No	Welllogic	N/A		No	N/A	N/A	N/A	N/A	N/A	No issues present
49	RC-RRD-213-04-545	Peninsular Park Residential Project/James River Corp.	00018731	81000537	No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	N/A	N/A	Property well maintained, no evidence of construction or soil removal
51	RC-RRD-213-05-074	Former Yellow Freight Terminal	00009375		N/A	N/A	N/A	No	Welllogic	N/A	No	N/A	N/A	N/A	Yes	Fences, gates	No	One diesel fuel AST, locked gate
52	RC-RRD-213-05-070	Crystal Flash Ypsilanti	00015952		No	N/A	N/A	No	Welllogic	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	Ruts and ponding observed in gravel and grass surfaces, fueling area present
55	RC-RRD-213-04-556	Lincoln Schools Bus Garage	00006811		N/A	N/A	N/A	No	Welllogic	N/A	No	No	No	Yes	Yes	Fence	NA	owner did not reply, part of area is fenced
56	RC-RRD-213-04-555	Stony Creek Yard #7	00020853		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	Yes	Fences, gates	Yes	Restricted area covered with asphalt in fair condition
57	RC-ERD-96-008	Arkona Rd Landfill		81000052	Yes	N/A	N/A	No	Welllogic	N/A	No	Yes	N/A	N/A	N/A	signs, fence, gates	Yes	Check for fence condition and permanent markers, should be on each side of the property and describe the restricted area and nature of the prohibitions. Photograph markers
59	RC-RRD-213-05-077	Crispin-Rowe Investments Inc.	00011196	81000086	N/A	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	N/A	No	Pavement in good condition
61	RC-RRD-213-09-037	Equilon Enterprises	00010426		No	N/A	N/A	No	Welllogic	N/A	No	NA	N/A	N/A	N/A	N/A	N/A	Parking lot cracks, Shell Station
62	RC-RRD-213-02-010	MIT Petroleum Inc.	00004915		N/A	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	Guard	No	Building remodeled in 2019, commercial use, parking lot good condition
63	RC-RRD-213-09-167	Washtenaw County Sheriff's Office	00033012		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	N/A	Yes	Restricted area for sheriff parking, some pavement cracking
64	RC-RRD-213-04-547	Golfside Oil Inc.	00010423		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	N/A	No	New pavement since 2020, BP gas station
65	RC-RRD-213-09-040	Washtenaw Fuel LLC	00018148		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	N/A	No	Paved areas in poor condition, but not violation of RC
67	RC-RRD-213-04-538	Fred's Village Mart-Village Gas & Mart	00019799		No	N/A	N/A	No	Welllogic	N/A	No	Yes	No	N/A	N/A	N/A	No	Gas station and convenience store, Village Gas Market Inc.
69	RC-RRD-213-04-566	Hutzel Plumbing and Heating Co.	00035212		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	Yes	Fence	Yes	2 of 8 pages recorded, parking lot in good condition
70	RC-RRD-213-04-550	Fingerle Lumber Co.	00021201		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	Yes	Fence	Yes	All but one building demolished, owned by University of Michigan Regents
71	RC-RRD-213-05-057	Bill Muncys Service	00037093		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	N/A	N/A	No	Owned by Sustainable Properties
72	RC-RRD-213-06-073	1254 N Main-Lotus Engineering	00014122	81000547	No	N/A	N/A	No	Welllogic	N/A	No	Yes	No	N/A	N/A	N/A	Yes	New industrial reuse of building, no improvements to impacted areas
73	RC-RRD-213-04-563	Brewers Inc- Deihls Auto	00010969		No	N/A	N/A	No	Visual	N/A	NA	No	N/A	N/A	N/A	N/A	No	No issues present
74	RC-RRD-213-04-549	North Campus Service Area	00035192		No	N/A	N/A	NA	Welllogic	N/A	No	Yes	No	N/A	N/A	N/A	Yes	Used by University of Michigan for storage, ASTs present
80	RC-RRD-213-04-539	R&M Party Liquor Store	00038849		No	N/A	N/A	No	Welllogic	N/A	No	Yes	No	N/A	N/A	N/A	N/A	Part of Jackson Road right of way and forested land
81	RC-RRD-213-04-541	Exxon Mobil R-5 #12823	00016750		N/A	N/A	N/A	No	Welllogic	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	Right of way along I-94
82	RC-RRD-213-04-560	#5663 Zeeb Inc. - Amoco	00005663		N/A	N/A	N/A	No	Welllogic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	BP station with Tim Hortons
84	RC-RRD-213-04-546	Washtenaw County Rd. Comm Yard #3	00021111		No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	N/A	Yes	fences, gates	No	Road commission yard, gate open, pavement in good condition
85	RC-RRD-201-16-065	425 Congdon Street-Federal Screw Works		81000575	No	N/A	N/A	No	Welllogic	N/A	No	No	N/A	No	No	fences, gates	Yes	Currently unoccupied, existing building, gate not secure
86	RC-ERD-02-023	City of Alpena Landfill		04000003	No	N/A	N/A	No	Welllogic	N/A	No	N/A	N/A	N/A	Yes	gates	Yes	Not reviewed directly, aerial and street view
88	RC-RRD-201-18-009	Consumers Energy Former MGP		04000124	No	N/A	N/A	No	Visual, Welllogic	N/A	No	N/A	N/A	N/A	N/A	N/A	Yes	Waterfront property, cap with grass
89	RC-RRD-213-08-115	Continental Structural Plastics	00040600		Yes	Yes	Yes	No	Welllogic	N/A	No	N/A	N/A	N/A	N/A	N/A	No	Infiltration barrier intact, no changes to land use
90	RC-RRD-213-16-123	Northwood Oil Shell	00011108		No	N/A	N/A	No	Welllogic	N/A	No	N/A	N/A	N/A	N/A	N/A	Yes	None needed
91	RC-RRD-213-04-314	Good Heart General Store	00012414		No	N/A	N/A	Yes	Welllogic, Visual	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	None needed

Table 3- Detailed Responses

[illegible]

Table 4- Number of Restrictions Filed/Recorded Per Year in Washtenaw County and Gaylord District

Year Recorded	Alpena Recorded	Charlevoix Recorded	Emmet Recorded	Washtenaw Recorded
1995				1
1996	1			3
1997				7
1998			1	1
1999				5
2000				1
2001	1			2
2002			2	3
2003	2			2
2004				
2005			1	
2006		1		1
2007				
2008			1	
2009	1			
2010				1
2011				
2012				
2013				
2014			2	
2015				1
2016				1
2017		1		
2018			1	
2019				
2020	1			
2021	1	1		
Totals	7	3	8	29

Table 8: Population Data with Employer Establishments and Persons Per Restricted Sites

Selected Local Units of Government	Population (July 2021 estimate)	Population Change 2010-2020	Median Household Income	Poverty Rate	Percent Owner-Occupied Housing 2016-2020	Median Value of Owner-Occupied Housing	Total Employer Establishments 2020	# of People per Employer Establishment	Number of Sites With Restrictions	% of Establishments with Restrictions	Restriction for X Persons
Michigan	10,050,811	2.0%	\$59,234	12.6%	71.7%	\$162,600	221,060	45.47	4,194	1.9%	2,396.47
Washtenaw County	369,390	8.0%	\$75,730	12.0%	61.5%	\$278,500	8,222	44.93	90	1.1%	4,104.33
Alpena County	28,893	-2.3%	\$42,603	15.6%	78.4%	\$104,900	795	36.34	24	3.0%	1,203.88
Charlevoix County	26,086	0.4%	\$60,433	8.7%	81.7%	\$171,100	802	32.53	17	2.1%	1,534.47
Emmet County	34,225	4.3%	\$55,947	8.7%	74.2%	\$206,900	1,534	22.31	17	1.1%	2,013.24

Total
Restrictions
Statewide 6,841

Charts

Chart 1- Washtenaw County Population Within 1/2 Mile

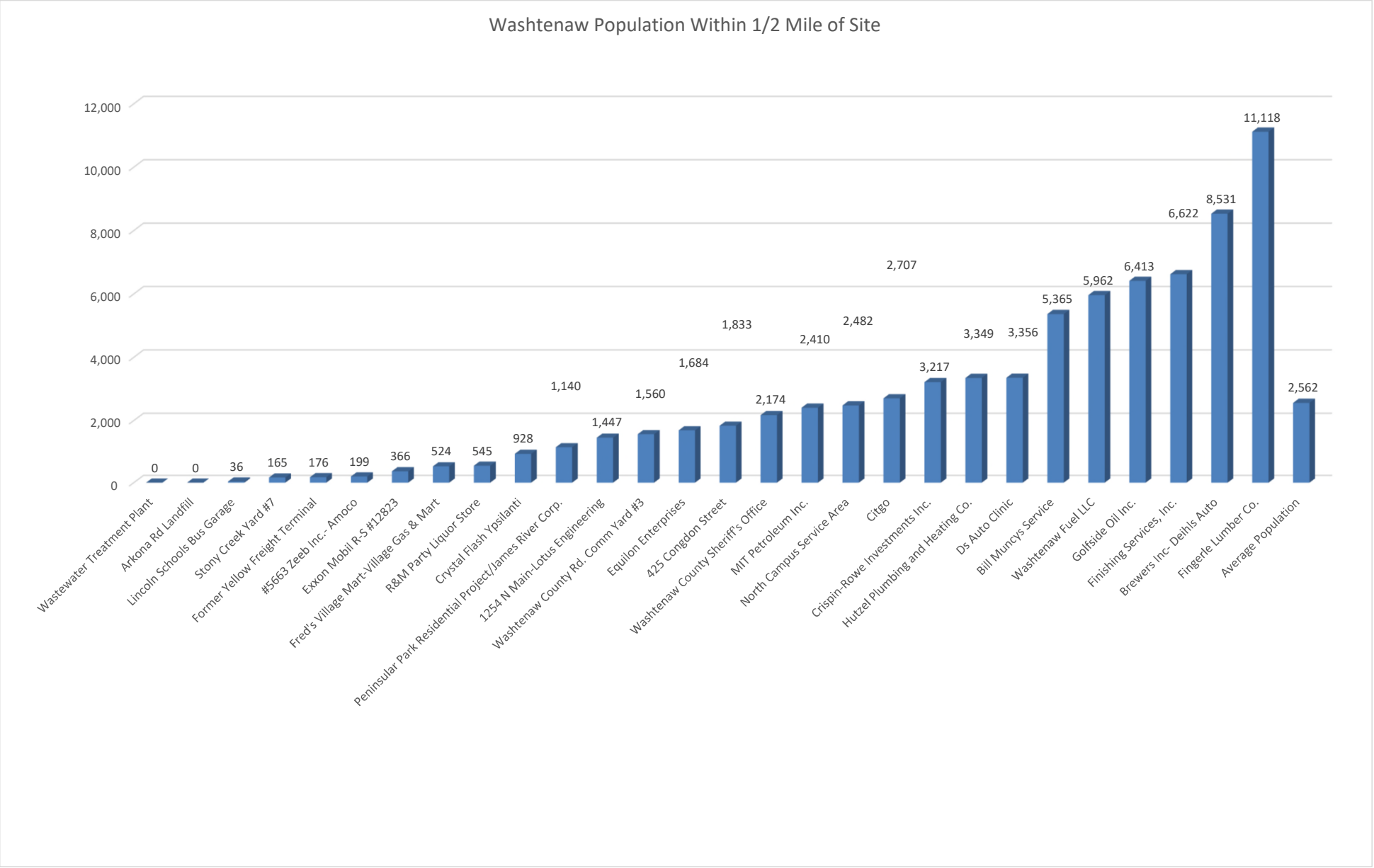


Chart 2- Gaylord District Populations Within 1/2 Mile

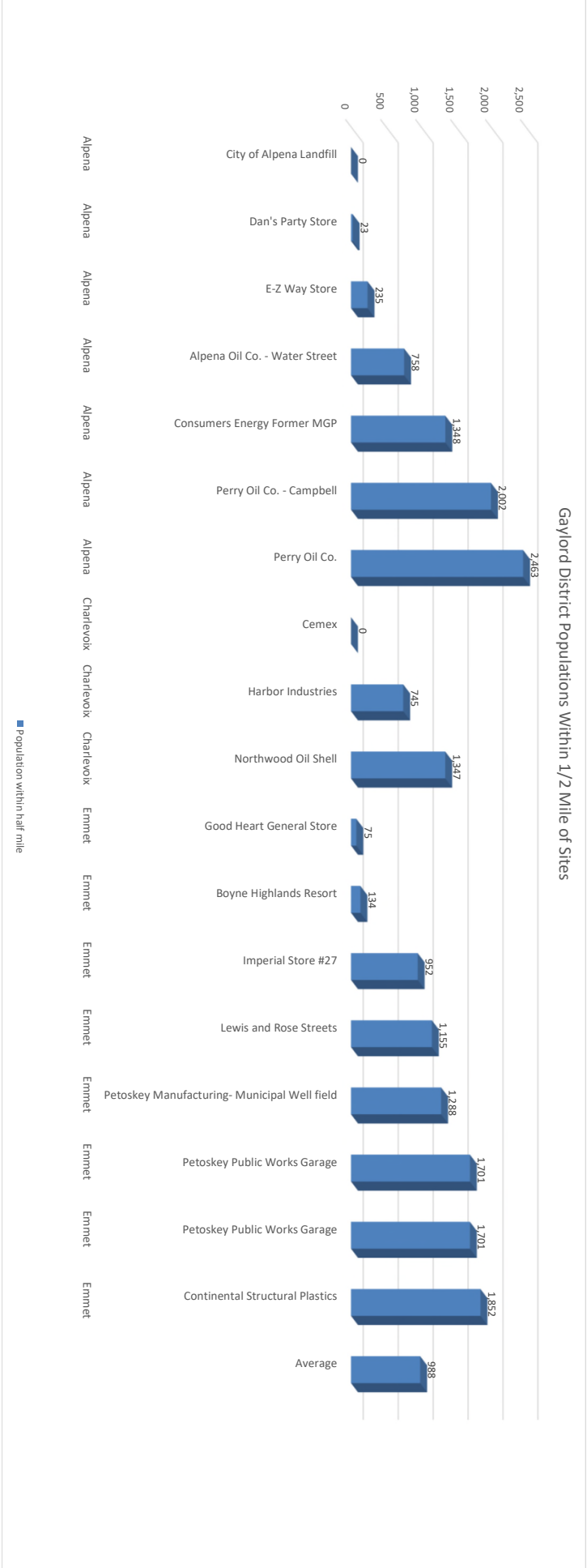


Chart 3- Acreage of Sites in Washtenaw County

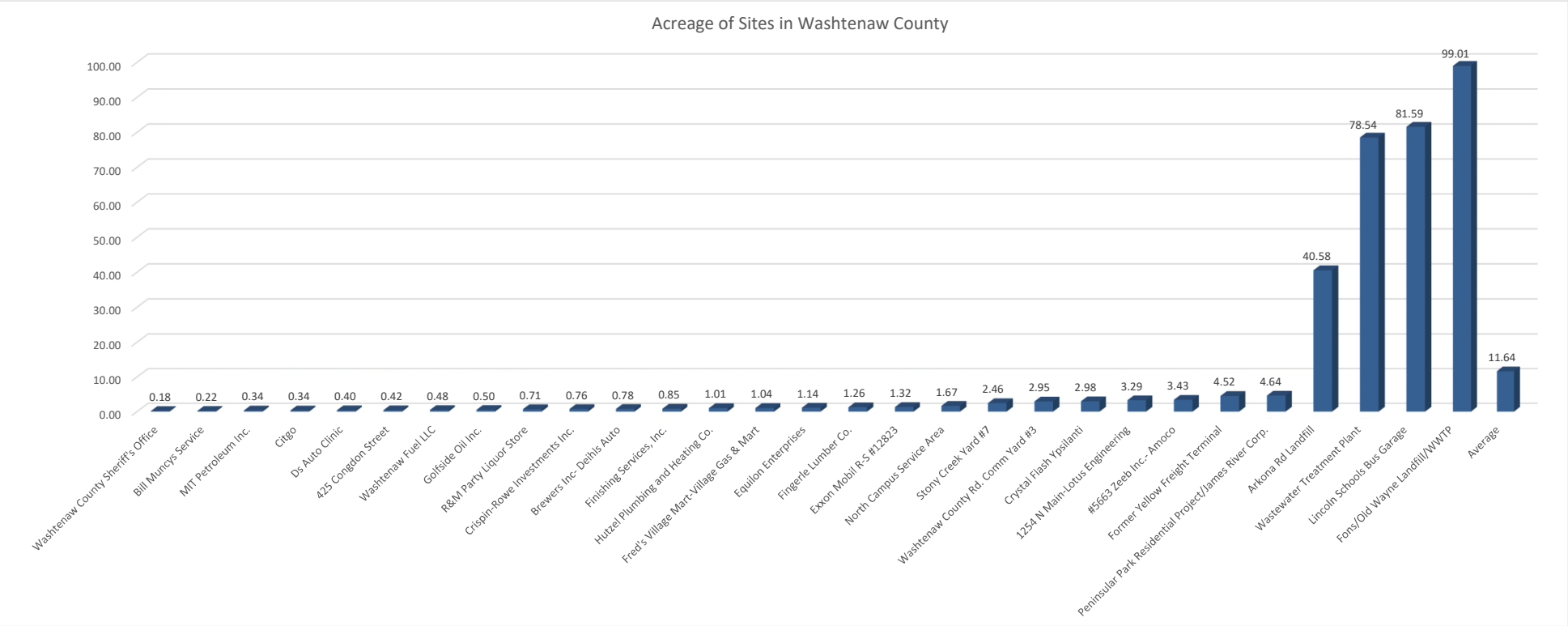


Chart 4- Acreage of Sites in Gaylord District

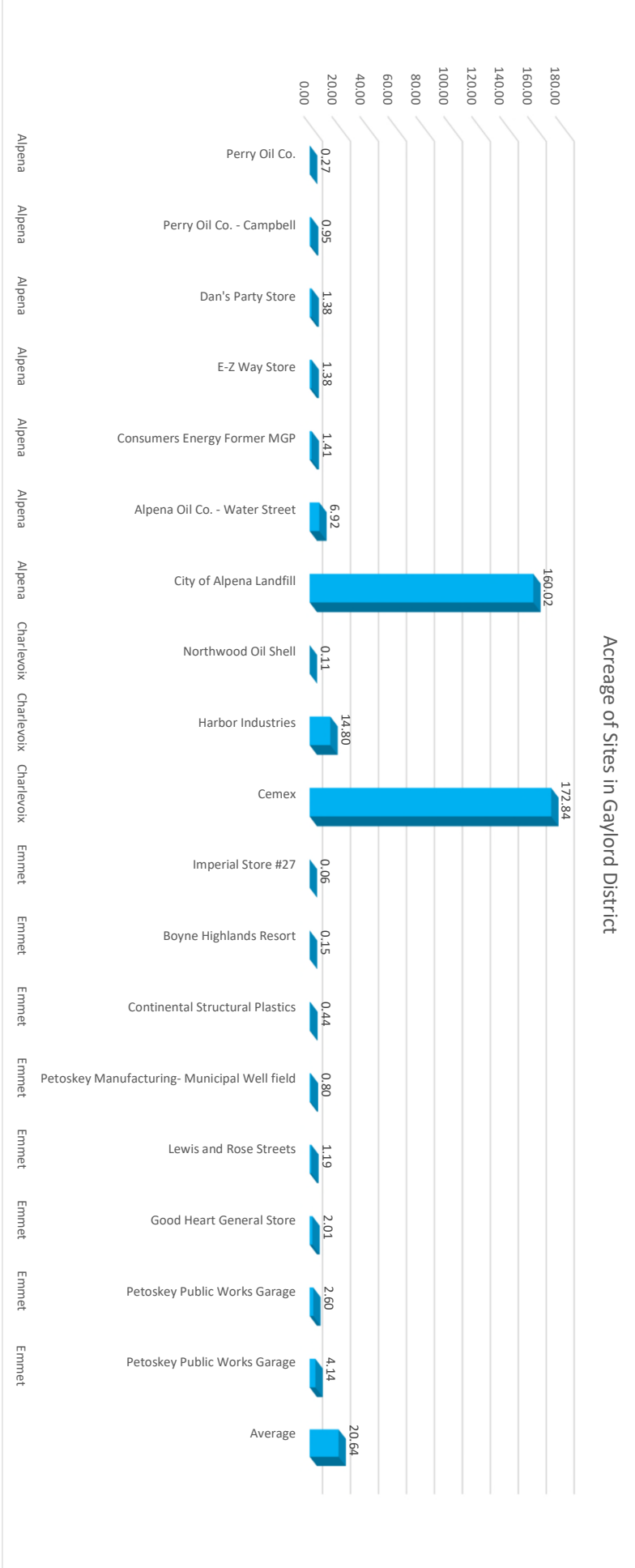


Chart 5- Years of Restrictions Filed with Register of Deeds

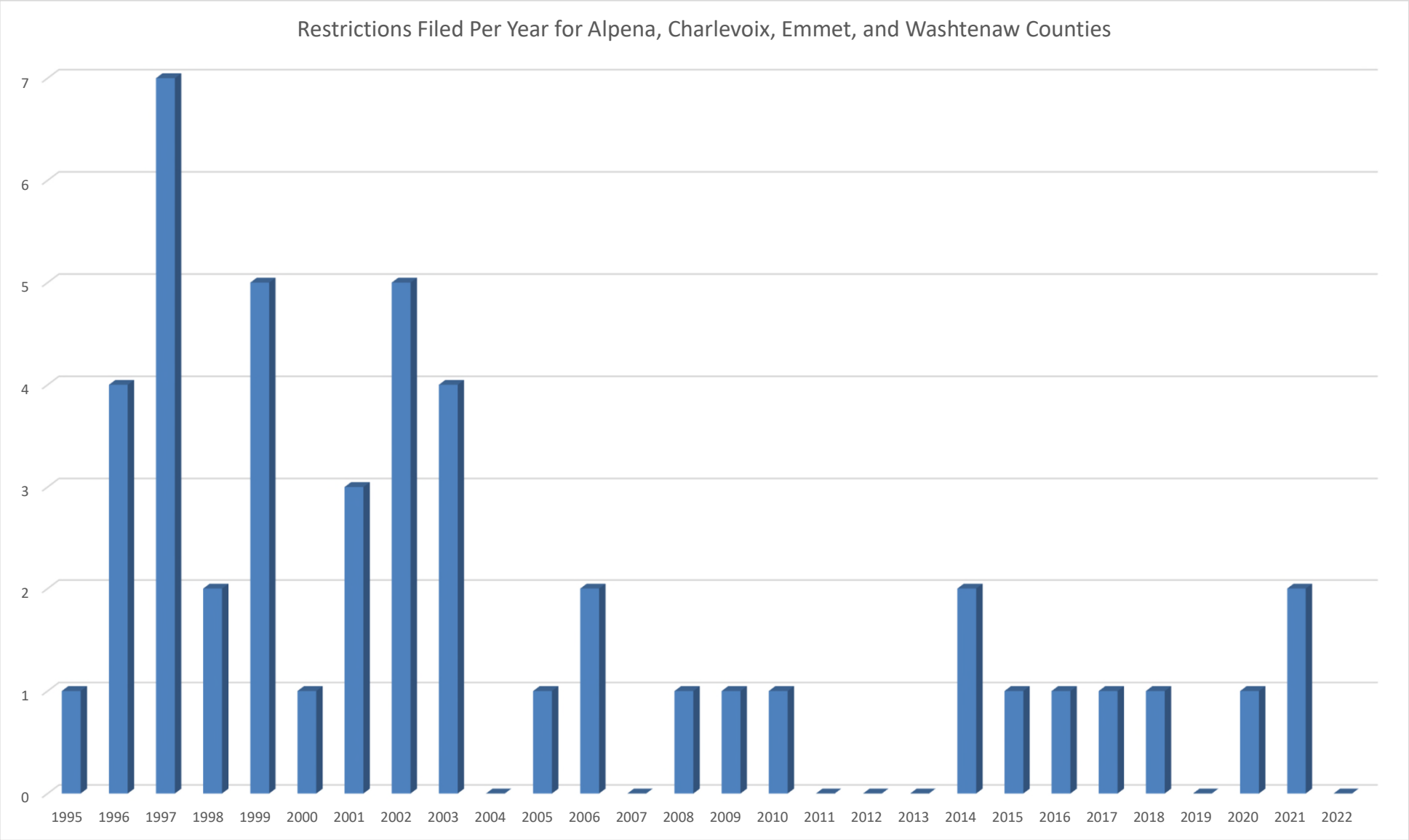


Chart 6- Percent of Total Restrictive Elements per Site

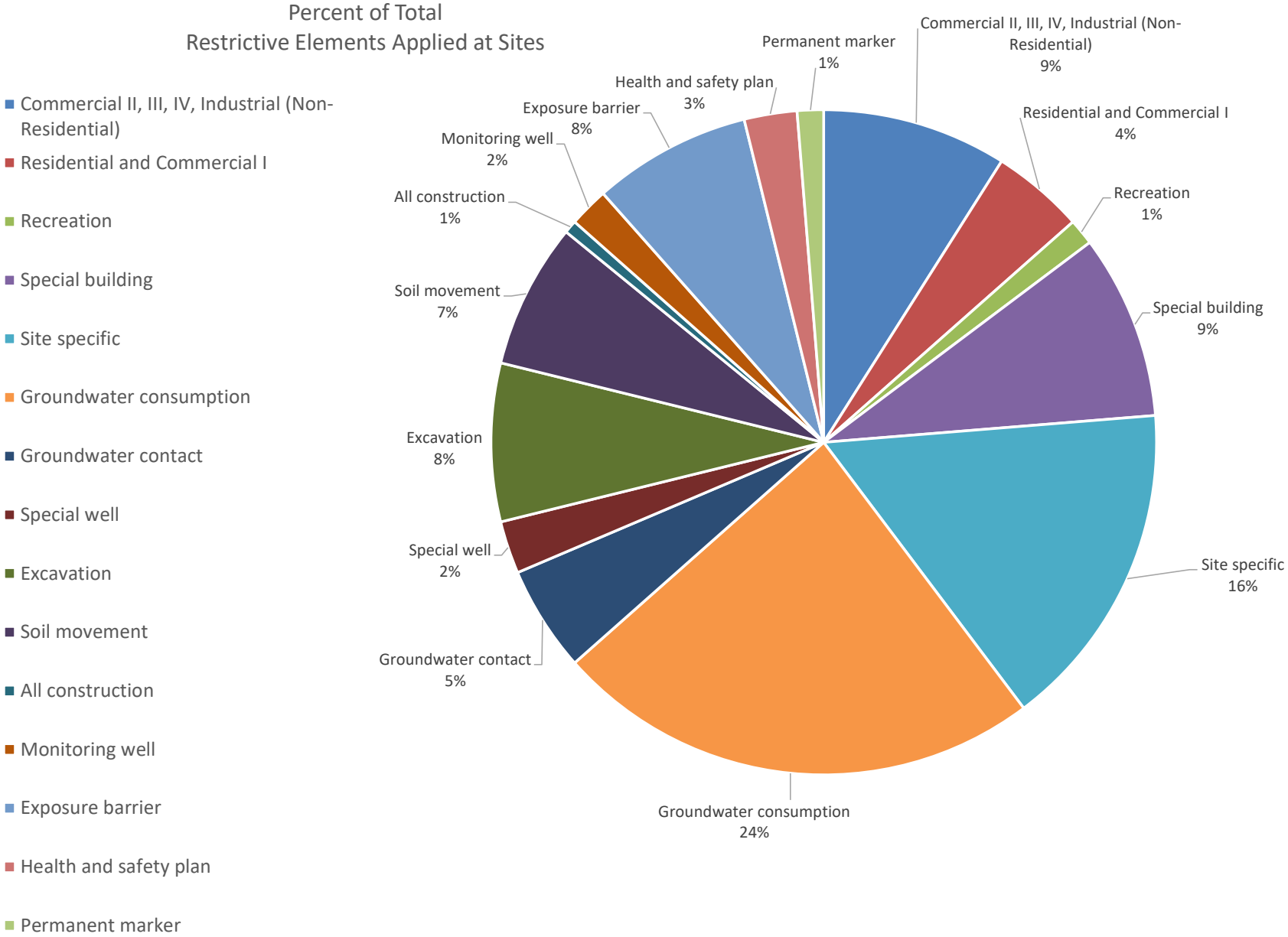
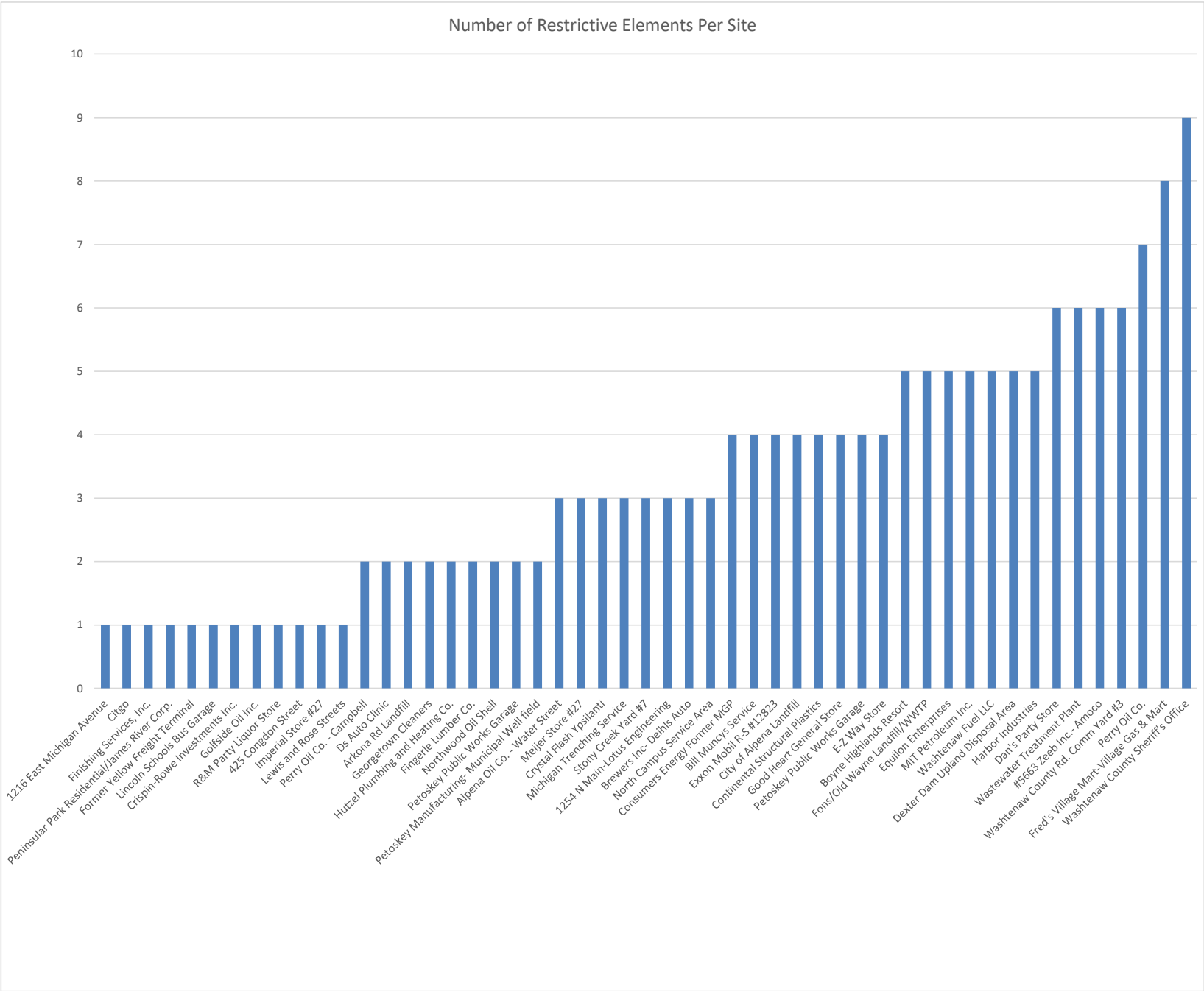
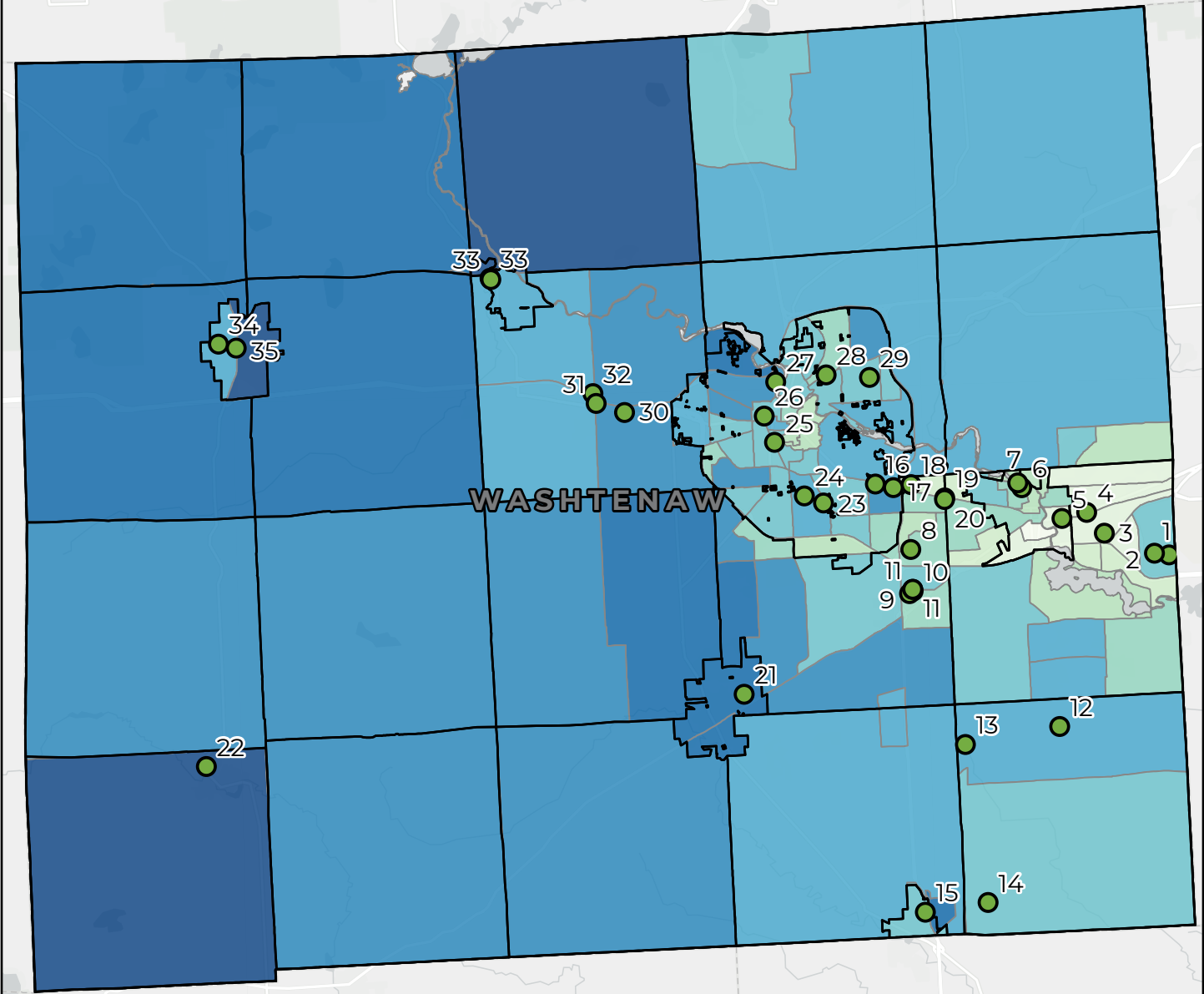


Chart 7- Number of Restrictive Elements per Site



Maps



2022 Washtenaw County Site Reviews



● Study Sites

MiEJScreen Overall Score

91 - 100

81 - 90

71 - 80

61 - 70

51 - 60

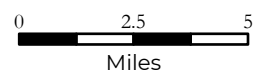
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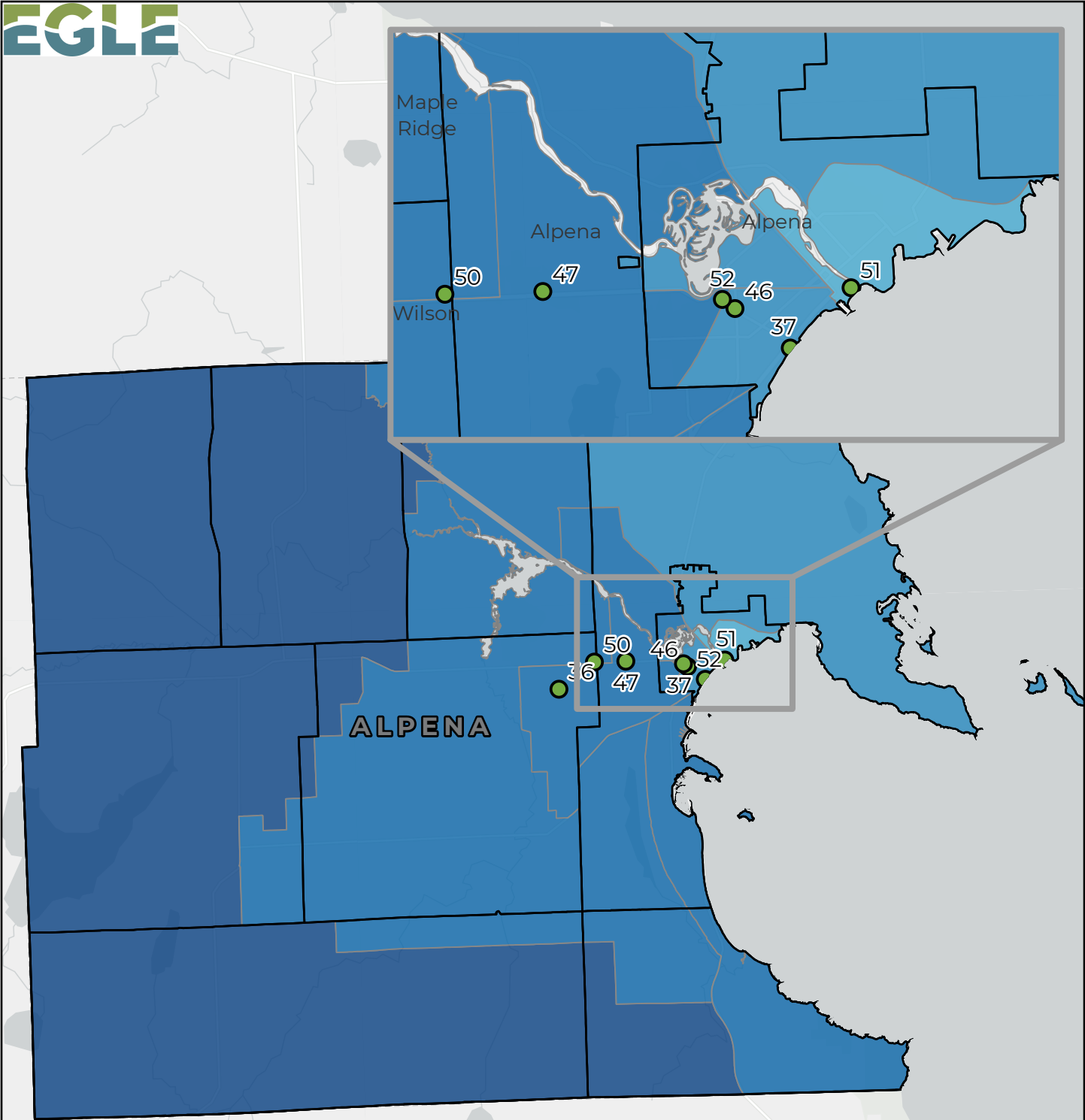
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21 - 30

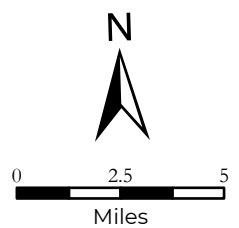
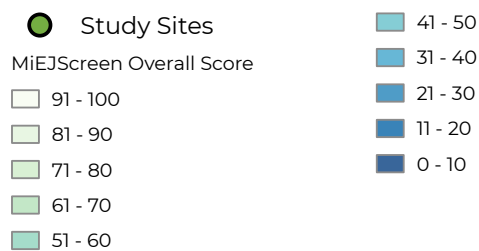
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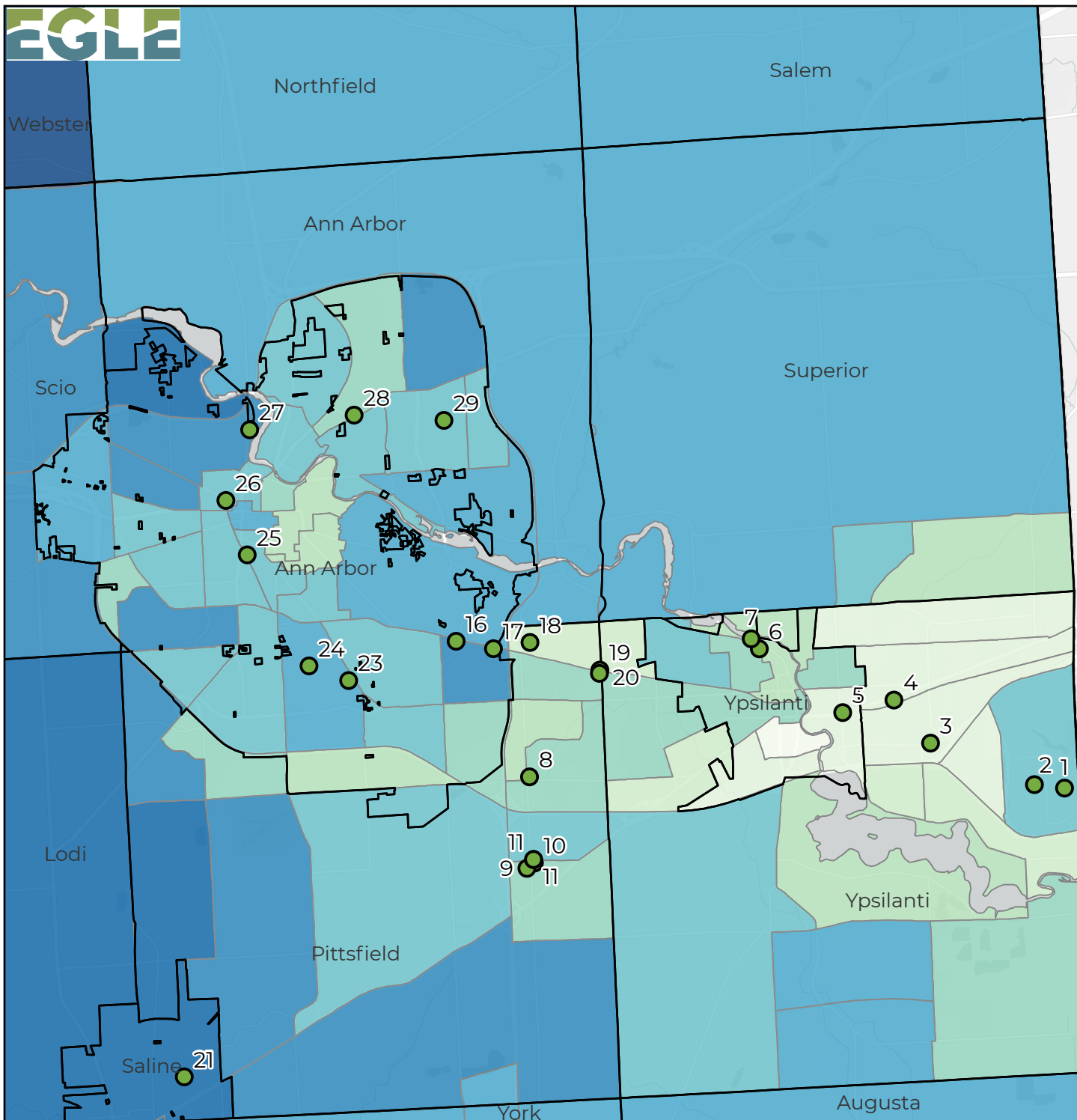
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2022 Alpena County Site Reviews





2022 Ann Arbor/Ypsilanti Site Reviews



● Study Sites

MiEJScreen Overall Score

91 - 100

81 - 90

71 - 80

61 - 70

51 - 60

41 - 50

31 - 40

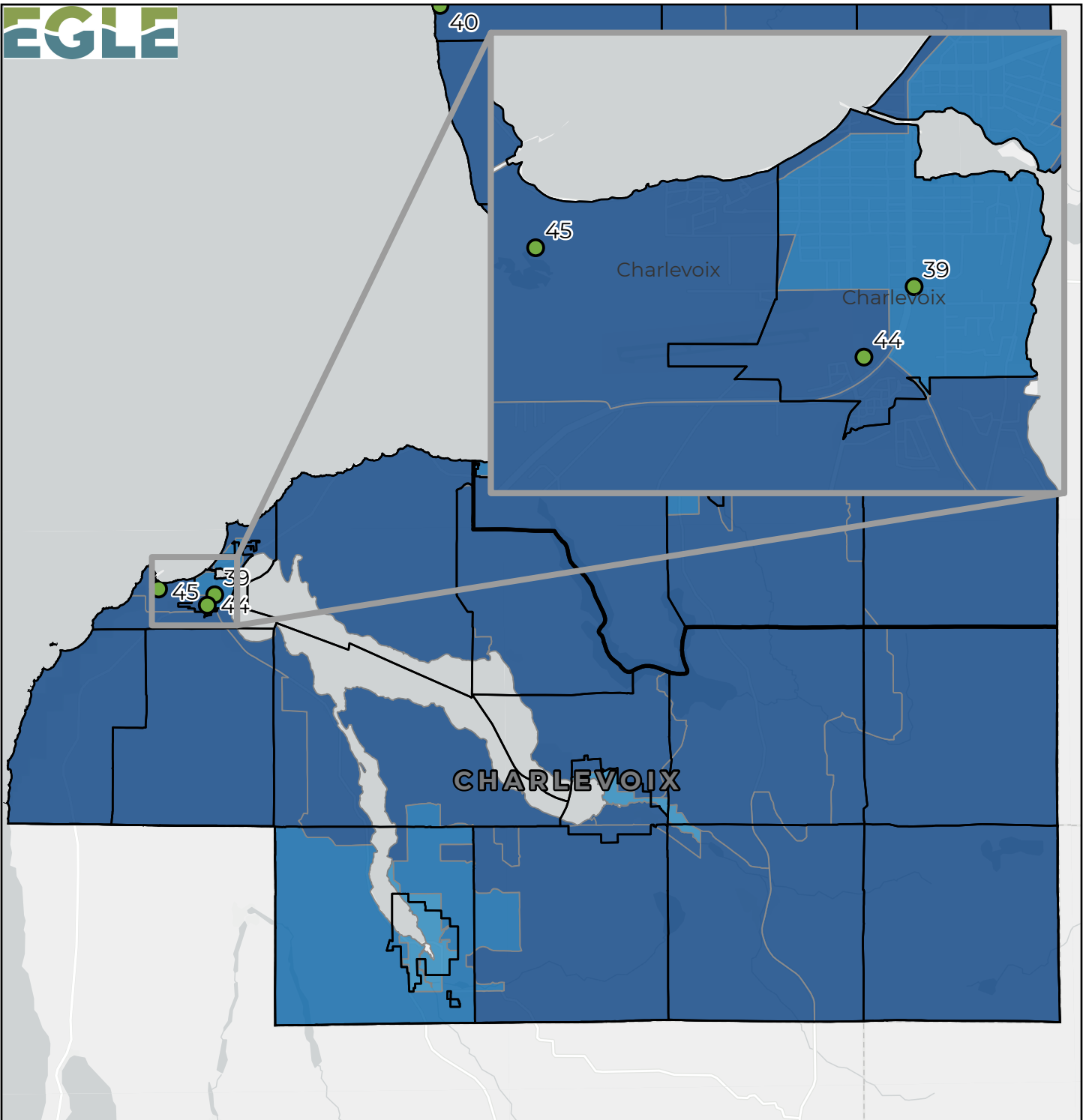
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11 - 20

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0 1 2
Miles



2022 Charlevoix County Site Reviews



● Study Sites

MiEJScreen Overall Score

91 - 100

81 - 90

71 - 80

61 - 70

51 - 60

41 - 50

31 - 40

21 - 30

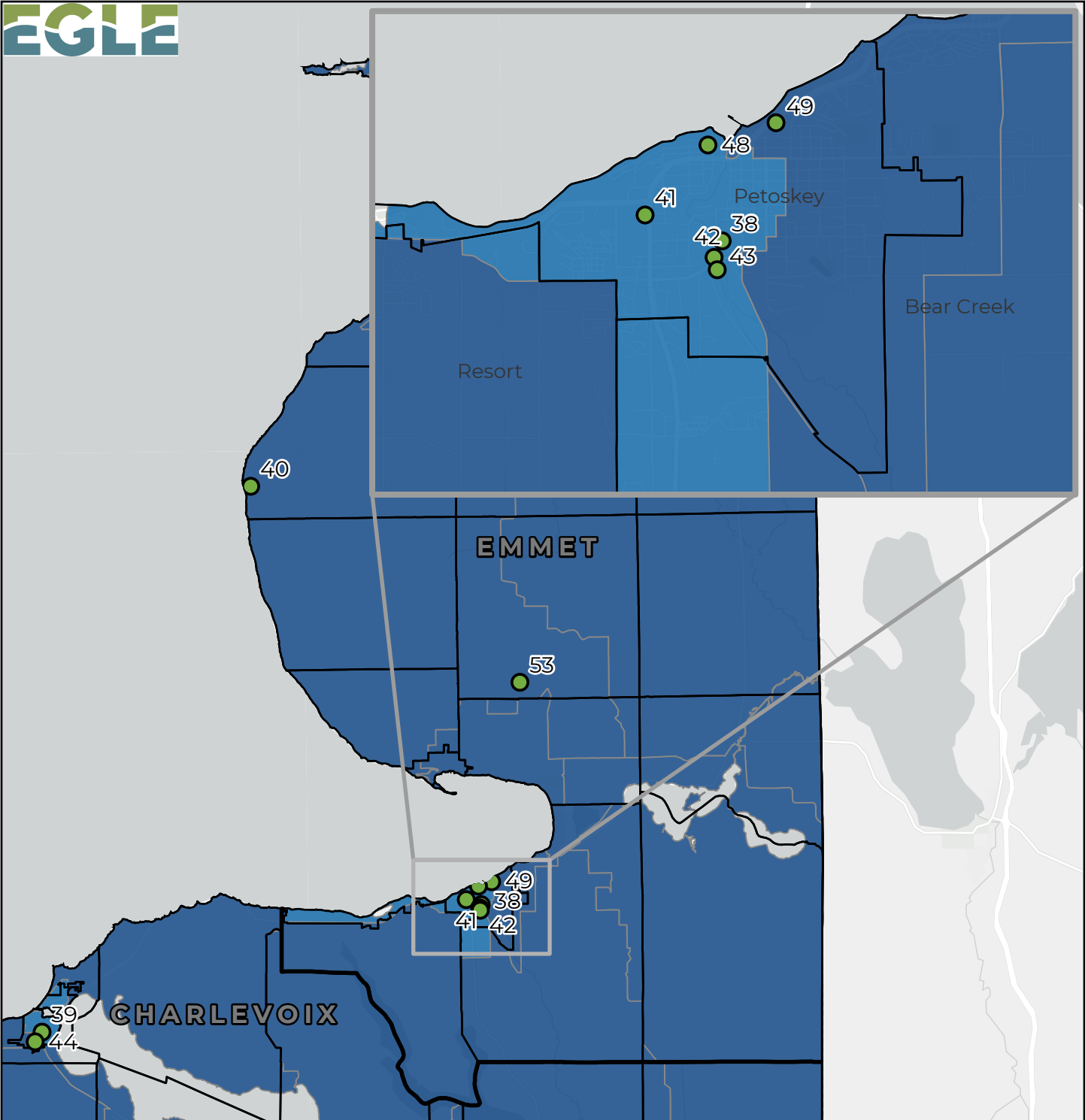
11 - 20

0 - 10

N



0 2.5 5
Miles



2022 Emmet County Site Reviews



● Study Sites

MiEJScreen Overall Score

91 - 100

81 - 90

71 - 80

61 - 70

51 - 60

41 - 50

31 - 40

21 - 30

11 - 20

0 - 10

N



0 2.5 5
Miles

Attachments



Attachment 1

DECLARATION OF RESTRICTIVE COVENANT COMPLIANCE MONITORING CHECKLIST

SECTION I. PROPERTY INFORMATION

DEQ RC REFERENCE NO:

DEQ District Office: ☐ Cadillac ☐ Gaylord ☐ Grand Rapids ☐ Jackson ☐ Kalamazoo ☐ Lansing ☐ Saginaw Bay
☐ SE Michigan ☐ Upper Peninsula

Site or Facility Name:

DEQ Site or Facility ID No:

Current Business Name at Property (if applicable):

Site or Facility Street Address:

City:

Zip:

County:

Contact Person:

Phone:

Fax/E-mail:

Contact Person Street Address:

City:

Zip:

County:

State:

Property Tax ID No(s):

Land use type (*check all that apply*)

☐ Residential ☐ Recreational ☐ Agricultural ☐ Commercial ☐ Industrial ☐ Vacant

Surrounding Land Use Type (*check all that apply*)

☐ Residential ☐ Recreational ☐ Agricultural ☐ Commercial ☐ Industrial ☐ Vacant

Has property ownership changed since the restriction was recorded? ☐ YES ☐ NO

If yes, note details in Section III. Remarks.

Property zoning excludes residential use. ☐ YES ☐ NO ☐ N/A

Property zoning has not changed since the recording of the restrictive covenant. ☐ YES ☐ NO ☐ N/A

The restriction is recorded at the county register of deeds. ☐ YES ☐ NO

The recorded restriction was located upon inquiry (property records search). ☐ YES ☐ NO ☐ N/A

Please describe how the recorded instrument was filed/characterized in the register of deeds records (example: miscellaneous document, restriction, etc.)

SECTION II. VERIFICATION OF RESTRICTIONS:

Indicate if the terms of the approved remedial or corrective action are being met by clicking YES, NO, or N/A. N/A indicates this restriction does not apply to the property. If the answer is NO, please explain in Section III. Remarks.

Restrictions presented in RC (*check all that apply*): ☐ Land Use ☐ Groundwater ☐ Direct Contact/Exposure Barrier
☐ Vapor Intrusion ☐ Infiltration Barrier ☐ Other:

Protective structure (engineered barriers such as caps, berms, buildings, etc.) on-property? ☐ YES ☐ NO ☐ N/A

Protective structures have retained their functional integrity. ☐ YES ☐ NO ☐ N/A

Is the protective structure free of erosion cracks or other evidence of degradation? ☐ YES ☐ NO ☐ N/A

If water wells are present at the property, are they being used in compliance with the restrictions? ☐ YES ☐ NO ☐ N/A

Has obvious unauthorized construction or excavation occurred? ☐ YES ☐ NO ☐ N/A

Was an exposure barrier other than concrete, asphalt, or gravel used? ☐ YES ☐ NO ☐ N/A

If yes, are there any ruts, surface impact, erosion or non-compliant incursions visible? ☐ YES ☐ NO ☐ N/A

All permanent markers, exposure barriers, and monitoring wells are in place as designed. ☐ YES ☐ NO ☐ N/A

Site security measures are in place and in working condition. ☐ YES ☐ NO ☐ N/A

Site security measures include: (*check all that apply*) ☐ signs ☐ fences ☐ gates ☐ security guard ☐ N/A

Is the property owner (identified in Section I./III.) aware of restrictions and what they mean? ☐ YES ☐ NO ☐ N/A

If the property owner was not able to be contacted, please describe who was contacted and that individual's awareness of the restriction in Section III. Remarks below.

SECTION III. REMARKS:

Provide new owner/lessee information, if a change has occurred, if the property currently being leased or purchased on land contract, or other comments.



Attachment 1

DECLARATION OF RESTRICTIVE COVENANT COMPLIANCE MONITORING CHECKLIST

SECTION IV: CURRENT PROPERTY DESCRIPTION

Briefly describe the current conditions and use of the property.

Describe any improvements made to the property, including new structures since the RC was recorded. Include a description of any building or activity that appears to be inconsistent with the approved land use restrictions.

Describe any need for repairs to protective structures, security measures, monitoring stations, permanent markers, or other features. Include observation of erosion, cracking, weed control, settlement, subsidence, excessive burrowing, etc.

***please take pictures (signed by photographer, dated, and direction the photographer was facing) to include in report

SECTION V: DEQ INFORMATION

DEQ STAFF:

EVALUATION COMPLETED DATE:

DEQ STAFF SIGNATURE:

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDATION AND REDEVELOPMENT DIVISION**

Date: 06/24/2022
Source: ERNIE

Land Resource and Use Restrictions Classification Totals by Program Page: 1 of 3

State-wide

Program: Part 111 Program Total: 126 Acres: 6,193.3267 Square Miles: 9.6823

Restriction Classification	Restriction Count
All Construction	10
Commercial I	4
Commercial II	8
Commercial III	10
Commercial IV	9
Excavation	43
Exposure Barrier	54
Groundwater Consumption	72
Health And Safety Plan	11
Industrial	14
Monitoring Well	22
Permanent Marker	15
Recreation	4
Residential	52
Site Specific	75
Soil Movement	51
Special Building	30
Special Well	3

Program: Part 201 Program Total: 1482 Acres: 50,763.1894 Square Miles: 84.2008

Restriction Classification	Restriction Count
All Construction	50
Commercial I	26
Commercial II	63
Commercial III	82
Commercial IV	85
Excavation	353
Exposure Barrier	303
Groundwater Consumption	703
Health And Safety Plan	125
Industrial	202
Monitoring Well	72
Multiple Land Use	13
Permanent Marker	142
Recreation	60

* Note: For a detailed listing of the multiple restriction types within each program, refer to Land Use Restrictions Totals.

Land Resource and Use Restrictions Classification Totals by Program Page: 2 of 3

State-wide

Program: Part 201 Program Total: 1482 Acres: 50,763.1894 Square Miles: 84.2008

Restriction Classification	Restriction Count
Residential	263
Site Specific	562
Soil Movement	250
Special Building	272
Special Well	67

Program: Part 213 Program Total: 5202 Acres: 11,896.8542 Square Miles: 23.5479

Restriction Classification	Restriction Count
All Construction	97
Commercial I	143
Commercial II	180
Commercial III	893
Commercial IV	426
Excavation	620
Exposure Barrier	808
Groundwater Consumption	2251
Health And Safety Plan	163
Industrial	176
Monitoring Well	109
Multiple Land Use	8
Permanent Marker	62
Recreation	106
Residential	684
Site Specific	1708
Soil Movement	447
Special Building	1070
Special Well	172

Program: Other Program Total: 18 Acres: 3,699.7473 Square Miles: 5.7807

Restriction Classification	Restriction Count
All Construction	2
Excavation	3
Exposure Barrier	2
Groundwater Consumption	7
Health And Safety Plan	1

* Note: For a detailed listing of the multiple restriction types within each program, refer to Land Use Restrictions Totals.

Land Resource and Use Restrictions Classification Totals by Program Page: 3 of 3

State-wide

Program: Other Program Total: 18 Acres: 3,699.7473 Square Miles: 5.7807

Restriction Classification	Restriction Count
Monitoring Well	1
Permanent Marker	1
Site Specific	11
Soil Movement	2

Program: Part 115 Program Total: 13 Acres: 2,759.7693 Square Miles: 4.3117

Restriction Classification	Restriction Count
All Construction	1
Excavation	6
Exposure Barrier	4
Groundwater Consumption	7
Health And Safety Plan	1
Industrial	1
Monitoring Well	2
Permanent Marker	4
Residential	1
Site Specific	6
Soil Movement	5

* Note: For a detailed listing of the multiple restriction types within each program, refer to Land Use Restrictions Totals.

Land Resource and Use Restrictions Totals

Page: 1 of 5

State-wide

Restriction: All Construction

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	2	135.9731	0.2127
Part 111	10	295.8560	0.4745
Part 115	1	12.0597	0.0188
Part 201	50	12,298.4451	19.3178
Part 213	97	381.9029	0.5926
All Construction Total:	160	13,124.2368	20.6164

Restriction: Commercial I

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	4	300.9479	0.4700
Part 201	26	605.0649	0.9406
Part 213	143	308.4301	0.4765
Commercial I Total:	173	1,214.4429	1.8871

Restriction: Commercial II

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	8	914.0774	1.4280
Part 201	63	11,549.4885	18.0395
Part 213	180	520.2196	0.8106
Commercial II Total:	251	12,983.7855	20.2781

Restriction: Commercial III

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	10	1,207.3182	1.8860
Part 201	82	11,725.9698	18.3140
Part 213	893	1,856.4658	2.8793
Commercial III Total:	985	14,789.7538	23.0793

Restriction: Commercial IV

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	9	992.0257	1.5497
Part 201	85	11,833.3362	18.4780

* Totals for specific categories cannot be combined for complete KERMIT statistics.

* Note: This report is meant to show the total number of restriction types, per program. For a summary of all program restrictions, to include: the number of facilities, area in acres, and area in square miles, refer to Land Use Restrictions Classification Totals by Program.

Land Resource and Use Restrictions Totals

Page: 2 of 5

State-wide

Restriction: Commercial IV

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 213	426	1,010.9954	1.5686
Commercial IV Total:	520	13,836.3573	21.5963

Restriction: Excavation

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	3	176.6568	0.2762
Part 111	43	3,290.9336	5.1491
Part 115	6	2,397.5988	3.7460
Part 201	353	17,830.1918	28.1482
Part 213	620	1,331.0021	2.0659
Excavation Total:	1025	25,026.3831	39.3854

Restriction: Exposure Barrier

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	2	135.9731	0.2127
Part 111	54	3,694.4589	5.7828
Part 115	4	2,393.8617	3.7402
Part 201	303	15,944.6570	29.1059
Part 213	808	1,545.4387	6.3890
Exposure Barrier Total:	1171	23,714.3894	45.2306

Restriction: Groundwater Consumption

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	7	1,655.9680	2.5872
Part 111	72	4,767.2055	7.4544
Part 115	7	2,559.4888	3.9989
Part 201	703	45,414.6312	75.7419
Part 213	2251	7,991.2435	13.4930
Groundwater Consumption Total:	3040	62,388.5370	103.2754

* Totals for specific categories cannot be combined for complete KERMIT statistics.

* Note: This report is meant to show the total number of restriction types, per program. For a summary of all program restrictions, to include: the number of facilities, area in acres, and area in square miles, refer to Land Use Restrictions Classification Totals by Program.

Land Resource and Use Restrictions Totals

Page: 3 of 5

State-wide

Restriction: Health And Safety Plan

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	1	1,545.4633	2.4147
Part 111	11	2,173.2748	3.3952
Part 115	1	12.0597	0.0188
Part 201	125	13,199.9115	20.8280
Part 213	163	531.5143	0.8244
Health And Safety Plan Total:	301	17,462.2236	27.4811

Restriction: Industrial

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	14	2,005.6166	3.1332
Part 115	1	12.0597	0.0188
Part 201	202	14,531.6313	22.8022
Part 213	176	1,661.4187	2.5828
Industrial Total:	393	18,210.7263	28.5370

Restriction: Monitoring Well

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	1	16.5022	0.0257
Part 111	22	1,574.0070	2.4709
Part 115	2	2,165.1752	3.3831
Part 201	72	920.5705	1.9433
Part 213	109	154.5779	0.2368
Monitoring Well Total:	206	4,830.8328	8.0598

Restriction: Multiple Land Use

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 201	13	194.4793	0.3022
Part 213	8	4.6207	0.0071
Multiple Land Use Total:	21	199.1000	0.3093

* Totals for specific categories cannot be combined for complete KERMIT statistics.

* Note: This report is meant to show the total number of restriction types, per program. For a summary of all program restrictions, to include: the number of facilities, area in acres, and area in square miles, refer to Land Use Restrictions Classification Totals by Program.

Land Resource and Use Restrictions Totals

Page: 4 of 5

State-wide

Restriction: Permanent Marker

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	1	1,545.4633	2.4147
Part 111	15	1,000.9191	1.5632
Part 115	4	2,318.3313	3.6223
Part 201	142	13,724.8382	21.4156
Part 213	62	75.8121	0.1157
Permanent Marker Total:	224	18,665.3640	29.1315

Restriction: Recreation

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	4	313.2824	0.4893
Part 201	60	1,471.2458	2.2972
Part 213	106	138.0891	0.2107
Recreation Total:	170	1,922.6173	2.9972

Restriction: Residential

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	52	2,981.4759	4.6688
Part 115	1	2,132.3847	3.3319
Part 201	263	6,313.7450	14.6763
Part 213	684	2,534.2395	4.6118
Residential Total:	1000	13,961.8451	27.2888

Restriction: Site Specific

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	11	2,154.2840	3.3660
Part 111	75	4,823.4218	7.5460
Part 115	6	2,594.1422	4.0530
Part 201	562	28,576.1897	49.4456
Part 213	1708	3,989.4098	6.8226
Site Specific Total:	2362	42,137.4475	71.2332

* Totals for specific categories cannot be combined for complete KERMIT statistics.

* Note: This report is meant to show the total number of restriction types, per program. For a summary of all program restrictions, to include: the number of facilities, area in acres, and area in square miles, refer to Land Use Restrictions Classification Totals by Program.

Land Resource and Use Restrictions Totals

Page: 5 of 5

State-wide

Restriction: Soil Movement

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Other	2	135.9731	0.2127
Part 111	51	3,504.7115	5.4866
Part 115	5	2,413.6826	3.7711
Part 201	250	14,871.2977	23.4279
Part 213	447	1,390.0166	6.4141
Soil Movement Total:	755	22,315.6815	39.3124

Restriction: Special Building

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	30	1,579.0861	2.4785
Part 201	272	5,458.1618	9.2412
Part 213	1070	2,319.2338	8.2610
Special Building Total:	1372	9,356.4817	19.9807

Restriction: Special Well

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 111	3	732.3247	1.1442
Part 201	67	14,055.4759	21.9579
Part 213	172	874.7215	1.3593
Special Well Total:	242	15,662.5221	24.4614

Restriction: Void

Program	Number Of Restrictions	Area Covered by Restrictions	
		Acre	Square Miles
Part 213	7	0.0000	0.0000
Void Total:	7	0.0000	0.0000

* Totals for specific categories cannot be combined for complete KERMIT statistics.

* Note: This report is meant to show the total number of restriction types, per program. For a summary of all program restrictions, to include: the number of facilities, area in acres, and area in square miles, refer to Land Use Restrictions Classification Totals by Program.