*RMR INVESTIGATION*

Project Name

PID #

Property ID # and Location Address

City County, Ohio

**By:**

List Staff Completing Report & Field Work and title

**Submitted by:**

Consultant

Address

Address

Phone number

**Lead Agency: Ohio Department of Transportation**



Report Date

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*RMR INVESTIGATION*

Project Name, PID

Property ID #, Location Address

# EXECUTIVE SUMMARY

*Briefly describe the Transportation Project and location. Provide an overview of the data and regulated material (RM) description, regulatory interpretation, and highlight the key findings. Brief discuss the conclusions and recommendations.*

completed an RMR Investigation in conformance with the Ohio Department of Transportation’s (ODOT) Regulated Materials Review (RMR) Manual (<latest reference date>) for the \_\_ project (“Project”).

The Project proposes \_\_.

The following Properties were recommended for an RMR Investigation following the completion of the RMR <Screening or Assessment> on \_\_\_:

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 1.1 – RMR Investigation Properties**  **<Project Site (PID:\_\_\_) – City, Ohio>** | | | |
| **Property ID Number** | **Address** | **Proposed Take Acquisition** | **Rationale for Investigation** |
| **RMR-001** |  |  |  |
| **RMR-002** |  |  |  |

This RMR Investigation was conducted <provide date(s), high-level description of effort.> Information revealed during the RMR Investigation was used to reach the following recommendations:

| **Table 1.2 – Summary of Findings & Recommendations**  **<Project Site (PID:\_\_\_) – City, Ohio>** | | |
| --- | --- | --- |
| **Property ID Number** | **Findings** | **Next Step Recommendations** |
| **RMR-001** | **<Property Address>** | |
|  | * <RM Plan Note, Further Investigation, Remedial Action, No Further Action, or other> |
| **RMR-002** | **<Property Address>** | |
|  |  |

# INtRODUCTION

*Discuss the project location, the nature and purpose of the transportation improvement, and description of the proposed Take/excavation for each Property. Include all background information, including a summary of previous RMR documentation, a brief discussion of Properties requiring RMR Investigation, the rationale, and constituents of concern. Include figures in Appendix A showing the Properties being investigated to orient the reader.* *Reference Project Plan Sheets in Appendix D as appropriate.*

The Project (<provide ODOT Project Name>) is located \_\_\_. General description of the project is \_\_\_.

<List RMR steps taken this far with dates and documentation reference.> The RMR Investigation was conducted to determine \_\_.

The Properties in the following table were investigated as part of the RMR Investigation effort. The RMR included <land use, risk level description of the Properties>. The Properties are proposed for <Total Take, Partial Take, Demolition, Deep Excavation, or some combination>.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 2.1 – RMR Investigation Properties**  **Project Site (PID:\_\_\_) – City, Ohio** | | | |
| **Property ID**  **Number** | **Address** | **Current Land Use** | **Acreage (for Total Take)** |
| **RMR-001** |  |  |  |
| **RMR-002** |  |  |  |

The Properties are generally located in \_\_\_. Figure 1 – USGS Topographic Map – Properties 1 & 2 (Appendix A) illustrates the location of the Properties. Figure 2 – Property Diagram – Properties 1 & 2 (Appendix A) illustrates the Property boundaries used for this RMR Investigation.

# Property hisTORY

*Reference any RMR Screening, Regulatory File Review, and/or RMR Assessment findings on the Property. If background information was not documented previously in the RMR, present a brief and relevant evaluation of the RM concerns for the Property.*

<If the Property background is covered in previous documents such as the RMR Assessment or File Record Review, only provide a general overview in this Section. Reference previous documents. If more than one Property is investigated under this RMR Investigation, repeat section as appropriate.>

# Physical Setting, Geological & Hydrogeologic Information, RM Understanding

## Physical Setting

*Present physical setting of property or area of study.*

## Geologic and Hydrogeologic Information

*Provide additional detail (as compared to the Regulatory File Review or RMR Assessment) on the geologic and hydrogeologic conditions for each Property based on past and current soil borings and groundwater data on and surrounding the Property. Include cross-sections and/or groundwater flow maps. Where the level of concern is greater, determine the direction of groundwater flow and the hydraulic gradient.*

## RM Transport and Exposure

*Discuss RM possible routes of transport and exposure.*

# Field Activities and Analytical Procedures

<If more than one Property is investigated under this RMR Investigation, repeat section as appropriate.>

## Data Gaps and Investigation Overview

*Discuss data gaps that need to be filled through the RMR Investigation. Present general plan for filling gaps.*

## Field Condition Documentation and Overview

*Provide an overview of the relevant field conditions for the field event(s). Include field observations such as weather conditions, any relevant changes to the sampling plan. Capture field and calibration logs.*

## Geophysical Survey

*When a geophysical survey is conducted, provide a detailed discussion of the investigative technique, equipment, limitations, and interferences. Discuss the geophysical survey results and conclusions. Provide mapping which delineates the area of the geophysical survey, the proposed Take, any structures on the Property, and areas/features detected by the survey which may be related to regulated materials. Present survey results and mapping.*

## Sampling Effort

### Soil Sampling

*Present soil sampling methods, soil borings using soil descriptions based on ASTM standards, map of sampling locations. Attach logs and maps. Summarize field screening results in a table. Discuss apparent data trends. Include all field-screening data in the soil boring logs. Document equipment used, calibration, and decontamination procedures. Use the Property diagram to show the results associated with each soil boring.*

### Groundwater Sampling

*Present groundwater sampling methods, monitoring/temporary well logs using ASTM standards, and map of sampling locations using the Property Diagram. Attach logs and maps. Use the Property diagram to show the results associated with each groundwater sample. Document equipment used, calibration, and decontamination procedures.*

### Investigation-Derived Waste (IDW) Management

*Summarize management of IDW.*

## Analytical Methods, Results, and Comparison to Regulatory Levels

### Soil

*Summarize the analytical test results in a table. Discuss the analytical results and apparent trends. Tabularize all analytical test data with method detection limits and comparison of data results to relevant ARARS. Include a Property Diagram illustrating the analytical results associated with each soil boring.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 5.5.1 – Soil Sampling Analytical Results Summary**  **Project Site (PID:\_\_\_) – City, Ohio**  **All results in mg/kg.** | | | | | |
| **Boring ID** | **Sample Depth (feet)** | **Sample Collection Date** | **Parameter** | **Parameter** | **Regulatory Action Level** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

### Water

*Summarize the analytical test results in a table. Discuss the analytical results and apparent trends. Tabularize all analytical test data with method detection limits and comparison of data results to relevant ARARS. Discuss free product if encountered. Include a Property Diagram illustrating the analytical results associated with each monitoring well.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 5.5.2 – Water Sampling Analytical Results Summary**  **Project Site (PID:\_\_\_) – City, Ohio**  **All results in mg/L.** | | | | |
| **Monitoring Well ID** | **Sample Collection Date** | **Parameter** | **Parameter** | **Regulatory Action Level** |
|  |  |  |  |  |
|  |  |  |  |  |

### Groundwater Direction

*Discuss findings from monitoring well elevations and mapping. As needed, update the RM possible routes of transport and exposure.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 5.5.3 – Monitoring Well Gauging Data**  **Project Site (PID:\_\_\_) – City, Ohio**  **Measurements Collected on xx/xx/20xx** | | | |
| **Monitoring Well ID** | **Well Diameter (inches)** | **Top of Casing Elevation\*** | **Groundwater Elevation** |
|  |  |  |  |
|  |  |  |  |

*\_\_\_\_\_ used as benchmark set at elevation 100.00.*

### Laboratory QA/QC

*Discuss the QA/QC for the analytical tests and how QA/QC results were used to support conclusions and recommendations. Justify analytical limits which do not meet SW-846.*

# CONCLUSIONS & recommendations

Present information revealed during the RMR Investigation used to reach the following recommendations:

| **Table 6 – Findings & Recommendations**  **<Project Site (PID:\_\_\_) – City, County, Ohio>** | | |
| --- | --- | --- |
| **Property ID Number** | **RMR Investigation Findings** | **Next Steps Recommendation** |
| **RMR-001** | **<Property Address>** | |
|  | * <RM Plan Note, Further Investigation, Remedial Action, No Further Action, or other> |
| **RMR-002** | **<Property Address>** | |
|  |  |

**RMR investigation Report Appendix**

**Appendix A – Project Figures**

For a Total Take, include a separate map indicating well elevations, groundwater elevations, bench marks, and the groundwater flow and potentiometric lines. If soil and/or groundwater contamination is identified, provide mapping indicating the area and extent of contamination, direction of contaminant and/or groundwater flow, and the media affected.

* USGS Topographic Map
* County Maps as appropriate for describing the Property
* Property Diagram
* Geophysical Survey Map with Results
* Groundwater Flow Map(s)
* Soil Sample Location Map(s) using Property Diagram
* Groundwater Sample Location Map(s) using Property Diagram
* Soil Sample Analytical Results using Property Diagram
* Groundwater Sample Analytical Results using Property Diagram

**Appendix B – Boring and Monitoring Well Logs**

* Boring and Monitoring Well Logs
* Geologic Cross-Sections
* Groundwater Level Data
* Hydrogeologic Testing (i.e. pumping test results)

**Appendix C – Laboratory Results**

* Summary table of all test results
* Laboratory analytical reports
* Chain of Custody
* Laboratory QA/QC report

**Appendix D – Project Plan Sheets**

* Relevant construction plan sheets including right of way (ROW) plans, cross-sections, and/or plan and profile sheets.

**Appendix E – Other Information**

* Geophysical Survey Report
* File review information (when RMR Assessment does not precede RMR Investigation)