

# Rumpke Sanitary Landfill Odor Complaint Summary/Analysis 2024

**Hamilton County Public Health  
Department of Environmental Health Services  
Waste Management Division**



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## **Introduction**

The following report summarizes odor complaints received, and odor surveillance activities conducted during 2024 related to Rumpke Sanitary Landfill, located at 10795 Hughes Road in Colerain Township.

Beginning in 2007, Hamilton County Public Health (HCPH) collaborated with Southwest Ohio Air Quality Agency (Air Quality) to respond to citizen odor complaints 24/7. In 2013, HCPH began using mobile devices to capture complaint investigation data. Utilizing the GPS-enabled mobile devices, geospatial data can be collected concurrent with qualitative observations, improving the accuracy for odor complaint and surveillance mapping. Every complaint continues to be investigated, and HCPH compiles complaint data into periodic reports to summarize and analyze the complex issue of odors and odor complaints at the Rumpke Sanitary Landfill facility and surrounding area.

In addition to complaint response, HCPH conducts odor surveillance monitoring of the facility. Odor intensity is recorded in accordance with an odor scale adapted from Ohio EPA's 2012 Internal Operating Procedure (Figure 1). A surveillance loop has been established which includes major roadways surrounding the facility through residential areas (see Map B1 in Appendix B). An assessment of odor is made at all points along this loop, however, only incidences of landfill-related odor and complaint locations are recorded. Periodic joint inspections with Ohio EPA are conducted to "calibrate" assessment of odor and ensure consistency in applying the odor scale from Figure 1. The assumption can be made that if the surveillance loop was performed, no landfill-related odors were noted at any points along that route except where noted. Each record in the dataset is either a complaint location, a location where landfill-related odor was noted by the investigator, or a record that no odor was noted along the surveillance route.

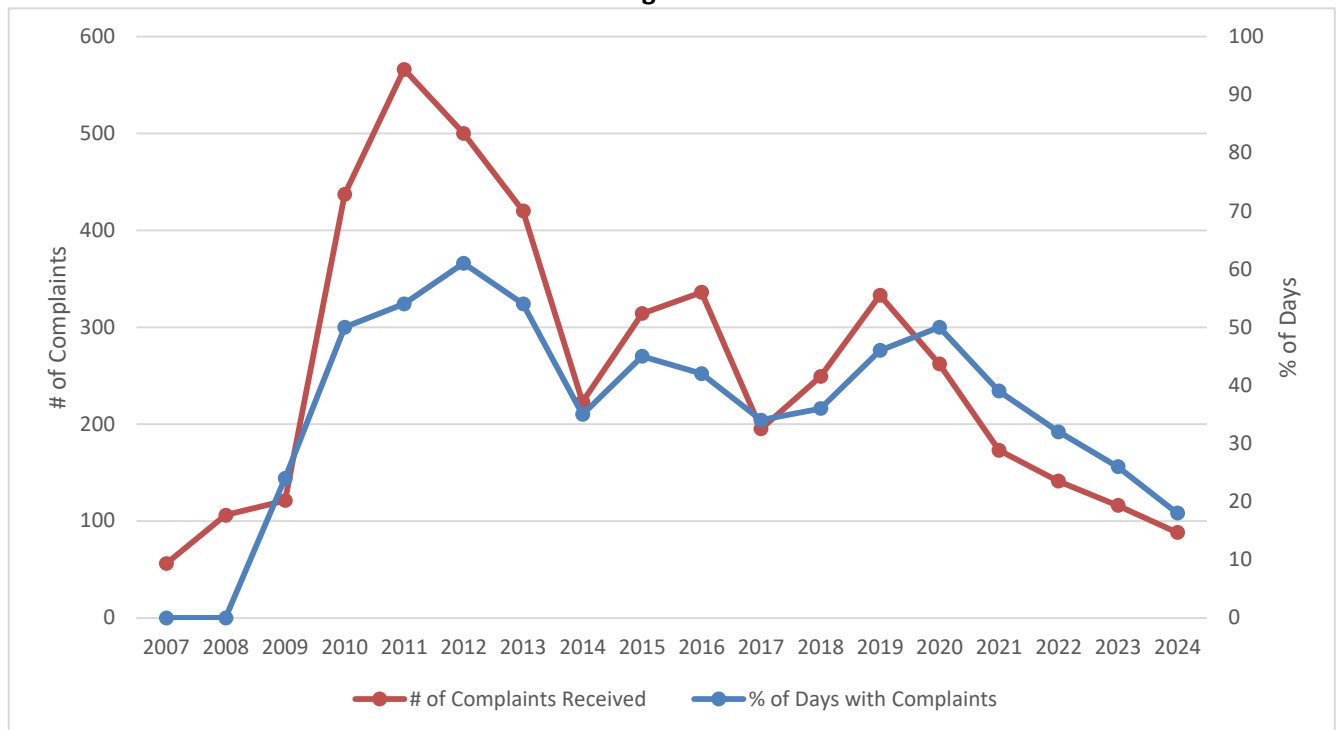
**Figure 1**

| <u>Odor Scale from Ohio EPA Internal Operating Procedure</u>                                                                                 |                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No Odor                                                                                                                                      | Odor Not Detectable                                                                                                                                                                                                                                           |
| Slight                                                                                                                                       | Odor present in the air, which activates the sense of smell and the characteristics may or may not be distinguishable and/or definite, but not objectionable in short durations. This is characterized by occasional "whiffs" of odor, but is not persistent. |
| Moderate                                                                                                                                     | Odor present in the air, which easily activates the sense of smell, is very distinct and clearly distinguishable, tends to be objectionable and/or irritating, and is persistent in the community.                                                            |
| Strong                                                                                                                                       | Odor present in the air, which is objectionable and causes a person to attempt to avoid it completely.                                                                                                                                                        |
| Over-Powering                                                                                                                                | Odor present in the air, which is so strong that it is overpowering and intolerable for any length of time.                                                                                                                                                   |
| *Increments have been added to allow description of odor between the criteria described above (No Odor to Slight, Slight to Moderate, etc.). |                                                                                                                                                                                                                                                               |

## Results

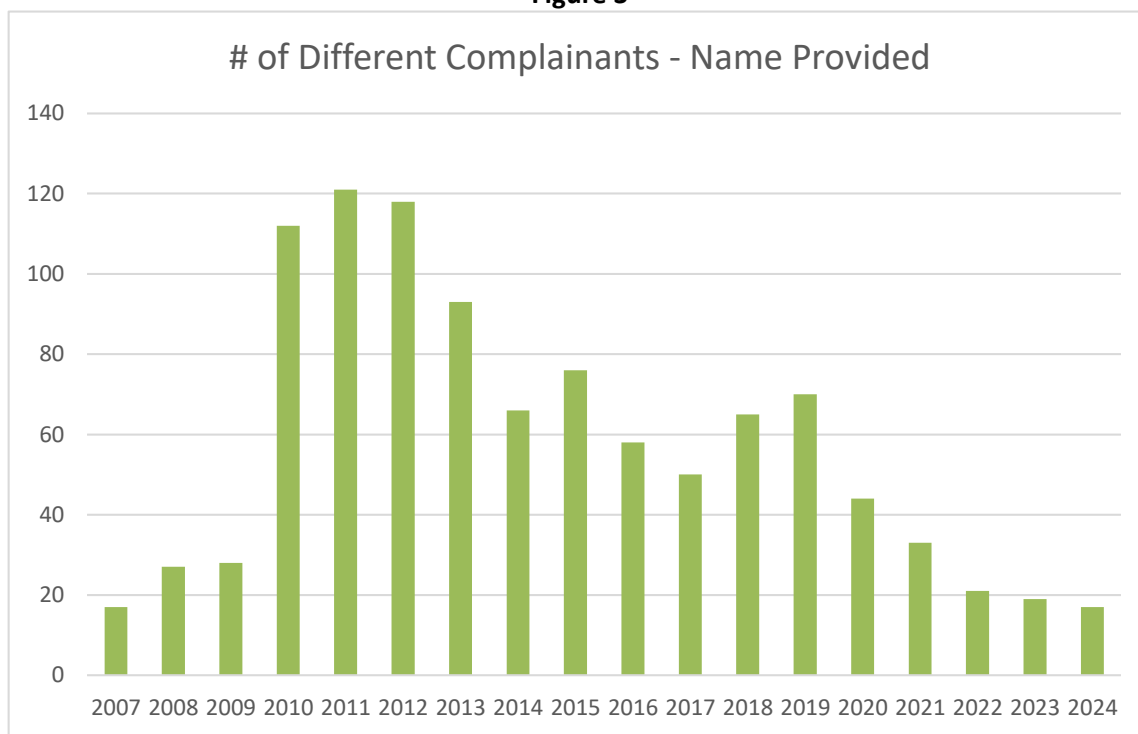
In 2024, 88 complaints were received regarding odors from Rumpke Sanitary landfill. This is a decrease from 116 complaints received in 2023 and 141 complaints received in 2022. The locations of odor complaints received in 2024 are shown on Map B2 found in Appendix B. There has been a five-year decreasing trend after a recent high of 333 complaints were received in 2019 (Figure 2). The most complaints received in a single year is 566 complaints in 2011. Complaints were received on 67 unique days of 2024, or 18 percent of the days in the year. This is a decrease from 96 unique days with odor complaints in 2023. The number of days which odor complaints were received has been on a 4-year decreasing trend since 2020 when complaints were received on 50 percent of the days in the year. Figure 2 shows historical complaint numbers and percentage of days with complaints. A summary table of historical Rumpke odor complaint data can be found in Figure A1 located in Appendix A.

Figure 2



There were 17 named complainants in 2024, down from 19 a year ago and 21 in 2022 (Figure 3). A peak of 121 unique complainants occurred in 2011. Fifty-eight percent of the complaints were made anonymously during 2024. This is the highest percentage of anonymous complaints received during any year and is a 27 percent increase from 2023, when 31 percent of the complaints were made anonymously. In 2024, 6.8 percent of all complaints were confirmed at the complainant's location. This is the lowest percentage of complaints that have been confirmed at the complaint location since tracking began in 2008.

**Figure 3**

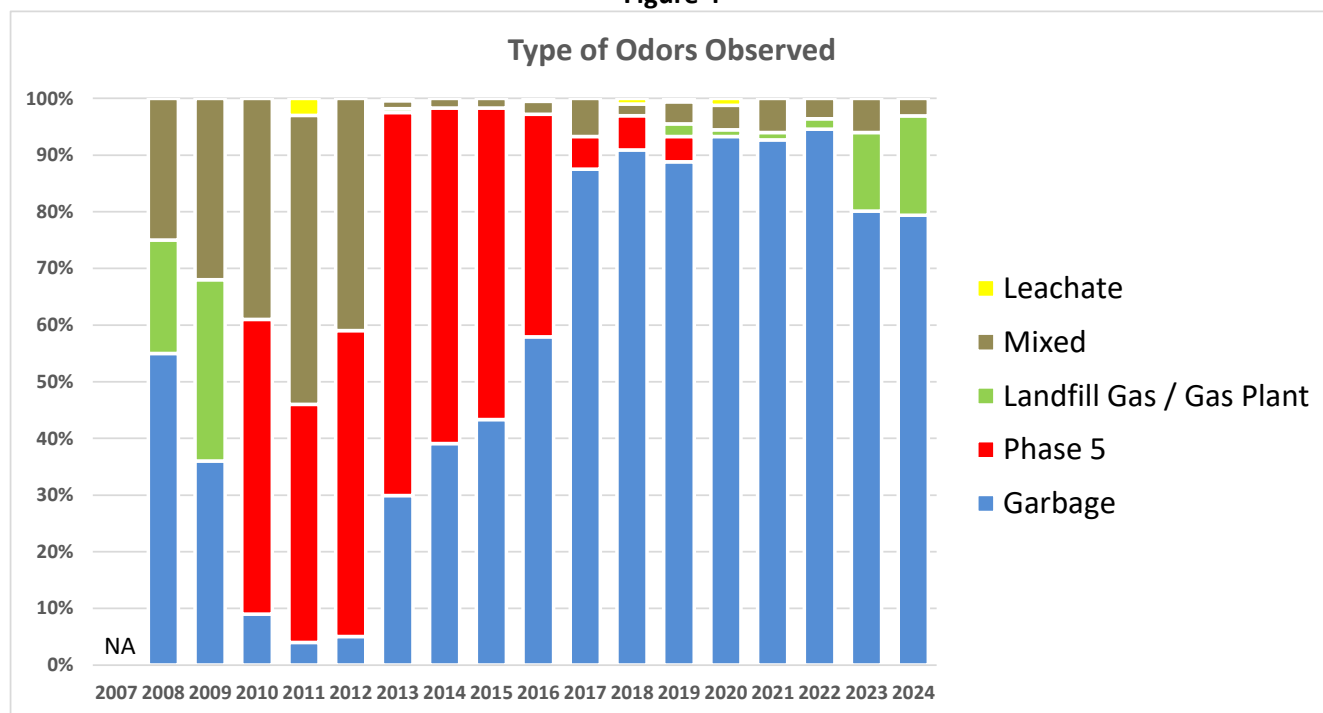


In 2024, complaints were responded to within one hour 31 percent of the time. This is significantly higher than recent years and is the highest percentage of complaints responded to within one hour since 2012. This is likely due to a high number of complaints being received via email forwarded from Ohio EPA during business hours. Fifty-two percent of the complaints were responded to within four hours and 76 percent of the complaints were responded to within 24 hours of receiving the complaint. In 2023, complaints were responded to within one hour 17 percent of the time. Forty percent of the complaints were responded to within four hours and 74 percent of the complaints were responded to within 24 hours of receiving the complaint. (see Figure A1 in Appendix A).

Odor was evaluated 39 percent (141) of the days in 2024 compared to 52 percent (191) of the days in 2023. The percentage of observed days in 2024 with odor noted was 57 percent. This is a slight decrease compared to 2023 (60 percent) and is the lowest percentage of days odor was noted since 2018 (49 percent).

Figure 4 shows the majority, or more than 79 percent, of confirmed off-site odors in 2024 were again garbage related, consistent with previous years since 2017. During the last two years there has been a slight decrease in the percentage of odors that were attributed to garbage over the previous 6 years when garbage was responsible for at least 87 percent of the observed offsite odors each year. This can be attributed to an increase in landfill gas/gas plant odors which increased to just under 14% of the odors noted off-site during 2023 and again increased to 17.5% during 2024. There were no days in 2024 where odor described as “greater than slight” was observed. The location of confirmed odors for 2024 is shown on Map B3 in Appendix B.

Figure 4



The observation dataset for 2024 contains 216 total records (Figure 5). Eighty-Eight records are in response to complaints while 128 were made at non-complaint locations. Of the 128 non-complaint locations, 91 were instances where landfill odors were observed along the surveillance route, while 37 were to document completion of the odor loop during which no odors were noted.

Figure 5

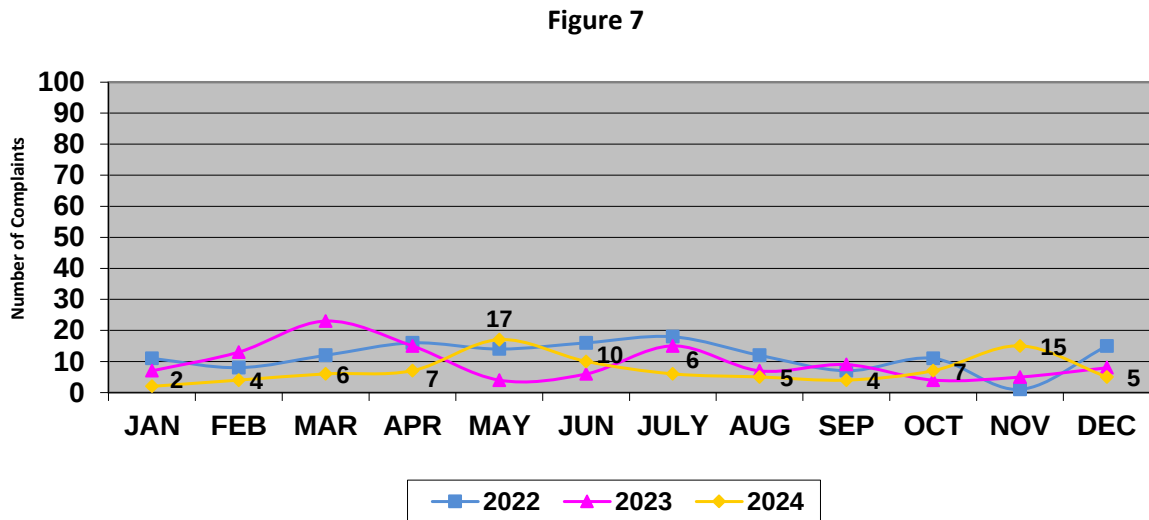
| Complaint Location | Odor Intensity |                   |        |                    |          |        | Total | Percent |
|--------------------|----------------|-------------------|--------|--------------------|----------|--------|-------|---------|
|                    | No Odor        | No Odor to Slight | Slight | Slight to Moderate | Moderate | Strong |       |         |
| No                 | 37             | 77                | 14     | 0                  | 0        | 0      | 128   | 59%     |
| Yes                | 82             | 5                 | 1      | 0                  | 0        | 0      | 88    | 41%     |
| Grand Total        | 119            | 82                | 15     | 0                  | 0        | 0      | 216   | 100%    |

Rumpke utilizes deodorizer as part of their odor control plan. In 2024, there were not a significant number of complaints received specifically concerning the deodorizer. As depicted in Figure 6, the presence of deodorizer was noted by HCPH during 4 observations during the 2024 calendar year, or less than 2 percent of total observations. Deodorizer was generally observed with landfill odors.

Figure 6

| Deodorizer Observed | Odor Intensity |                   |        |                    |          |        | Total |
|---------------------|----------------|-------------------|--------|--------------------|----------|--------|-------|
|                     | No Odor        | No Odor to Slight | Slight | Slight to Moderate | Moderate | Strong |       |
| Yes                 | 1              | 2                 | 1      | 0                  | 0        | 0      | 4     |

Figure 7 shows the past three years of complaints plotted monthly. Only monthly complaint totals for 2024 are labeled on the chart. Monthly complaint totals were relatively consistent throughout 2024, with a low of 2 complaints received in January and a high of 17 complaints received in May.



**Summary:**

The number of complaints received, percent of days with complaints, and number of different complainants all decreased between 2023 and 2024. After increasing in 2022, the percentage of observed days with odor noted has decreased during both 2023 and 2024. For the ninth year in a row, garbage odors were the dominant odor observed. However, there was a noticeable increase in landfill gas/gas plant odors noted in both 2023 and 2024.

The sub-surface event occurring in the north end of the landfill contributed to off-site odors beginning as early as September 2009. From 2009-2016, gas odors from the sub-surface event were the predominant observed odor. Installation of the odor control blanket and collection of gases seems to have controlled these odors.

Additional efforts and odor control technologies continue to be evaluated to improve mitigation of identified odor sources. Unannounced inspections and odor surveillance continues as the primary methods to monitor odor from the facility. Periodic joint inspections between agencies are conducted to “calibrate” assessment of odor and ensure consistency in applying the odor scale from Figure 1. The 24-Hour Odor Complaint Hotline and complaint response continues to allow for the rapid investigation of odor complaints associated with Rumpke Sanitary Landfill.

## **Appendix A - Figures**

**Figure A1 – Rumpke Odor Data 2013 – 2024**

|                               |                                                  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|-------------------------------|--------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>Complaints</b>             | # of Complaints Received                         | 420  | 223  | 314  | 336  | 195  | 249  | 333  | 262  | 173  | 141  | 116  | 88   |
|                               | % of Days with Complaints                        | 54   | 35   | 45   | 42   | 34   | 36   | 46   | 50   | 39   | 32   | 26   | 18   |
|                               | # of Different Complainants - Name Provided      | 93   | 66   | 76   | 58   | 50   | 65   | 70   | 44   | 33   | 21   | 19   | 17   |
|                               | % Anonymous Complaints                           | 11   | 7    | 15   | 21   | 22   | 18   | 13   | 34   | 31   | 24   | 31   | 58   |
|                               | % Confirmed By Responder at Complaint Location   | 16   | 21   | 18   | 13   | 18   | 8    | 15   | 11   | 14   | 14   | 20   | 6.8  |
| <b>Responder Observations</b> | % of Days Observations Made                      | 55   | 60   | 53   | 55   | 45   | 43   | 51   | 52   | 54   | 57   | 52   | 39   |
|                               | % of Observed Days with No Odor Noted            | 30   | 35   | 24   | 14   | 56   | 51   | 39   | 37   | 38   | 29   | 40   | 43   |
|                               | % Observed Days with Odor Noted                  | 70   | 65   | 76   | 86   | 44   | 49   | 61   | 63   | 62   | 71   | 60   | 57   |
|                               | % Observed Days w/ Intensity Greater than Slight | 3    | 1    | 3.7  | 3.5  | 3.1  | 1.3  | 2.7  | 0    | 0.5  | 0    | 0    | 0    |
|                               | % Observed Days with Garbage Odor noted          | 30   | 21   | 31   | 47   | 41   | 44   | 57   | 60   | 60   | 68   | 50   | 47   |
| <b>Response Time</b>          | % Less than one Hour                             | 20   | 22   | 22   | 23   | 19   | 14   | 22   | 19   | 17   | 13   | 17   | 31   |
|                               | % Less than four Hours                           | 39   | 52   | 40   | 45   | 45   | 38   | 45   | 38   | 35   | 33   | 40   | 52   |
|                               | % Less than 24 Hrs                               | 75   | 78   | 78   | 80   | 79   | 76   | 73   | 79   | 80   | 76   | 74   | 76   |

**Figure A2 – Rumpke Odor Data 2007 – 2012**

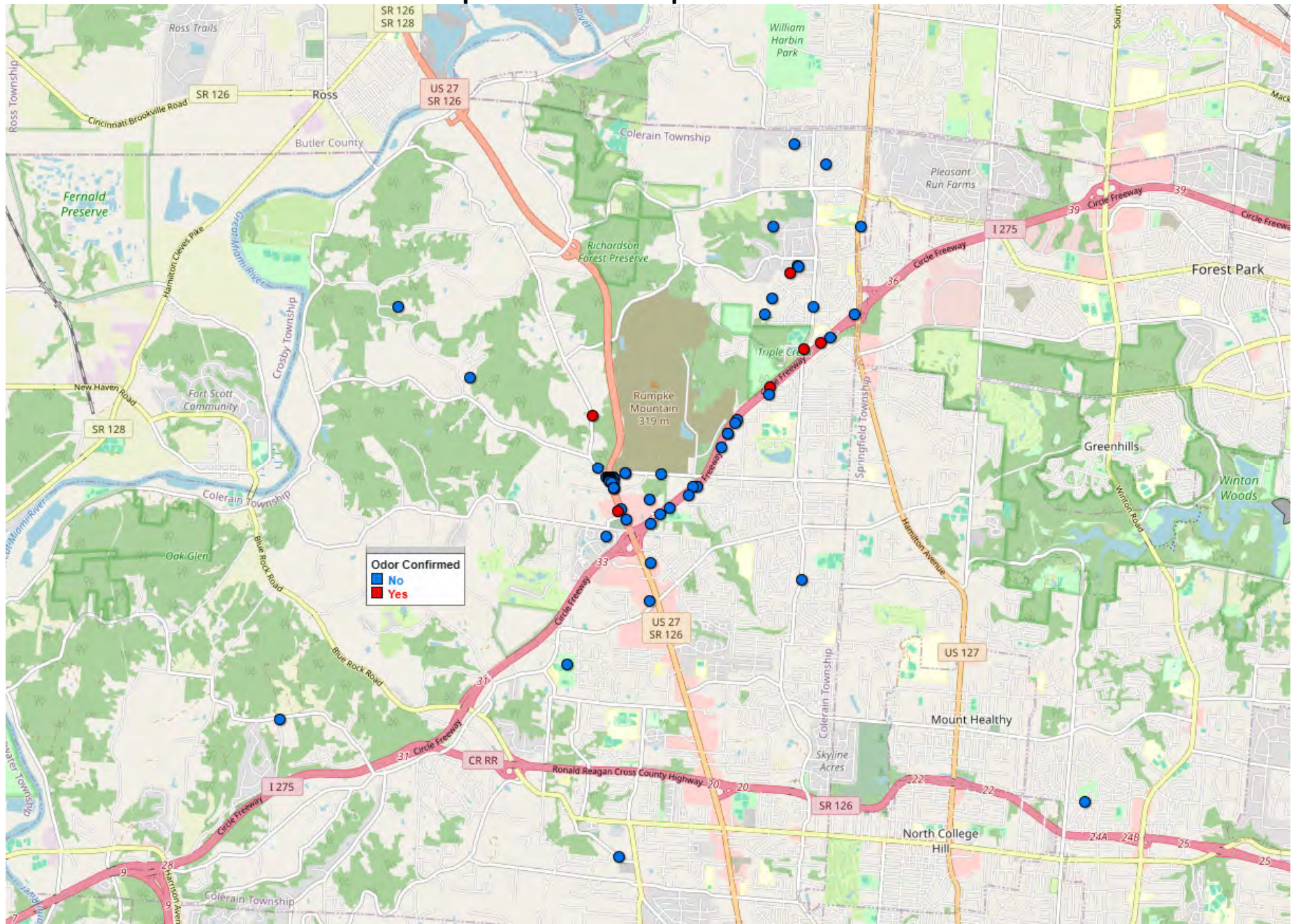
|                               |                                                  | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-------------------------------|--------------------------------------------------|------|------|------|------|------|------|
| <b>Complaints</b>             | # of Complaints Received                         | 56   | 106  | 121  | 437  | 566  | 500  |
|                               | % of Days with Complaints                        |      |      | 24   | 50   | 54   | 61   |
|                               | # of Different Complainants - Name Provided      | 17   | 27   | 28   | 112  | 121  | 118  |
|                               | % Anonymous Complaints                           | 0    | 44   | 45   | 37   | 41   | 13   |
|                               | % Confirmed By Responder at Complaint Location   | -    | 24   | 28   | 33   | 45   | 27   |
| <b>Responder Observations</b> | % of Days Observations Made                      | -    | -    | -    | -    | -    | -    |
|                               | % of Observed Days with No Odor Noted            | -    | -    | -    | -    | -    | -    |
|                               | % Observed Days with Odor Noted                  | -    | -    | -    | -    | -    | -    |
|                               | % Observed Days w/ Intensity Greater than Slight | -    | -    | -    | -    | -    | -    |
|                               | % Observed Days with Garbage Odor noted          | -    | -    | -    | -    | -    | -    |
| <b>Response Time</b>          | % Less than one Hour                             | -    | 84   | 76   | 84   | 92   | 94   |
|                               | % Less than four Hours                           | -    | -    | -    | -    | -    | -    |
|                               | % Less than 24 Hrs                               | -    | -    | -    | -    | -    | -    |

## **Appendix B - Maps**

**Map B1 – Odor Surveillance Loop**



## Map B2 – 2024 Complaint Locations



\* Complaint received 2/12/2024 - Mercy West Hosipital is not shown on the map

## Map B3 – 2024 Confirmed Odor Locations

