



# Geotechnical Subsurface Investigation

PREPARED FOR

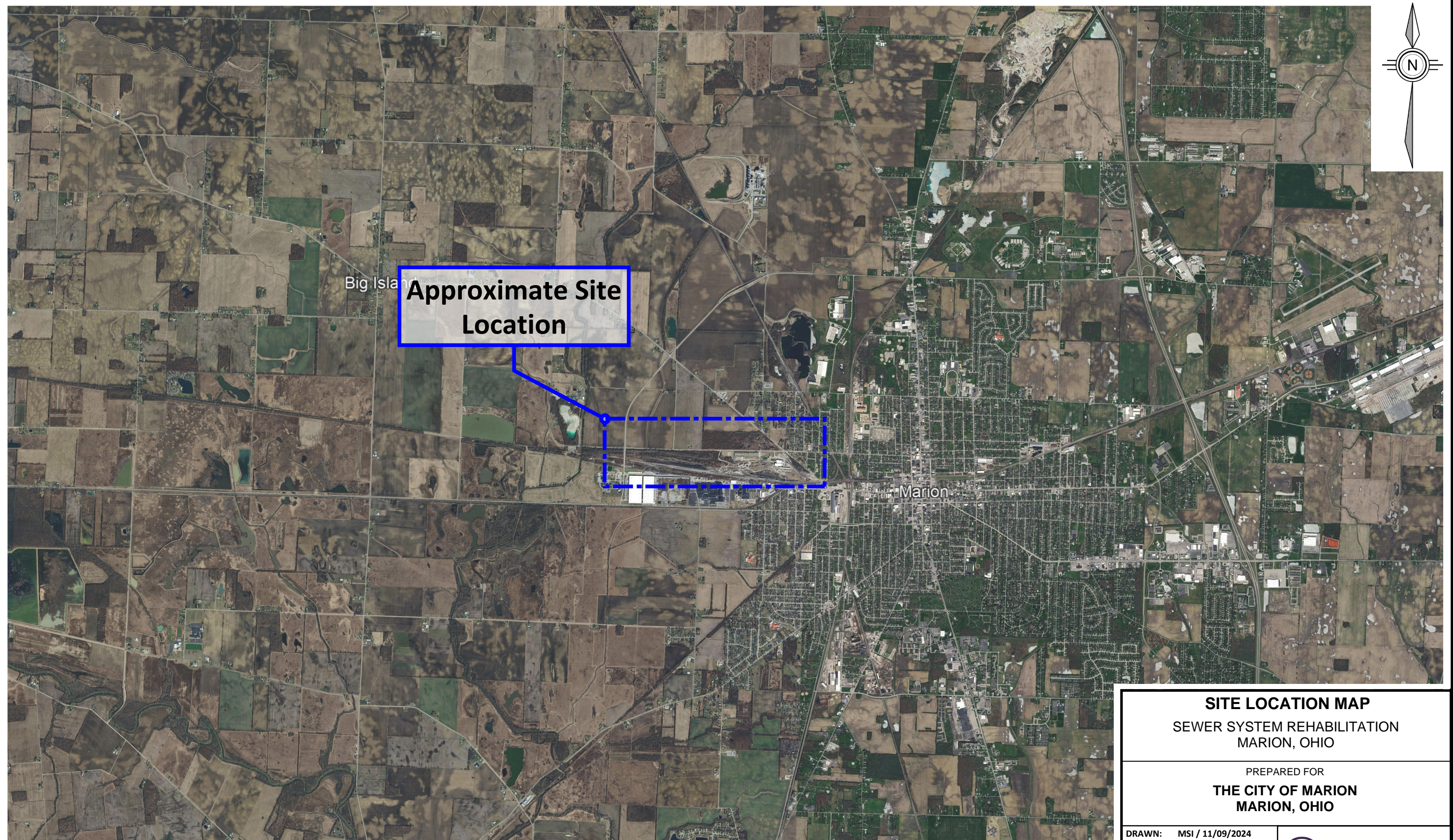
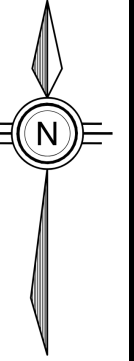
The City of Marion

233 West Center Street, Marion, Ohio 43302

ISSUED: November 14, 2024

## **PLATES**

<b>PLATE 1.0</b>	<b>SITE LOCATION MAP</b>
<b>PLATE 2.0</b>	<b>TEST BORING LOCAITON PLAN</b>



**Approximate Site  
Location**

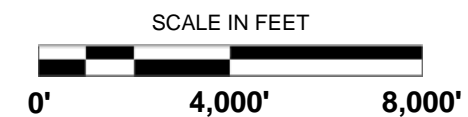
**SITE LOCATION MAP**  
SEWER SYSTEM REHABILITATION  
MARION, OHIO

PREPARED FOR  
**THE CITY OF MARION**  
MARION, OHIO

DRAWN: MSI / 11/09/2024

REVISED: ---

PROJECT No: 242139



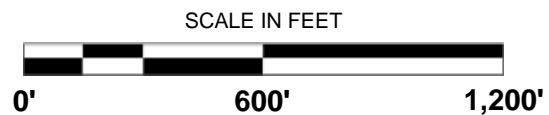
**PLATE 1.0**



**LEGEND:**

**B-1**  

 APPROXIMATE TEST BORING LOCATION



BASE PLAN "SITE AERIAL PLAN" DATED 02/28/2024 OBTAINED FROM GOOGLE EARTH.

**TEST BORING LOCATION PLAN**  
 SEWER SYSTEM REHABILITATION  
 MARION, OHIO

PREPARED FOR  
**THE CITY OF MARION**  
 MARION, OHIO

DRAWN: MSI / 11/09/2024

REVISED: ---

PROJECT No: 242139

**PLATE 2.0**



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 engineers • architects • planners  
 A Verdantas Company

**APPENDIX A**

**LOGS OF TEST BORINGS**



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# BORING NUMBER B-1

PAGE 1 OF 1

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company Tim Matt **RIG NO.** CME 550X **GROUND ELEVATION** 912 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/21/24 **COMPLETED** 10/21/24 **AT TIME OF DRILLING** None  
**LOGGED BY** Matt **CHECKED BY** **AT END OF DRILLING** None  
**NOTES** Auger refusal encountered at 14.0 feet. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL					
									20	40	60	80		
	0		ASPHALT - 2 Inches											
			AGGREGATE BASE - 7 Inches											
910			FILL - Moist Loose Gray/Brown FINE SAND, Little Crushed Stone, Trace Brick Fragments, Trace Asphalt Fragments, Trace Clay, Trace Silt	SS 1	44	5-6-3 (9)	NP							
			Moist Medium Stiff Brown SILT and CLAY (A-6a), Some Sand, Little Gravel	SS 2	0	2-2-4 (6)	1.00							
	5		@3.5': Trace Organics											
			@5': Moist Soft to Medium Stiff, Gray/Brown, Little Sand, Trace Gravel, Trace Organics	SS 3	67	2-1-2 (3)	2.25							
905			@8.5': Stiff to Very Stiff, Some Sand, Little Gravel	SS 4	78	1-3-6 (9)	4.50							
	10		@10': Gray	SS 5	67	3-4-5 (9)	4.50							
900			Gray SEVERELY WEATHERED LIMESTONE	SS 6	25	50/4"	NP							
			Bottom of hole at 14.0 feet.	SS 7		50/0"	NR							

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# BORING NUMBER B-2

PAGE 1 OF 1

<b>CLIENT</b> City of Marion	<b>PROJECT NAME</b> Sewer System Rehabilitation
<b>PROJECT NUMBER</b> 242139	<b>PROJECT LOCATION</b> Marion, OH
<b>DRILLING CONTRACTOR</b> A Drilling Company Tim Matt	<b>RIG NO.</b> CME 550X <b>GROUND ELEVATION</b> 923 ft
<b>DRILLING METHOD</b> HSA	<b>GROUND WATER LEVELS:</b>
<b>DATE STARTED</b> 10/21/24 <b>COMPLETED</b> 10/21/24	<b>AT TIME OF DRILLING</b> None
<b>LOGGED BY</b> Matt <b>CHECKED BY</b>	<b>AT END OF DRILLING</b> None
<b>NOTES</b> Auger refusal encountered at 11.0 feet and 5.0 feet of rock cored.	<b>0hrs AFTER DRILLING</b> Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
	0		ASPHALT - 5 Inches									
			AGGREGATE BASE - 9 Inches									
			Moist Stiff to Very Stiff, Gray/Brown SILT and CLAY (A-6a), Some Gravel, Little Sand	SS 1	44	5-4-6 (10)	2.50					15
920			@3.5': Soft, Brown, Some Sand	SS 2	33	5-2-2 (4)	2.00					16
	5		Gray SEVERELY WEATHERED LIMESTONE	SS 3	44	9-42-50/4"	NP					8
915				SS 4	50	20-50	NP					7
	10		LIMESTONE									
910				RC 1	25 (0)							
	15											
			Bottom of hole at 16.0 feet.									

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# BORING NUMBER B-3

PAGE 1 OF 1

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company Tim Matt **RIG NO.** CME 550X **GROUND ELEVATION** 927 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/21/24 **COMPLETED** 10/21/24 **AT TIME OF DRILLING** None  
**LOGGED BY** Matt **CHECKED BY** **AT END OF DRILLING** None  
**NOTES** Auger refusal encountered at 14.2 feet. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	SPT N VALUE ▲			
									PL	MC	LL	
0	0		ASPHALT - 7 Inches									
			AGGREGATE BASE - 6 Inches									
925	1.1'		Moist Very Stiff Brown SILT and CLAY (A-6a), Some Sand, Trace Gravel @1.1': Trace Organics @3.5': Medium Stiff to Stiff	SS 1	44	19-10-6 (16)	4.00			15		
5			@6': Stiff to Very Stiff	SS 2	28	4-2-3 (5)	3.25			▲	23	
920				SS 3	67	4-4-6 (10)	4.50			▲	16	
10				SS 4	72	3-5-5 (10)	3.50			▲	17	
915	11.0'		Moist Hard Gray/Brown SANDY SILT (A-4a), Little Gravel, Trace Clay, Trace Organics	SS 5	22	5-13-21 (34)	4.50				16	▲
	13.5'		Gray SEVERELY WEATHERED LIMESTONE	SS 6	100	50/4"	NP			4		
	14.2'		Bottom of hole at 14.2 feet.									>>▲

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# BORING NUMBER B-4

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company Tim Matt **RIG NO.** CME 550X **GROUND ELEVATION** 924 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/21/24 **COMPLETED** 10/21/24 **AT TIME OF DRILLING** None  
**LOGGED BY** Matt **CHECKED BY** \_\_\_\_\_ **AT END OF DRILLING** 7.1 ft / Elev 916.9 ft  
**NOTES** Auger refusal encountered at 12.1 feet and 5.0 feet of rock cored. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
	0		AGGREGATE BASE - 4 Inches									
			Moist Medium Stiff to Stiff Brown SILT and CLAY (A-6a), Some Sand, Trace Gravel	SS 1	39	6-4-4 (8)	4.50			▲	●	15
920	5		@3.5': Gray/Brown, Little Sand, Trace Organics	SS 2	33	3-2-2 (4)	2.25			▲	●	25
			@6': Some Sand, Little Gravel, Trace Shale Fragments, Trace Organics	SS 3	33	2-4-6 (10)	NI			▲	●	18
915	10		@8.5': Gray, Trace Gravel	SS 4	44	4-2-2 (4)	1.50			▲	●	18
			Gray SEVERELY WEATHERED LIMESTONE	SS 5	100	50/5"	NP			●		5
			LIMESTONE	RC 1	67	(8)						>>
	15											
			Bottom of hole at 17.1 feet.									

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# BORING NUMBER B-5

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<b>CLIENT</b> City of Marion	<b>PROJECT NAME</b> Sewer System Rehabilitation
<b>PROJECT NUMBER</b> 242139	<b>PROJECT LOCATION</b> Marion, OH
<b>DRILLING CONTRACTOR</b> A Drilling Company Tim Matt	<b>RIG NO.</b> CME 550X <b>GROUND ELEVATION</b> 927 ft
<b>DRILLING METHOD</b> HSA	<b>GROUND WATER LEVELS:</b>
<b>DATE STARTED</b> 10/22/24 <b>COMPLETED</b> 10/22/24	▽ <b>AT TIME OF DRILLING</b> 13.5 ft / Elev 913.5 ft
<b>LOGGED BY</b> Matt <b>CHECKED BY</b>	▼ <b>AT END OF DRILLING</b> 10.6 ft / Elev 916.4 ft
<b>NOTES</b> Split spoon refusal encountered at 16.1 feet.	<b>0hrs AFTER DRILLING</b> Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
	0		ASPHALT - 5 Inches									
	0.4'		AGGREGATE BASE - 3 Inches									
925	0.7'		Moist Stiff to Very Stiff, Gray/Brown SILT and CLAY (A-6a), Some Sand, Little Gravel	SS 1	22	7-5-8 (13)	4.50					12
			@3.5': Medium Stiff to Stiff, Brown, Little Sand, Trace Gravel	SS 2	39	2-2-3 (5)	2.25					22
			@6': Gray, Little Limestone Fragments, Trace Organics	SS 3	78	7-5-3 (8)	2.25					18
920				SS 4	67	2-2-4 (6)	2.50					16
			@11': Gray, Little Gravel, Trace Shale Fragments	SS 5	61	2-3-6 (9)	2.25					14
915				SS 6	100	50/1"	NP					14
			Gray SEVERELY WEATHERED LIMESTONE (Free Water Noted)									
15			@16': (Free Water Noted)	SS 7	100	50/1"	NP					19
			Bottom of hole at 16.1 feet.									

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# BORING NUMBER B-6

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<b>CLIENT</b> City of Marion	<b>PROJECT NAME</b> Sewer System Rehabilitation
<b>PROJECT NUMBER</b> 242139	<b>PROJECT LOCATION</b> Marion, OH
<b>DRILLING CONTRACTOR</b> A Drilling Company ADC AC	<b>RIG NO.</b> CME 550X <b>GROUND ELEVATION</b> 929 ft
<b>DRILLING METHOD</b> HSA	<b>GROUND WATER LEVELS:</b>
<b>DATE STARTED</b> 10/28/24 <b>COMPLETED</b> 10/28/24	▽ <b>AT TIME OF DRILLING</b> 13.5 ft / Elev 915.5 ft
<b>LOGGED BY</b> ADC <b>CHECKED BY</b>	▼ <b>AT END OF DRILLING</b> 6.7 ft / Elev 922.3 ft
<b>NOTES</b> Auger refusal encountered at 16.5 feet and 5.0 feet of rock cored.	<b>0hrs AFTER DRILLING</b> Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL	SPT N VALUE
	0		ASPHALT - 7 Inches						20 40 60 80	
	0.6'		AGGREGATE BASE - 5 Inches							
	1.0'		Moist Stiff to Very Stiff Brown SILT and CLAY (A-6a), Little Sand, Trace Gravel @1': Trace Organics @3.5': Medium Stiff to Stiff	SS 1	67	4-5-4 (9)	3.25			25
925	5			SS 2	89	4-2-3 (5)	2.50			22
				SS 3	56	4-3-3 (6)	2.25			24
920	10		Gray SEVERELY WEATHERED LIMESTONE	SS 4	33	15-15-15 (30)	NP			6
915	15		Wet Medium Stiff Gray SILT and CLAY (A-6a), Little Limestone Fragments, Little Sand (Free Water Noted)	SS 5	33	5-4-3 (7)	NI			19
			LIMESTONE							
			@17.5': Qu - 11444 psi	RC 1	87 (16)			153		
910	20									
			Bottom of hole at 21.5 feet.							

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# BORING NUMBER B-7

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**CLIENT** City of Marion  
**PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139  
**PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company Tim Matt  
**RIG NO.** CME 550X **GROUND ELEVATION** 933 ft  
**DRILLING METHOD** HSA  
**GROUND WATER LEVELS:**  
 ▽ **AT TIME OF DRILLING** 16.0 ft / Elev 917.0 ft  
 ▼ **AT END OF DRILLING** 9.6 ft / Elev 923.4 ft  
**LOGGED BY** Matt **CHECKED BY**  
**NOTES** Split spoon refusal encountered at 16.1 feet. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
	0		ASPHALT - 9 Inches									
	0.8'		AGGREGATE BASE - 5 Inches									
930	1.2'		Moist Medium Stiff to Stiff Gray/Brown SILT and CLAY (A-6a), Some Sand, Little Gravel @1.2': Trace Organics @3.5': Brown, Trace Gravel	SS 1	50	7-3-4 (7)	3.50					▲ 16 ●
5			@6': Little Sand	SS 2	33	2-2-6 (8)	3.25					▲ 23 ●
925				SS 3	72	2-3-5 (8)	3.50					▲ 20 ●
10				SS 4	83	2-3-5 (8)	4.50					▲ 17 ●
920			@11': Hard, Gray, Little Limestone Fragments, Little Sand	SS 5	78	7-18-17 (35)	4.50					● 13 ▲
15			@13.5': Very Stiff to Hard, Little Gravel, Little Sand	SS 6	67	5-7-9 (16)	4.50					● 14 ▲
	16.0'		Gray SEVERELY WEATHERED LIMESTONE	SS 7	100	50/1"	NP					● 19
	16.1'		Bottom of hole at 16.1 feet.									

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# BORING NUMBER B-8

PAGE 1 OF 1

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company ADC AC **RIG NO.** CME 550X **GROUND ELEVATION** 935 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/31/24 **COMPLETED** 10/31/24 **AT TIME OF DRILLING** None  
**LOGGED BY** ADC **CHECKED BY** **AT END OF DRILLING** None  
**NOTES** Auger refusal encountered at 16.5 feet and 5.0 feet of rock cored. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
935	0		AGGREGATE BASE - 14 Inches									
			1.2'	SS 1	67	2-3-2 (5)	2.75					25
				SS 2	78	2-2-3 (5)	3.75					21
930	5			SS 3	56	0-2-4 (6)	3.75					23
			8.5'	SS 4	44	1-2-2 (4)	NP					18
925	10		Moist Very Loose Dark Brown COARSE and FINE SAND (A-3a), Some Gravel, Little Clay, Trace Silt, Trace Organics									
			10.0'	SS 5	56	3-6-19 (25)	4.00					11
920	15		Moist Very Stiff to Stiff Gray SILT and CLAY (A-6a), Some Sand, Little Limestone Fragments									
			16.0'	SS 6		50/0"	NR					>>
			16.5'									
			Gray SEVERELY WEATHERED LIMESTONE									
			LIMESTONE									
915	20		@19.5': Qu - 7077 psi	RC 1	88 (15)			156				
			21.5'									
			Bottom of hole at 21.5 feet.									

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# BORING NUMBER B-9

PAGE 1 OF 1

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company Tim Matt **RIG NO.** CME 550X **GROUND ELEVATION** 939 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/22/24 **COMPLETED** 10/22/24 **AT TIME OF DRILLING** 16.0 ft / Elev 923.0 ft  
**LOGGED BY** Matt **CHECKED BY** **AT END OF DRILLING** None  
**NOTES** Split spoon refusal encountered at 16.9 feet. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
	0		TOPSOIL - 5 Inches									
			FILL - Moist Loose Black SLAG FRAGMENTS, Some Sand, Little Gravel	SS 1	28	7-6-3 (9)	NP					
935	5		Moist Medium Stiff to Stiff Dark Brown SILT and CLAY (A-6a), Little Sand, Trace Gravel @3.5': Trace Organics	SS 2	39	2-3-5 (8)	3.00					
			@6': Some Sand, Little Limestone Fragments	SS 3	67	1-2-4 (6)	NI					
930	10		@8.5': Brown	SS 4	50	1-2-4 (6)	3.50					
			@11': Gray	SS 5	17	2-3-5 (8)	NI					
925	15		@13.5': Stiff to Very Stiff, Gray	SS 6	44	4-4-5 (9)	3.50					
			Gray SEVERELY WEATHERED LIMESTONE	SS 7	55	22-50/5"	NP					
			Bottom of hole at 16.9 feet.									

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# BORING NUMBER B-10

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company ADC AC **RIG NO.** CME 550X **GROUND ELEVATION** 941 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/31/24 **COMPLETED** 10/31/24 **AT TIME OF DRILLING** None  
**LOGGED BY** ADC **CHECKED BY** **AT END OF DRILLING** None  
**NOTES** Split spoon refusal encountered at 13.1 feet. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL					
									20	40	60	80		
940	0		ASPHALT - 2 Inches											
			BRICK - 6 Inches											
			AGGREGATE BASE - 3 Inches											
			FILL - Moist Medium Stiff Brown SILT and CLAY, Little Sand, Trace Gravel, Trace Brick Fragments	SS 1	6	2-3-3 (6)	NI							
	5			SS 2	11	2-3-5 (8)	NI							
935			Moist Medium Stiff Dark Brown SILT and CLAY (A-6a), Little Sand, Trace Gravel	SS 3	17	4-4-4 (8)	NI							
	10		Moist Medium Stiff to Stiff Gray SANDY SILT (A-4a), Little Clay, Trace Gravel	SS 4	22	2-3-4 (7)	4.50							
930														
			Gray SEVERELY WEATHERED LIMESTONE	SS 5	500	50/1"	NP							
			Bottom of hole at 13.1 feet.											

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# BORING NUMBER B-11

**CLIENT** City of Marion **PROJECT NAME** Sewer System Rehabilitation  
**PROJECT NUMBER** 242139 **PROJECT LOCATION** Marion, OH  
**DRILLING CONTRACTOR** A Drilling Company ADC AC **RIG NO.** CME 550X **GROUND ELEVATION** 946 ft  
**DRILLING METHOD** HSA **GROUND WATER LEVELS:**  
**DATE STARTED** 10/31/24 **COMPLETED** 10/31/24 **AT TIME OF DRILLING** None  
**LOGGED BY** ADC **CHECKED BY** **AT END OF DRILLING** 7.9 ft / Elev 938.1 ft  
**NOTES** Auger refusal encountered at 14.5 feet and 5.0 feet of rock cored. **0hrs AFTER DRILLING** Backfilled w/Cuttings and Bentonite Chips

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
	0		ASPHALT - 5 Inches									
945			AGGREGATE BASE - 5 Inches									
			FILL - Moist Medium Stiff Brown SANDY SILT, Little Clay, Trace Gravel	SS 1	56	2-3-3 (6)	4.50					17
			@3.5': FILL - ASPHALT FRAGMENTS, Little Crushed Stone, Little Sand	SS 2	33	8-7-13 (20)	NP					3
940			Moist Very Stiff Gray/Brown SILT and CLAY (A-6a), Little Limestone Fragments, Little Sand	SS 3	56	4-8-13 (21)	4.00					16
			@8.5': Stiff, Brown, Some Sand, Some Gravel	SS 4	22	4-5-5 (10)	NI					12
935			Gray SEVERELY WEATHERED LIMESTONE									
			LIMESTONE	SS 5	100	50/5"	NP					7
930				RC 1	100 (15)							
			Bottom of hole at 19.5 feet.									

TTL\_GEOTECH\_STANDARD 242139.GPJ GINT US LAB.GDT 11/14/24



**APPENDIX B**

**ROCK CORE PHOTOGRAPHS**



# CORE PHOTO LOG – BORING B-2

Project: Sewer System Rehabilitation  
Project Location: Marion, Ohio  
CT Project No.: 242139  
Core Date: October 21, 2024

Core Run  
RC-1

Depth (feet)  
11 to 16

End RC-1

Begin RC-1



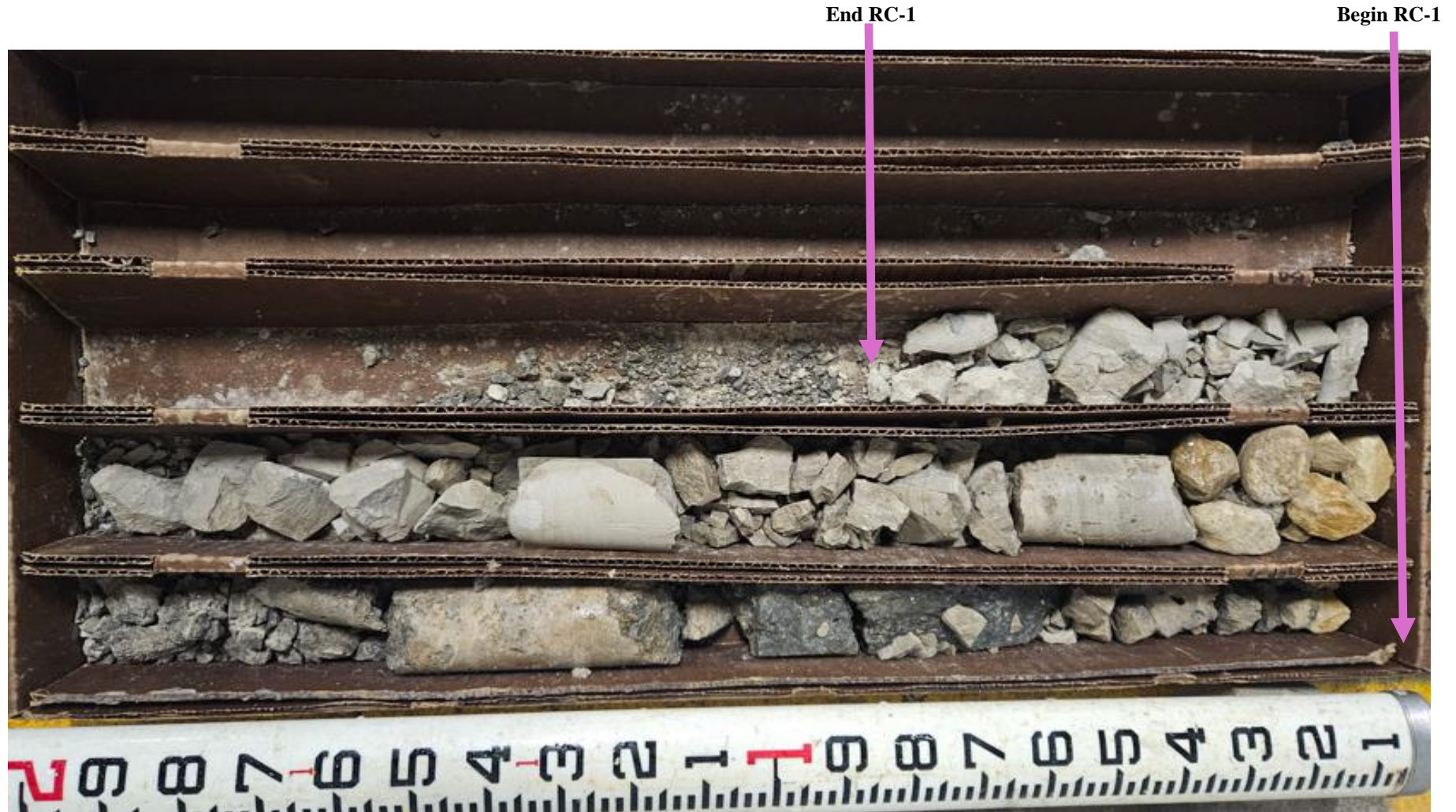


# CORE PHOTO LOG – BORING B-4

Project: Sewer System Rehabilitation  
Project Location: Marion, Ohio  
CT Project No.: 242139  
Core Date: October 21, 2024

Core Run  
RC-1

Depth (feet)  
12.1 to 17.1



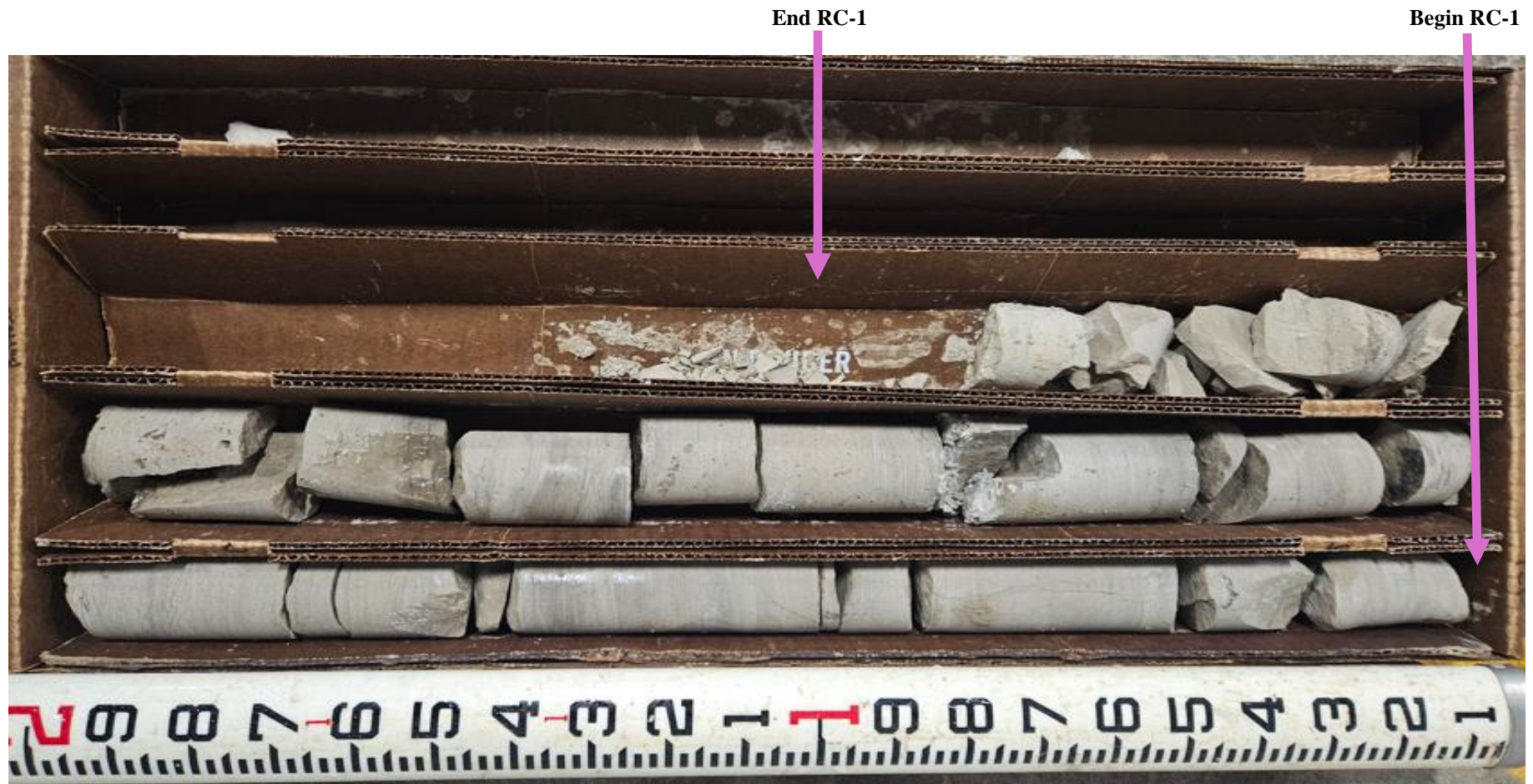


# CORE PHOTO LOG – BORING B-6

Project: Sewer System Rehabilitation  
Project Location: Marion, Ohio  
CT Project No.: 242139  
Core Date: October 28, 2024

Core Run  
RC-1

Depth (feet)  
16.5 to 21.5





# CORE PHOTO LOG – BORING B-8

Project: Sewer System Rehabilitation  
Project Location: Marion, Ohio  
CT Project No.: 242139  
Core Date: October 31, 2024

Core Run  
RC-1

Depth (feet)  
16.5 to 21.5

End RC-1

Begin RC-1





# CORE PHOTO LOG – BORING B-11

Project: Sewer System Rehabilitation  
Project Location: Marion, Ohio  
CT Project No.: 242139  
Core Date: October 31, 2024

Core Run  
RC-1

Depth (feet)  
14.5 to 19.5

End RC-1

Begin RC-1

