

# **PUBLIC IMPROVEMENT REQUEST FOR PROPOSAL**

**RFP# 25-02**

## **Annual Street Resurfacing Program**

City of Ann Arbor  
ENGINEERING UNIT  
PUBLIC SERVICE AREA



**Due Date: Wednesday, February 12, 2025,  
by 10:00 a.m. (local time)**

Issued By:

City of Ann Arbor  
Procurement Unit  
301 E. Huron Street  
Ann Arbor, MI 48104

# TABLE OF CONTENTS

SECTION I: GENERAL INFORMATION .....	3
SECTION II: SCOPE OF WORK.....	11
SECTION III: MINIMUM INFORMATION REQUIRED .....	11
SECTION IV: ATTACHMENTS .....	23

## **SECTION I - GENERAL INFORMATION**

### **A. OBJECTIVE**

The purpose of this Request for Proposal (RFP) is to select a firm to provide construction services for the Annual Street Resurfacing Program.

### **B. BID SECURITY**

Each bid must be accompanied by a certified check or Bid Bond by a surety licensed and authorized to do business within the State of Michigan, in the amount of 5% of the total of the bid price.

***Proposals that fail to provide a bid security upon proposal opening will be deemed non-responsive and will not be considered for award.***

### **C. QUESTIONS AND CLARIFICATIONS / DESIGNATED CITY CONTACTS**

All questions regarding this Request for Proposal (RFP) shall be submitted via e-mail. Questions will be accepted and answered in accordance with the terms and conditions of this RFP.

**All questions shall be submitted on or before Monday, February 3, 2025 at 1:00 p.m. (local time)**, and should be addressed as follows:

Scope of Work/Proposal Content questions shall be e-mailed to **Andrea Wright, Project Manager, [AWright@a2gov.org](mailto:AWright@a2gov.org)**.

RFP Process and Compliance questions shall be e-mailed to Colin Spencer, Buyer - [CSpencer@a2gov.org](mailto:CSpencer@a2gov.org)

Should any prospective bidder be in doubt as to the true meaning of any portion of this RFP, or should the prospective bidder find any ambiguity, inconsistency, or omission therein, the prospective bidder shall make a written request for an official interpretation or correction by the due date for questions above.

All interpretations, corrections, or additions to this RFP will be made only as an official addendum that will be posted to [a2gov.org](http://a2gov.org) and [MITN.info](http://MITN.info) and it shall be the prospective bidder's responsibility to ensure they have received all addenda before submitting a proposal. Any addendum issued by the City shall become part of the RFP, and must be incorporated in the proposal where applicable.

### **D. PRE-PROPOSAL MEETING**

A **mandatory** pre-proposal conference for this project will be held on **Tuesday, January 28, 2025, at 10:00 a.m.** Teams or in-person option available. Request invite containing location

and Teams link to Andrea Wright at [AWright@a2gov.org](mailto:AWright@a2gov.org) by **12:00 p.m. Monday, January 27, 2025. Failure to attend the meeting and sign the RFP sign-in sheet or show up on the Teams attendee log at the pre-proposal meeting will automatically disqualify a bidder from submitting a valid proposal.** Any proposal submitted by a party not attending and signing the roster at the pre-proposal meeting will not be opened or considered. Administrative and technical questions regarding this project will be answered at this time. The pre-proposal meeting is for information only. Any answers furnished will not be official until verified in writing by the Financial Service Area, Procurement Unit. Answers that change or substantially clarify the proposal will be affirmed in an addendum.

## **E. PROPOSAL FORMAT**

To be considered, each firm must submit a response to this RFP using the format provided in Section III. No other distribution of proposals is to be made by the prospective bidder. An official authorized to bind the bidder to its provisions must sign the proposal. Each proposal must remain valid for at least one hundred and twenty (120) days from the due date of this RFP.

Proposals should be prepared simply and economically providing a straightforward, concise description of the bidder's ability to meet the requirements of the RFP. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed in ink by the person signing the proposal.

## **F. SELECTION CRITERIA**

Responses to this RFP will be evaluated using a point system as shown in Section III. A selection committee comprised primarily of staff from the City will complete the evaluation.

If interviews are desired by the City, the selected firms will be given the opportunity to discuss their proposal, qualifications, past experience, and their fee proposal in more detail. The City further reserves the right to interview the key personnel assigned by the selected bidder to this project.

All proposals submitted may be subject to clarifications and further negotiation. All agreements resulting from negotiations that differ from what is represented within the RFP or in the proposal response shall be documented and included as part of the final contract.

## **G. SEALED PROPOSAL SUBMISSION**

**All proposals are due and must be delivered to the City on or before Wednesday, February 12, 2025, by 10:00a.m. (local time).** Proposals submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.



**Each respondent should submit in a sealed envelope**

- **one (1) original proposal**
- **one (1) additional proposal copy**
- **one (1) USB/flash drive that contains:**
  - **one (1) digital copy of the proposal preferably as one file format**
  - **one (1) digital copy of E. Schedule of Pricing/Cost preferably as one file in Excel format**

Proposals submitted should be clearly marked: “**RFP No. 25-02 – Annual Street Resurfacing Program**” and list the bidder’s name and address.

Proposals must be addressed and delivered to:

City of Ann Arbor  
c/o Customer Service  
301 East Huron Street  
Ann Arbor, MI 48107

All proposals received on or before the due date will be publicly opened and recorded on the due date. No immediate decisions will be rendered.

Hand delivered proposals may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/entrance of City Hall which is open to the public Monday through Friday from 8am to 5pm (except holidays). The City will not be liable to any prospective bidder for any unforeseen circumstances, delivery, or postal delays. Postmarking on the due date will not substitute for receipt of the proposal.

Bidders are responsible for submission of their proposal. Additional time will not be granted to a single prospective bidder. However, additional time may be granted to all prospective bidders at the discretion of the City.

**A proposal may be disqualified if the following required forms are not included with the proposal:**

- **Attachment B – General Declarations**
- **Attachment D - Prevailing Wage Declaration of Compliance**
- **Attachment E - Living Wage Declaration of Compliance**
- **Attachment G - Vendor Conflict of Interest Disclosure Form**
- **Attachment H - Non-Discrimination Declaration of Compliance**

***Proposals that fail to provide these forms listed above upon proposal opening may be deemed non-responsive and may not be considered for award.***

## **H. DISCLOSURES**

Under the Freedom of Information Act (Public Act 442), the City is obligated to permit review of its files, if requested by others. All information in a proposal is subject to disclosure under this provision. This act also provides for a complete disclosure of contracts and attachments thereto.

## **I. TYPE OF CONTRACT**

A sample of the Construction Agreement is included as Attachment A. Those who wish to submit a proposal to the City are required to review this sample agreement carefully. **The City will not entertain changes to its Construction Agreement.**

For all construction work, the respondent must further adhere to the City of Ann Arbor General Conditions. The General Conditions are included herein. Retainage will be held as necessary based on individual tasks and not on the total contract value. The Contractor shall provide the required bonds included in the Contract Documents for the duration of the Contract.

The City reserves the right to award the total proposal, to reject any or all proposals in whole or in part, and to waive any informality or technical defects if, in the City's sole judgment, the best interests of the City will be so served.

This RFP and the selected bidder's response thereto, shall constitute the basis of the scope of services in the contract by reference.

## **J. NONDISCRIMINATION**

All bidders proposing to do business with the City shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate as outlined in Attachment G shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

## **K. WAGE REQUIREMENTS**

The Attachments provided herein outline the requirements for payment of prevailing wages or of a "living wage" to employees providing service to the City under this contract. The successful bidder must comply with all applicable requirements and provide documentary proof of compliance when requested.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. Use of Michigan Department of Transportation Prevailing Wage Forms (sample attached hereto) or a City-approved equivalent will be required along with wage rate interviews.

For laborers whose wage level are subject to federal, state and/or local prevailing wage law the appropriate Davis-Bacon wage rate classification is identified based upon the work including within this contract. **The wage determination(s) current on the date 10 days before proposals are due shall apply to this contract.** The U.S. Department of Labor (DOL) has provided explanations to assist with classification in the following resource link: [www.sam.gov](http://www.sam.gov).

For the purposes of this RFP the Construction Type of Highway will apply.

#### **L. CONFLICT OF INTEREST DISCLOSURE**

The City of Ann Arbor Purchasing Policy requires that the consultant complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected bidder unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Conflict of Interest Disclosure Form is attached.

#### **M. COST LIABILITY**

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the bidder prior to the execution of an Agreement. The liability of the City is limited to the terms and conditions outlined in the Agreement. By submitting a proposal, bidder agrees to bear all costs incurred or related to the preparation, submission, and selection process for the proposal.

#### **N. DEBARMENT**

Submission of a proposal in response to this RFP is certification that the Respondent is not currently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

#### **O. PROPOSAL PROTEST**

All proposal protests must be in writing and filed with the Purchasing Manager within five (5) business days of any notices of intent, including, but not exclusively, divisions on prequalification of bidders, shortlisting of bidders, or a notice of intent to award. Only bidders who responded to the solicitation may file a bid protest. The bidder must clearly state the reasons for the protest. If any bidder contacts a City Service Area/Unit

and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Manager. The Purchasing Manager will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee, whose decision shall be final.

Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by the bidder to initiate contact with anyone other than the Designated City Contacts provided herein that the bidder believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.

**P. SCHEDULE**

The following is the schedule for this RFP process.

<b>Activity/Event</b>	<b>Anticipated Date</b>
Pre-Proposal Conference (Mandatory)	January 28, 2025, 10:00 a.m. (Local Time)
Written Question Deadline	February 3, 2025, 1:00 p.m. (Local Time)
Addenda Published (if needed)	Week of February 3, 2025
Proposal Due Date	February 12, 2025, 10:00 a.m. (Local Time)
Selection/Negotiations	Week of February 17, 2025
Expected City Council Authorizations	March 2025

The above schedule is for information purposes only and is subject to change at the City’s discretion.

**Q. IRS FORM W-9**

The selected bidder will be required to provide the City of Ann Arbor an IRS form W-9.

**R. RESERVATION OF RIGHTS**

1. The City reserves the right in its sole and absolute discretion to accept or reject any or all proposals, or alternative proposals, in whole or in part, with or without cause.
2. The City reserves the right to waive, or not waive, informalities or irregularities in terms or conditions of any proposal if determined by the City to be in its best interest.
3. The City reserves the right to request additional information from any or all bidders.
4. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested within RFP.

5. The City reserves the right to determine whether the scope of the project will be entirely as described in the RFP, a portion of the scope, or a revised scope be implemented.
6. The City reserves the right to select one or more contractors or service providers to perform services.
7. The City reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the firm of the conditions contained in this RFP, unless clearly and specifically noted in the proposal submitted.
8. The City reserves the right to disqualify proposals that fail to respond to any requirements outlined in the RFP, or failure to enclose copies of the required documents outlined within the RFP.

## **S. IDLEFREE ORDINANCE**

The City of Ann Arbor adopted an idling reduction Ordinance that went into effect July 1, 2017. The full text of the ordinance (including exemptions) can be found at: [www.a2gov.org/idlefree](http://www.a2gov.org/idlefree).

Under the ordinance, No Operator of a Commercial Vehicle shall cause or permit the Commercial Vehicle to Idle:

- (a) For any period of time while the Commercial Vehicle is unoccupied; or
- (b) For more than 5 minutes in any 60-minute period while the Commercial Vehicle is occupied.

In addition, generators and other internal combustion engines are covered

- (1) Excluding Motor Vehicle engines, no internal combustion engine shall be operated except when it is providing power or electrical energy to equipment or a tool that is actively in use.

## **T. ENVIRONMENTAL COMMITMENT**

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote and encourage the City's commitment to the environment.

The City strongly encourages potential vendors to bring forward tested, emerging, innovative, and environmentally preferable products and services that are best suited to the City's environmental principles. This includes products and services such as those with lower greenhouse gas emissions, high recycled content, without toxic substances, those with high reusability or recyclability, those that reduce the consumption of virgin materials, and those with low energy intensity.

As part of its environmental commitment, the City reserves the right to award a contract to the most responsive and responsible bidder, which includes bids that bring forward products or services that help advance the City's environmental commitment. In addition, the City reserves the right to request that all vendors report their annual greenhouse gas emissions, energy consumption, miles traveled, or other relevant criteria in order to help the City more fully understand the environmental impact of its procurement decisions.

#### **U. MAJOR SUBCONTRACTORS**

The Bidder shall identify each major subcontractor it expects to engage for this Contract if the work to be subcontracted is 15% or more of the bid sum or over \$50,000, whichever is less. The Bidder also shall identify the work to be subcontracted to each major subcontractor. The Bidder shall not change or replace a subcontractor without approval by the City.

#### **V. LIQUIDATED DAMAGES**

A liquidated damages clause, as given on page C-2, Article III of the Contract, provides that the Contractor shall pay the City as liquidated damages, and not as a penalty, a sum certain per day for each and every day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or written extensions.

Liquidated damages clauses, as given in the General Conditions, provide further that the City shall be entitled to impose and recover liquidated damages for breach of the obligations under Chapter 112 of the City Code.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

## **SECTION II - SCOPE OF WORK**

The Annual Street Resurfacing Program involves the resurfacing or rehabilitation of numerous streets, segments of asphalt paths, concrete work relating to the replacement of curb, drive approaches, and/or sidewalk ramps and new sidewalk installations. Approximate miles completed in a season is between 5-7. The estimated material qty for the 2025 Calendar year season is 15,000 Tons of HMA, 60 Ea Catch Basin Structure Replacements, about 12,000 ft curb replacement and about 10,000 Sft of new sidewalk.

Please reference the Detailed Specifications and Plan Set for more details.

## **SECTION III - MINIMUM INFORMATION REQUIRED**

### **PROPOSAL FORMAT**

The following describes the elements that should be included in each of the proposal sections and the weighted point system that will be used for evaluation of the proposals.

Bidders should organize Proposals into the following Sections:

- A. Qualifications, Experience and Accountability
- B. Workplace Safety
- C. Workforce Development
- D. Social Equity and Sustainability
- E. Schedule of Pricing/Cost
- F. Authorized Negotiator
- G. Attachments

*Bidders are strongly encouraged to provided details for all of the information requested below within initial proposals. Backup documentation may be requested at the sole discretion of the City to validate all of the responses provided herein by bidders. False statements by bidders to any of the criteria provided herein will result in the proposal being considered non-responsive and will not be considered for award.*

Pursuant to Sec 1:325 of the City Code which sets forth requirements for evaluating public improvement bids, Bidders should submit the following:

### **A. Qualifications, Experience and Accountability - 20 Points**

1. Qualifications and experience of the bidder and of key persons, management, and supervisory personnel to be assigned by the bidder.

2. References from individuals or entities the bidder has worked for within the last five (5) years including information regarding records of performance and job site cooperation.
3. Evidence of any quality control program used by the bidder and the results of any such program on the bidder's previous projects.
4. A statement from the bidder as to any major subcontractors it expects to engage including the name, work, and amount.

**B. Workplace Safety – 20 Points**

1. Provide a copy of the bidder's safety program, and evidence of a safety-training program for employees addressing potential hazards of the proposed job site. Bidder must identify a designated qualified safety representative responsible for bidder's safety program who serves as a contact for safety related matters.
2. Provide the bidder's Experience Modification Rating ("EMR") for the last three consecutive years. Preference within this criterion will be given to an EMR of 1.0 or less based on a three-year average.
3. Evidence that all craft labor that will be employed by the bidder for the project has, or will have prior to project commencement, completed at least an authorized 10-hour OSHA Construction Safety Course.
4. For the last three years provide a copy of any documented violations and the bidder's corrective actions as a result of inspections conducted by the Michigan Occupational Safety & Health Administration (MIOSHA), U.S. Department of Labor – Occupational Safety and Health Administration (OSHA), or any other applicable safety agency.

**C. Workforce Development – 20 Points**

1. Documentation as to bidder's pay rates, health insurance, pension or other retirement benefits, paid leave, or other fringe benefits to its employees.
- 2.. Documentation that the bidder participates in a Registered Apprenticeship Program that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the USDOL Office of Apprenticeship. USDOL apprenticeship agreements shall be disclosed to the City in the solicitation response.



3. Bidders shall disclose the number of non-craft employees who will work on the project on a 1099 basis, and the bidders shall be awarded points based on their relative reliance on 1099 work arrangements with more points assigned to companies with fewer 1099 arrangements. Bidders will acknowledge that the City may ask them to produce payroll records at points during the project to verify compliance with this section.

**D. Social Equity and Sustainability – 20 Points**

1. A statement from the bidder as to what percentage of its workforce resides in the City of Ann Arbor and in Washtenaw County, Michigan. The City will consider in evaluating which bids best serve its interests, the extent to which responsible and qualified bidders employ individuals in either the city or the county. Washtenaw County jurisdiction is prioritized for evaluation purposes for this solicitation.
2. Evidence of Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses.
3. Evidence that the bidder is an equal opportunity employer and does not discriminate on the basis of race, sex, pregnancy, age, religion, national origin, marital status, sexual orientation, gender identity or expression, height, weight, or disability.
4. The bidder's proposed use of sustainable products, technologies, or practices for the project, which reduce the impact on human health and the environment, including raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and waste management.
5. The bidder's environmental record, including findings of violations and penalties imposed by government agencies.

**E. Schedule of Pricing/Cost – 20 Points**

**Project:** Annual Street Resurfacing Project

**RFP No.:** 25-02

**Company:** \_\_\_\_\_

**Unit Price Bid**

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1000.00	General Conditions, Max. \$ 250,000	LS	1	\$ _____	\$ _____
1000.71	DS_Mailbox, Rem, Temp Relocate & Reinstall	Ea	11	\$ _____	\$ _____
1000.72	DS_Vacuum Type Cleaning, Max \$ 25,000	LS	1	\$ _____	\$ _____
1001.00	Project Supervision, Max \$ 50,000	LS	1	\$ _____	\$ _____
1021.00	Erosion Control, Inlet Protection, Fabric Drop	Ea	184	\$ _____	\$ _____
1022.00	Erosion Control, Silt Fence	Ft	69	\$ _____	\$ _____
1040.00	Minor Traffic Control, Max \$ 140,000	LS	1	\$ _____	\$ _____
1041.00	Traffic Regulator Control, Modified	Hrs	1,400	\$ _____	\$ _____
1050.00	Sign, Type B, Temp, Prismatic, Furn & Oper	Sft	901	\$ _____	\$ _____
1051.00	Sign, Type B, Temp, Prismatic, Special, Furn & Oper	Sft	905	\$ _____	\$ _____
1051.71	DS_ Sign, Type IIIB	Sft	210	\$ _____	\$ _____
1051.72	DS_Perforated Steel Square Tube Breakaway System	Ea	28	\$ _____	\$ _____
1052.00	Temporary "No Parking" Sign	Ea	715	\$ _____	\$ _____
1062.00	Lighted Arrow, Type C, Furn & Oper	Ea	6	\$ _____	\$ _____
1070.00	Sign, Portable, Changeable Message, Furn & Oper	Ea	6	\$ _____	\$ _____
1080.00	Plastic Drum, High Intensity, Lighted, Furn & Oper	Ea	20	\$ _____	\$ _____
1081.00	Channelizer Cone, High Intensity, 42 In., Furn & Oper	Ea	525	\$ _____	\$ _____
1091.00	Barricade, Type III, High Intensity, Lighted, Furn & Oper	Ea	32	\$ _____	\$ _____
1100.00	Pedestrian Type II Barricade, Temp, Furn & Oper	Ea	20	\$ _____	\$ _____
1103.00	Temporary Pedestrian Mat, Furn & Oper	Ft	330	\$ _____	\$ _____
2000.71	DS_Tree Trimming, Allowance	Dlr	1	\$ <u>50,000</u>	\$ _____
2010.00	Stump, Rem	Ea	4	\$ _____	\$ _____

**TOTAL THIS PAGE** \$ \_\_\_\_\_

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
2020.00	HMA, Any Thickness, Rem	Syd	4,523	\$ _____	\$ _____
2021.00	HMA Surface, Rem	Syd	4,303	\$ _____	\$ _____
2022.00	HMA Patch, Rem	Syd	113	\$ _____	\$ _____
2023.00	Cold-Milling HMA Surface	Syd	65,516	\$ _____	\$ _____
2023.71	DS_Cold Milling, Plunge Cut	Syd	654	\$ _____	\$ _____
2023.72	DS_HMA Surface, Around Structure Cover, Rem	Ea	56	\$ _____	\$ _____
2023.73	DS_Cold Milling for Concrete Curb and Gutter Reveal	Syd	643	\$ _____	\$ _____
2025.71	DS_Concrete Pavt, Any Thickness, Rem, Pavt Repair	Syd	896	\$ _____	\$ _____
2025.72	DS_Concrete Pavt, Any Thickness, Rem Curb, Gutter, and Curb and Gutter, Any Type, Rem	Syd	2,100	\$ _____	\$ _____
2030.00	Sidewalk, Sidewalk Ramp, and Driveway Approach, Any Thickness, Rem	Ft	12,172	\$ _____	\$ _____
2040.00	Sign, Rem, Salv	Sft	9,321	\$ _____	\$ _____
2050.00	Sign, Rem, Salv	Ea	4	\$ _____	\$ _____
3001.71	DS_Grading Roadway	Ea	4	\$ _____	\$ _____
3001.72	DS_Grading, Sidewalk, Ramp & Driveway Approach	Syd	46,123	\$ _____	\$ _____
3001.72	Approach	Sft	8,754	\$ _____	\$ _____
3022.00	Undercutting, Type III	Cyd	1,121	\$ _____	\$ _____
3022.71	DS_Undercutting, Type IIC	Cyd	80	\$ _____	\$ _____
3030.01	Exploratory Excavation, (0-10' Deep ), SD-TD-1	Ea	6	\$ _____	\$ _____
3030.03	Exploratory Excavation, (0-10' Deep ), SD-TD-2	Ea	2	\$ _____	\$ _____
3040.00	Earth Excavation	Cyd	320	\$ _____	\$ _____
5100.71	DS_Sanitary Structure, Reconstruct	Ft	2	\$ _____	\$ _____
5100.72	DS_Sanitary Structure, Point	Ea	6	\$ _____	\$ _____
4061.71	DS_Sanitary Structure Cover, Adjust	Ea	65	\$ _____	\$ _____
5100.71	DS_Storm Structure Cover, Adjust	Ea	43	\$ _____	\$ _____
5100.72	DS_Storm Curb Inlet Adjust	Ea	64	\$ _____	\$ _____
6000.01	12 In., CL IV RCP Storm Sewer, SD-TD-1	Ft	83	\$ _____	\$ _____
<b>TOTAL THIS PAGE</b>					\$ _____

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
6003.04	12 In., PE Storm Sewer, SD-TD-2	Ft	364	\$ _____	\$ _____
6030.04	Storm Sewer Tap, 12 In. Dia	Ea	6	\$ _____	\$ _____
6060.03	Storm Inlet-Junction, 48 In., Dia., (0-8'deep)	Ea	1	\$ _____	\$ _____
6070.01	Storm Single Inlet, 24 In. ,Dia., (0-8'deep)	Ea	57	\$ _____	\$ _____
6070.02	Storm Single Inlet, 24In. ,Dia., Additional Depth	Ft	5	\$ _____	\$ _____
6080.01	Storm High Capacity Inlet, 48 In. Dia., (0-8'deep)	Ea	1	\$ _____	\$ _____
6080.02	Storm Structure 48 In. Dia., Additional Depth	Ft	5	\$ _____	\$ _____
6120.03	Storm Sewer Pipe, 12 in. Dia., Rem	Ft	369	\$ _____	\$ _____
6150.00	Storm Sewer Drop Structure, Rem	Ea	46	\$ _____	\$ _____
6160.03	Storm Structure Adjust, Additional Depth	Ft	5	\$ _____	\$ _____
6160.71	DS_Storm Structure Cover, Type K	Ea	49	\$ _____	\$ _____
6160.72	DS_Storm Structure Cover, Type Z	Ea	2	\$ _____	\$ _____
6160.73	DS_Storm Structure Cover, Type M5	Ea	3	\$ _____	\$ _____
6160.76	DS_Storm Structure Cover, Type HC	Ea	1	\$ _____	\$ _____
6170.71	DS_Storm Structure, Reconstruct	Ft	3	\$ _____	\$ _____
6170.72	DS_Storm Structure, Point	Ea	15	\$ _____	\$ _____
6180.02	Underdrain, Subgrade, 6 inch	Ft	690	\$ _____	\$ _____
7091.71	DS_Water Structure Cover, Adjust	Ea	11	\$ _____	\$ _____
7120.00	Water Gate Valve Box, Adjust	Ea	27	\$ _____	\$ _____
7121.00	Curb Box, Adjust	Ea	4	\$ _____	\$ _____
8010.03	Aggregate Base, 8 In., 21AA, CIP	Syd	2,100	\$ _____	\$ _____
8010.71	DS_Aggregate Base Course, 21AA, CIP	Ton	259	\$ _____	\$ _____
8050.71	DS_Geotextile, Separator Fabric	Syd	140	\$ _____	\$ _____
8051.71	DS_Geotextile, Stabilization Fabric	Syd	230	\$ _____	\$ _____
8052.71	DS_Flowable Fill	Cyd	31	\$ _____	\$ _____
<b>TOTAL THIS PAGE</b>					\$ _____

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
8060.00	Hand Patching	Ton	609	\$ _____	\$ _____
8070.14	HMA, 4EL	Ton	12,314	\$ _____	\$ _____
8070.19	HMA, 5EML	Ton	2,025	\$ _____	\$ _____
8070.71	DS_HMA, Soil Erosion, Wedge	Ft	218	\$ _____	\$ _____
8070.72	DS_HMA, Driveway Wedging	Ton	13	\$ _____	\$ _____
8070.73	DS_HMA, Wedging, Variable Thickness	Ton	26	\$ _____	\$ _____
8071.71	DS_Shared use Path, Aggregate	Ton	210	\$ _____	\$ _____
8071.72	DS_Shared use Path, HMA	Ton	140	\$ _____	\$ _____
8071.73	DS_Shared use Path, Grading, Modified	Syd	1,120	\$ _____	\$ _____
8071.74	DS_Shared use Path, HMA, Wedging	Ton	15	\$ _____	\$ _____
8080.01	Conc Pavt, non-reinf, 6 inch	Syd	190	\$ _____	\$ _____
8080.03	Conc Pavt, non-reinf, 8 inch	Syd	166	\$ _____	\$ _____
8100.71	DS_Sidewalk Retaining Wall, Integral, 6 inch to 18 inch Height	Sft	6	\$ _____	\$ _____
8110.00	Conc, Curb or Curb & Gutter, All Types	Ft	7,888	\$ _____	\$ _____
8120.01	Conc, Driveway Opening, Type M	Ft	4,403	\$ _____	\$ _____
8130.71	Conc, Sidewalk, 4 inch	Sft	9,827	\$ _____	\$ _____
8131.71	Conc, Sidewalk or Ramp, 6 inch	Sft	3,413	\$ _____	\$ _____
8131.72	Conc, Drive Approach, 6 inch	Sft	4,540	\$ _____	\$ _____
8131.73	Conc, Sidewalk, Drive Approach, 8 inch	Sft	696	\$ _____	\$ _____
8133.71	DS_Pavt Joint and Crack Repr, Det 7	Lft	3,050	\$ _____	\$ _____
8140.00	Brick Pavers, Sidewalk, Rem and Reinstall	Sft	50	\$ _____	\$ _____
8140.71	DS_Speed Hump, Conc	Syd	1,022	\$ _____	\$ _____
8150.00	Detectable Warning Surface	Ft	290	\$ _____	\$ _____
8180.02	Pavt Mrkg, Ovly Cold Plastic, Bike, Small Sym	Ea	3	\$ _____	\$ _____
8180.03	Pavt Mrkg, Ovly Cold Plastic, Bike Thru Arrow Sym	Ea	3	\$ _____	\$ _____
<b>TOTAL THIS PAGE</b>					\$ _____

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
8180.04	Pavt Mrkg, Ovly Cold Plastic, Sharrow Sym	Ea	4	\$ _____	\$ _____
8190.01	Pavt Mrkg, Polymer Cement Surface, Bike, Large Sym	Ea	2	\$ _____	\$ _____
8190.02	DS_Pavt Mrkg, Polymer Cement Surface, Bike, Small Sym	Ea	2	\$ _____	\$ _____
8190.03	DS_Pavt Mrkg, Polymer Cement Surface, Bike Thru Arrow Sym	Ea	2	\$ _____	\$ _____
8190.06	Pavt Mrkg, Polymer Cement Surface, Bike Lane Green	Sft	930	\$ _____	\$ _____
8190.07	DS_Pavt Mrkg, Polymer Cement Surface, Tan	Sft	1,324	\$ _____	\$ _____
8200.07	Pavt Mrkg, Polyurea, 12 In., Crosswalk	Ft	1,344	\$ _____	\$ _____
8200.09	Pavt Mrkg, Polyurea, 24 In., Stop Bar	Ft	175	\$ _____	\$ _____
8200.13	Pavt Mrkg, Polyurea, 6 In., White	Ft	3,085	\$ _____	\$ _____
8200.14	Pavt Mrkg, Polyurea, 6 In., Yellow	Ft	2,394	\$ _____	\$ _____
8200.31	Pavt Mrkg, Polyurea, Speed Hump Chevron, White	Ea	128	\$ _____	\$ _____
8210.01	Pavt Mrkg, Sprayable Thermopl, 4 In., White	Ft	200	\$ _____	\$ _____
8210.02	Pavt Mrkg, Sprayable Thermopl, 4 In., Yellow	Ft	894	\$ _____	\$ _____
8220.01	Pavt Mrkg, Thermopl, 12 In., Cross Hatching, White	Ft	54	\$ _____	\$ _____
8220.03	Pavt Mrkg, Thermopl, 12 In., Crosswalk	Ft	2,601	\$ _____	\$ _____
8220.06	Pavt Mrkg, Thermopl, 24 In., Stop Bar	Ft	403	\$ _____	\$ _____
8220.07	Pavt Mrkg, Thermopl, 4 In., For On-Street Parking, White	Ft	4,456	\$ _____	\$ _____
8220.09	Pavt Mrkg, Thermopl, Lt Turn Arrow Sym	Ea	3	\$ _____	\$ _____
8220.11	Pavt Mrkg, Thermopl, Rt Turn Arrow Sym	Ea	1	\$ _____	\$ _____
8220.14	Pavt Mrkg, Thermopl, Thru and Rt Turn Arrow Sym	Ea	1	\$ _____	\$ _____
8220.19	Pavt Mrkg, Thermopl, Only	Ea	1	\$ _____	\$ _____
8220.71	DS_Pavt Mrkg, Thermopl, Yield Triangle	Ea	20	\$ _____	\$ _____
8230.00	Pavt Mrkg, Preformed Thermopl, Accessible Sym	Ea	5	\$ _____	\$ _____
8240.71	DS_Pavt Mrkg, Waterborne, for Rest Areas, Parks, and Lots, 4 inch, Blue	Ft	383	\$ _____	\$ _____
8252.00	Recessing Pavt Mrkg, Transv	Sft	3,888	\$ _____	\$ _____
<b>TOTAL THIS PAGE</b>					\$ _____

<u>Item No.</u>	<u>Item Description</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
8300.73	DS_Bikeway Delineator Post Black	Ea	32	\$ _____	\$ _____
8300.71	DS_Monument Box, Adjust	Ea	2	\$ _____	\$ _____
8300.72	DS_Bikeway Delineator Post Yellow	Ea	11	\$ _____	\$ _____
8300.74	DS_Raised Device Delineator	Ea	54	\$ _____	\$ _____
10051.71	DS_Irrigation System, Allowance	Dlr	1	\$ 40,000	\$ _____
10060.00	Turf Restoration	Syd	3,354	\$ _____	\$ _____

TOTAL THIS PAGE \$ \_\_\_\_\_

TOTAL FROM PAGE 14 \$ \_\_\_\_\_

TOTAL FROM PAGE 15 \$ \_\_\_\_\_

TOTAL FROM PAGE 16 \$ \_\_\_\_\_

TOTAL FROM PAGE 17 \$ \_\_\_\_\_

TOTAL FROM PAGE 18 \$ \_\_\_\_\_

**TOTAL BASE BID \$ \_\_\_\_\_**

**F. AUTHORIZED NEGOTIATOR / NEGOTIATIBLE ELEMENTS (ALTERNATES)**

Include the name, phone number, and e-mail address of persons(s) in your organization authorized to negotiate the agreement with the City.

The proposal price shall include materials and equipment selected from the designated items and manufacturers listed in the bidding documents. This is done to establish uniformity in bidding and to establish standards of quality for the items named.

If the bidder wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered only as a negotiated change in Contract Sum.

If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-2, it is requested to stipulate its proposed time for performance of the work.

Consideration for any proposed alternative items or time may be negotiated at the discretion of the City.

**G. ATTACHMENTS**

General Declaration, Legal Status of Bidder, Conflict of Interest Form, Living Wage Compliance Form, Prevailing Wage Compliance Form and the Non-Discrimination Form should be completed and returned with the proposal. These elements should be included as attachments to the proposal submission.

**PROPOSAL EVALUATION**

1. The selection committee will evaluate each proposal by the above-described criteria and point system. The City reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested for evaluation. A proposal with all the requested information does not guarantee the proposing firm to be a candidate for an interview if interviews are selected to be held by the City. The committee may contact references to verify material submitted by the bidder.
2. The committee then will schedule interviews with the selected firms if necessary. The selected firms will be given the opportunity to discuss in more detail their qualifications, past experience, proposed work plan (if applicable) and pricing.
3. The interview should include the project team members expected to work on the project, but no more than six members total. The interview shall consist of a presentation of up to thirty minutes (or the length provided by the committee) by the



bidder, including the person who will be the project manager on this contract, followed by approximately thirty minutes of questions and answers. Audiovisual aids may be used during the oral interviews. The committee may record the oral interviews.

4. The firms interviewed will then be re-evaluated by the above criteria and adjustments to scoring will be made as appropriate. After evaluation of the proposals, further negotiation with the selected firm may be pursued leading to the award of a contract by City Council, if suitable proposals are received.

The City reserves the right to waive the interview process and evaluate the bidder based on their proposal and pricing schedules alone.

The City will determine whether the final scope of the project to be negotiated will be entirely as described in this RFP, a portion of the scope, or a revised scope.

Work to be done under this contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents.

Any proposal that does not conform fully to these instructions may be rejected.

## **PREPARATION OF PROPOSALS**

Proposals should have no plastic bindings but will not be rejected as non-responsive for being bound. Staples or binder clips are acceptable. Proposals should be printed double sided on recycled paper.

Each person signing the proposal certifies that they are a person in the bidder's firm/organization responsible for the decisions regarding the fees being offered in the Proposal and has not and will not participate in any action contrary to the terms of this provision.

## **ADDENDA**

If it becomes necessary to revise any part of the RFP, notice of the addendum will be posted to Michigan Inter-governmental Trade Network (MITN) [www.mitn.info](http://www.mitn.info) and/or the City of Ann Arbor web site [www.A2gov.org](http://www.A2gov.org) for all parties to download.

Each bidder should acknowledge in its proposal all addenda it has received on the General Declarations form provided in the Attachments section herein. The failure of a bidder to receive or acknowledge receipt of any addenda shall not relieve the bidder of the responsibility for complying with the terms thereof. The City will not be bound by oral responses to inquiries or written responses other than official written addenda.

## **SECTION IV - ATTACHMENTS**

Attachment A – Sample Standard Contract

Attachment B – General Declarations

Attachment C - Legal Status of Bidder

Attachment D – Prevailing Wage Declaration of Compliance Form

Attachment E – Living Wage Declaration of Compliance Form

Attachment F – Living Wage Ordinance Poster

Attachment G – Vendor Conflict of Interest Disclosure Form

Attachment H – Non-Discrimination Ordinance Declaration of Compliance Form

Attachment I – Non-Discrimination Ordinance Poster

Sample Certified Payroll Report Template

Detailed Specifications – DS-1 to DS-58

Appendix 1 – Geotechnical Report 2025 & 2026 Streets – APDX1 - 234

Wage Determination

Project Plans – Sheet 1 to 47

# ATTACHMENT A SAMPLE STANDARD CONTRACT

*If a contract is awarded, the selected contractor will be required to adhere to a set of general contract provisions which will become a part of any formal agreement. These provisions are general principles which apply to all contractors of service to the City of Ann Arbor such as the following:*

## CONTRACT

THIS CONTRACT is between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and \_\_\_\_\_  
\_\_\_\_\_ ("Contractor")

\_\_\_\_\_  
(An individual/partnership/corporation, include state of incorporation) (Address)

Based upon the mutual promises below, the Contractor and the City agree as follows:

### ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **[Insert Title of Bid and Bid Number]** in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, all of which are incorporated as part of this Contract:

Non-discrimination and Living Wage  
Declaration of Compliance Forms (if  
applicable)  
Vendor Conflict of Interest Form  
Prevailing Wage Declaration of  
Compliance Form (if applicable)  
Bid Forms  
Contract and Exhibits  
Bonds

General Conditions  
Standard Specifications  
Detailed Specifications  
Plans  
Addenda

### ARTICLE II - Definitions

**Administering Service Area/Unit** means **[Insert Name of Administering Service Unit]**

**Project** means **[Insert Title of Bid and Bid Number]**

**Supervising Professional** means the person acting under the authorization of the manager of the Administering Service Area/Unit. At the time this Contract is executed, the Supervising Professional is: **[Insert the person's name]** whose job title is **[Insert job**

**title].** If there is any question concerning who the Supervising Professional is, Contractor shall confirm with the manager of the Administering Service Area/Unit.

**Contractor's Representative** means \_\_\_\_\_ **[Insert name]** whose job title is **[Insert job title]**.

**ARTICLE III - Time of Completion**

- (A) The work to be completed under this Contract shall begin immediately on the date specified in the Notice to Proceed issued by the City.
- (B) The entire work for this Contract shall be completed by **November 14, 2025**.
- (C) Failure to complete all work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, an amount equal to **\$2,000.00** for each calendar day of delay in the completion of all the work. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

- (D) The term of this Contract shall extend until **June 30, 2026**, or until satisfactory performance of all services have been performed, whichever occurs first.
- (E) Subject to the availability of funding, the Contract may be extended for one one-year term, on the same terms and conditions, including unit prices, subject to agreement by the City and the Contractor and changes in the streets to be paved and completion date.

**ARTICLE IV - The Contract Sum**

- (A) The City shall pay to the Contractor for the performance of the Contract, the unit prices as given in the Bid Form for the estimated bid total of:

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

- (B) The amount paid shall be equitably adjusted to cover changes in the work ordered by the Supervising Professional but not required by the Contract Documents. Increases or decreases shall be determined only by written agreement between the City and Contractor.

**ARTICLE V - Assignment**

This Contract may not be assigned or subcontracted any portion of any right or obligation under this contract without the written consent of the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications,

indemnifications, promises and performances, however described, as are required of it under this contract unless specifically released from the requirement, in writing, by the City.

#### **ARTICLE VI - Choice of Law**

This Contract shall be construed, governed, and enforced in accordance with the laws of the State of Michigan. By executing this Contract, the Contractor and the City agree to venue in a court of appropriate jurisdiction sitting within Washtenaw County for purposes of any action arising under this Contract. The parties stipulate that the venue referenced in this Contract is for convenience and waive any claim of non-convenience.

Whenever possible, each provision of the Contract will be interpreted in a manner as to be effective and valid under applicable law. The prohibition or invalidity, under applicable law, of any provision will not invalidate the remainder of the Contract.

#### **ARTICLE VII - Relationship of the Parties**

The parties of the Contract agree that it is not a Contract of employment but is a Contract to accomplish a specific result. Contractor is an independent Contractor performing services for the City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

Contractor certifies that it has no personal or financial interest in the project other than the compensation it is to receive under the Contract. Contractor certifies that it is not, and shall not become, overdue or in default to the City for any Contract, debt, or any other obligation to the City including real or personal property taxes. City shall have the right to set off any such debt against compensation awarded for services under this Contract.

#### **ARTICLE VIII - Notice**

All notices given under this Contract shall be in writing, and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the Contract Documents or other address the Contractor may specify in writing. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; or (2) three days after mailing certified U.S. mail.

#### **ARTICLE IX - Indemnification**

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result, in whole or in part, from any act or omission, which is in any way connected or associated with this Contract, by the Contractor or anyone acting on the Contractor's behalf under this Contract. Contractor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. The provisions of this Article shall survive the expiration or earlier termination of this contract for any reason.

#### **ARTICLE X - Entire Agreement**

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations, negotiations, agreements, or understandings whether written or oral. Neither party has relied on any prior representations in entering into this Contract.

No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Contract, regardless of the other party's failure to object to such form. This Contract shall be binding on and shall inure to the benefit of the parties to this Contract and their permitted successors and permitted assigns and nothing in this Contract, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

#### **ARTICLE XI – Electronic Transactions**

The City and Contractor agree that signatures on this Contract may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this Contract. This Contract may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

[Signatures on next page]

***[INSERT CONTRACTOR NAME HERE]***

**CITY OF ANN ARBOR**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Name: Milton Dohoney Jr.

Title: City Administrator

Date: \_\_\_\_\_

**Approved as to substance:**

By: \_\_\_\_\_

Name: Sue McCormick

Title: Interim Public Services Area  
Administrator

Date: \_\_\_\_\_

**Approved as to form:**

By: \_\_\_\_\_

Name: Atleen Kaur

Title: City Attorney

Date: \_\_\_\_\_

*(Signatures continue on following page)*

**CITY OF ANN ARBOR**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: Mayor \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: City Clerk \_\_\_\_\_

Date: \_\_\_\_\_



**PERFORMANCE BOND**

- (1) \_\_\_\_\_ of \_\_\_\_\_ (referred to as "Principal"), and \_\_\_\_\_, a corporation duly authorized to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for \$ \_\_\_\_\_, the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City entitled \_\_\_\_\_, for RFP No. \_\_\_\_\_ and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq.
- (3) Whenever the Principal is declared by the City to be in default under the Contract, the Surety may promptly remedy the default or shall promptly:
- (a) complete the Contract in accordance with its terms and conditions; or
  - (b) obtain a bid or bids for submission to the City for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, arrange for a Contract between such bidder and the City, and make available, as work progresses, sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which Surety may be liable hereunder, the amount set forth in paragraph 1.
- (4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the Contract.
- (5) Surety agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying it shall in any way affect its obligations on this bond, and waives notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work, or to the specifications.
- (6) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_.

\_\_\_\_\_  
(Name of Surety Company)  
By \_\_\_\_\_  
(Signature)  
Its \_\_\_\_\_  
(Title of Office)

\_\_\_\_\_  
(Name of Principal)  
By \_\_\_\_\_  
(Signature)  
Its \_\_\_\_\_  
(Title of Office)

Approved as to form:

Name and address of agent:

\_\_\_\_\_  
Atleen Kaur, City Attorney

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## LABOR AND MATERIAL BOND

- (1) \_\_\_\_\_  
of \_\_\_\_\_ (referred to as "Principal"), and \_\_\_\_\_, a corporation duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of \$ \_\_\_\_\_, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City entitled \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_, for RFP No. \_\_\_\_\_; and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;
- (3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the Contract, the Surety shall pay those claimants.
- (4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.
- (5) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 202\_

\_\_\_\_\_  
(Name of Surety Company)  
By \_\_\_\_\_  
(Signature)  
Its \_\_\_\_\_  
(Title of Office)

\_\_\_\_\_  
(Name of Principal)  
By \_\_\_\_\_  
(Signature)  
Its \_\_\_\_\_  
(Title of Office)

Approved as to form:

\_\_\_\_\_

Atleen Kaur, City Attorney

Name and address of agent:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **GENERAL CONDITIONS**

### **Section 1 - Execution, Correlation and Intent of Documents**

The contract documents shall be signed in 2 copies by the City and the Contractor.

The contract documents are complementary and what is called for by any one shall be binding. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning have the meaning of those recognized standards.

In case of a conflict among the contract documents listed below in any requirement(s), the requirement(s) of the document listed first shall prevail over any conflicting requirement(s) of a document listed later.

(1) Addenda in reverse chronological order; (2) Detailed Specifications; (3) Standard Specifications; (4) Plans; (5) General Conditions; (6) Contract; (7) Bid Forms; (8) Bond Forms; (9) Bid.

### **Section 2 - Order of Completion**

The Contractor shall submit with each invoice, and at other times reasonably requested by the Supervising Professional, schedules showing the order in which the Contractor proposes to carry on the work. They shall include the dates at which the Contractor will start the several parts of the work, the estimated dates of completion of the several parts, and important milestones within the several parts.

### **Section 3 - Familiarity with Work**

The Bidder or its representative shall make personal investigations of the site of the work and of existing structures and shall determine to its own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved, and all other factors affecting the work proposed under this Contract. The Bidder to whom this Contract is awarded will not be entitled to any additional compensation unless conditions are clearly different from those which could reasonably have been anticipated by a person making diligent and thorough investigation of the site.

The Bidder shall immediately notify the City upon discovery, and in every case prior to submitting its Bid, of every error or omission in the bidding documents that would be identified by a reasonably competent, diligent Bidder. In no case will a Bidder be allowed the benefit of extra compensation or time to complete the work under this Contract for extra expenses or time spent as a result of the error or omission.

### **Section 4 - Wage Requirements**

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of

subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. A sample Prevailing Wage Form is provided in the Appendix herein for reference as to what will be expected from contractors. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

Where the Contract and the Ann Arbor City Ordinance are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used.

If the Contractor is a "covered employer" as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Contract a "living wage," as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Contract are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision covering subcontractor's employees who perform work on this contract.

## **Section 5 - Non-Discrimination**

The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of Title IX of the Ann Arbor City Code, and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.

## **Section 6 - Materials, Appliances, Employees**

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary or used for the execution and completion of the work. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of the highest quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among its employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned.

Adequate sanitary facilities shall be provided by the Contractor.

## **Section 7 - Qualifications for Employment**

The Contractor shall employ competent laborers and mechanics for the work under this Contract. For work performed under this Contract, employment preference shall be given to qualified local residents.

## **Section 8 - Royalties and Patents**

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringements of any patent rights and shall hold the City harmless from loss on account of infringement except that the City shall be responsible for all infringement loss when a particular process or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process or product is patented or is believed to be patented.

## **Section 9 - Permits and Regulations**

The Contractor must secure and pay for all permits, permit or plan review fees and licenses necessary for the prosecution of the work. These include but are not limited to City building permits, right-of-way permits, lane closure permits, right-of-way occupancy permits, and the like. The City shall secure and pay for easements shown on the plans unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance with those requirements, it shall promptly notify the Supervising Professional in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work.

## **Section 10 - Protection of the Public and of Work and Property**

The Contractor is responsible for the means, methods, sequences, techniques and procedures of construction and safety programs associated with the work contemplated by this contract. The Contractor, its agents or sub-contractors, shall comply with the "General Rules and Regulations for the Construction Industry" as published by the Construction Safety Commission of the State of Michigan and to all other local, State and National laws, ordinances, rules and regulations pertaining to safety of persons and property.

The Contractor shall take all necessary and reasonable precautions to protect the safety of the public. It shall continuously maintain adequate protection of all work from damage, and shall take all necessary and reasonable precautions to adequately protect all public and private property from injury or loss arising in connection with this Contract. It shall make good any damage, injury or loss to its work and to public and private property resulting from lack of reasonable protective precautions, except as may be due to errors in the contract documents, or caused by agents or

employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

In an emergency affecting the safety of life, or the work, or of adjoining property, the Contractor is, without special instructions or authorization from the Supervising Professional, permitted to act at its discretion to prevent the threatened loss or injury. It shall also so act, without appeal, if authorized or instructed by the Supervising Professional.

Any compensation claimed by the Contractor for emergency work shall be determined by agreement or in accordance with the terms of Claims for Extra Cost - Section 15.

## **Section 11 - Inspection of Work**

The City shall provide sufficient competent personnel for the inspection of the work.

The Supervising Professional shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for access and for inspection.

If the specifications, the Supervising Professional's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Supervising Professional timely notice of its readiness for inspection, and if the inspection is by an authority other than the Supervising Professional, of the date fixed for the inspection. Inspections by the Supervising Professional shall be made promptly, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Supervising Professional, it must, if required by the Supervising Professional, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Supervising Professional, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the contract documents, the Contractor shall pay the cost.

## **Section 12 - Superintendence**

The Contractor shall keep on the work site, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Supervising Professional. The superintendent will be responsible to perform all on-site project management for the Contractor. The superintendent shall be experienced in the work required for this Contract. The superintendent shall represent the Contractor and all direction given to the superintendent shall be binding as if given to the Contractor. Important directions shall immediately be confirmed in writing to the Contractor. Other directions will be confirmed on written request. The Contractor shall give efficient superintendence to the work, using its best skill and attention.

## **Section 13 - Changes in the Work**

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be

executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

In giving instructions, the Supervising Professional shall have authority to make minor changes in the work not involving extra cost and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Supervising Professional, and no claim for an addition to the Contract Sum shall be valid unless the additional work was ordered in writing.

The Contractor shall proceed with the work as changed and the value of the work shall be determined as provided in Claims for Extra Cost - Section 15.

## **Section 14 - Extension of Time**

Extension of time stipulated in the Contract for completion of the work will be made if and as the Supervising Professional may deem proper under any of the following circumstances:

- (1) When work under an extra work order is added to the work under this Contract;
- (2) When the work is suspended as provided in Section 20;
- (3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;
- (4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;
- (5) Delay due to an act of Government;
- (6) Delay by the Supervising Professional in the furnishing of plans and necessary information;
- (7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

The Contractor shall notify the Supervising Professional within 7 days of an occurrence or conditions which, in the Contractor's opinion, entitle it to an extension of time. The notice shall be in writing and submitted in ample time to permit full investigation and evaluation of the Contractor's claim. The Supervising Professional shall acknowledge receipt of the Contractor's notice within 7 days of its receipt. Failure to timely provide the written notice shall constitute a waiver by the Contractor of any claim.

In situations where an extension of time in contract completion is appropriate under this or any other section of the contract, the Contractor understands and agrees that the only available adjustment for events that cause any delays in contract completion shall be extension of the required time for contract completion and that there shall be no adjustments in the money due the Contractor on account of the delay.



## Section 15 - Claims for Extra Cost

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section I3. No claim shall be valid unless so made.

If the Supervising Professional orders, in writing, the performance of any work not covered by the contract documents, and for which no item of work is provided in the Contract, and for which no unit price or lump sum basis can be agreed upon, then the extra work shall be done on a Cost-Plus-Percentage basis of payment as follows:

- (1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;
- (2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;
- (3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility;
- (4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;
- (5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

No additional compensation will be provided for additional equipment, materials, personnel, overtime or special charges required to perform the work within the time requirements of the Contract.

When extra work is required and no suitable price for machinery and equipment can be determined in accordance with this Section, the hourly rate paid shall be 1/40 of the basic weekly rate listed in the Rental Rate Blue Book published by Dataquest Incorporated and applicable to the time period the equipment was first used for the extra work. The hourly rate will be deemed to include all costs of operation such as bucket or blade, fuel, maintenance, "regional factors", insurance, taxes, and the like, but not the costs of the operator.

## **Section 16 - Progress Payments**

The Contractor shall submit each month, or at longer intervals, if it so desires, an invoice covering work performed for which it believes payment, under the Contract terms, is due. The submission shall be to the City's Finance Department - Accounting Division. The Supervising Professional will, within 10 days following submission of the invoice, prepare a certificate for payment for the work in an amount to be determined by the Supervising Professional as fairly representing the acceptable work performed during the period covered by the Contractor's invoice. To insure the proper performance of this Contract, the City will retain a percentage of the estimate in accordance with Act 524, Public Acts of 1980. The City will then, following the receipt of the Supervising Professional's Certificate, make payment to the Contractor as soon as feasible, which is anticipated will be within 15 days.

An allowance may be made in progress payments if substantial quantities of permanent material have been delivered to the site but not incorporated in the completed work if the Contractor, in the opinion of the Supervising Professional, is diligently pursuing the work under this Contract. Such materials shall be properly stored and adequately protected. Allowance in the estimate shall be at the invoice price value of the items. Notwithstanding any payment of any allowance, all risk of loss due to vandalism or any damages to the stored materials remains with the Contractor.

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than 180 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

With each invoice for periodic payment, the Contractor shall enclose a Contractor's Declaration - Section 43, and an updated project schedule per Order of Completion - Section 2.

## **Section 17 - Deductions for Uncorrected Work**

If the Supervising Professional decides it is inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

## **Section 18 - Correction of Work Before Final Payment**

The Contractor shall promptly remove from the premises all materials condemned by the Supervising Professional as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by the removal or replacement.

If the Contractor does not remove the condemned work and materials within 10 days after written notice, the City may remove them and, if the removed material has value, may store the material

at the expense of the Contractor. If the Contractor does not pay the expense of the removal within 10 days thereafter, the City may, upon 10 days written notice, sell the removed materials at auction or private sale and shall pay to the Contractor the net proceeds, after deducting all costs and expenses that should have been borne by the Contractor. If the removed material has no value, the Contractor must pay the City the expenses for disposal within 10 days of invoice for the disposal costs.

The inspection or lack of inspection of any material or work pertaining to this Contract shall not relieve the Contractor of its obligation to fulfill this Contract and defective work shall be made good. Unsuitable materials may be rejected by the Supervising Professional notwithstanding that the work and materials have been previously overlooked by the Supervising Professional and accepted or estimated for payment or paid for. If the work or any part shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good the defect in a manner satisfactory to the Supervising Professional. The judgment and the decision of the Supervising Professional as to whether the materials supplied and the work done under this Contract comply with the requirements of the Contract shall be conclusive and final.

## **Section 19 - Acceptance and Final Payment**

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Supervising Professional will promptly make the inspection. When the Supervising Professional finds the work acceptable under the Contract and the Contract fully performed, the Supervising Professional will promptly sign and issue a final certificate stating that the work required by this Contract has been completed and is accepted by the City under the terms and conditions of the Contract. The entire balance found to be due the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of the final certificate.

Before issuance of final certificates, the Contractor shall file with the City:

- (1) The consent of the surety to payment of the final estimate;
- (2) The Contractor's Affidavit in the form required by Section 44.

In case the Affidavit or consent is not furnished, the City may retain out of any amount due the Contractor, sums sufficient to cover all lienable claims.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City except those arising from:

- (1) unsettled liens;
- (2) faulty work appearing within 12 months after final payment;
- (3) hidden defects in meeting the requirements of the plans and specifications;
- (4) manufacturer's guarantees.

It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

## **Section 20 - Suspension of Work**

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the

written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

If the work, or any part, shall be stopped by the notice in writing, and if the City does not give notice in writing to the Contractor to resume work at a date within 90 days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work suspended and will be entitled to the estimates and payments for all work done on the portions abandoned, if any, plus 10% of the value of the work abandoned, to compensate for loss of overhead, plant expense, and anticipated profit.

## **Section 21 - Delays and the City's Right to Terminate Contract**

If the Contractor refuses or fails to prosecute the work, or any separate part of it, with the diligence required to insure completion, ready for operation, within the allowable number of consecutive calendar days specified plus extensions, or fails to complete the work within the required time, the City may, by written notice to the Contractor, terminate its right to proceed with the work or any part of the work as to which there has been delay. After providing the notice the City may take over the work and prosecute it to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any excess cost to the City. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the work, any materials, appliances and plant as may be on the site of the work and useful for completing the work. The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages where an extension of time is granted under Extension of Time - Section 14.

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

## **Section 22 - Contractor's Right to Terminate Contract**

If the work should be stopped under an order of any court, or other public authority, for a period of 3 months, through no act or fault of the Contractor or of anyone employed by it, then the Contractor may, upon 7 days written notice to the City, terminate this Contract and recover from the City payment for all acceptable work executed plus reasonable profit.

## **Section 23 - City's Right To Do Work**

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the City, 3 days after giving written notice to the Contractor and its surety may, without prejudice to any other remedy the City may have, make good the deficiencies and may deduct the cost from the payment due to the Contractor.

## **Section 24 - Removal of Equipment and Supplies**

In case of termination of this Contract before completion, from any or no cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of its equipment and supplies from the property of the City, failing which the City shall have the right to remove the equipment and supplies at the expense of the Contractor.

The removed equipment and supplies may be stored by the City and, if all costs of removal and storage are not paid by the Contractor within 10 days of invoicing, the City upon 10 days written notice may sell the equipment and supplies at auction or private sale, and shall pay the Contractor the net proceeds after deducting all costs and expenses that should have been borne by the Contractor and after deducting all amounts claimed due by any lien holder of the equipment or supplies.

## **Section 25 - Responsibility for Work and Warranties**

The Contractor assumes full responsibility for any and all materials and equipment used in the construction of the work and may not make claims against the City for damages to materials and equipment from any cause except negligence or willful act of the City. Until its final acceptance, the Contractor shall be responsible for damage to or destruction of the project (except for any part covered by Partial Completion and Acceptance - Section 26). The Contractor shall make good all work damaged or destroyed before acceptance. All risk of loss remains with the Contractor until final acceptance of the work (Section 19) or partial acceptance (Section 26). The Contractor is advised to investigate obtaining its own builders risk insurance.

The Contractor shall guarantee the quality of the work for a period of one year. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of one year. At the end of one year after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. The Contractor shall assign all manufacturer or material supplier warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

## **Section 26 - Partial Completion and Acceptance**

If at any time prior to the issuance of the final certificate referred to in Acceptance and Final Payment - Section 19, any portion of the permanent construction has been satisfactorily completed, and if the Supervising Professional determines that portion of the permanent construction is not required for the operations of the Contractor but is needed by the City, the Supervising Professional shall issue to the Contractor a certificate of partial completion, and immediately the City may take over and use the portion of the permanent construction described in the certificate, and exclude the Contractor from that portion.

The issuance of a certificate of partial completion shall not constitute an extension of the Contractor's time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. The issuance of the certificate shall not release the Contractor or its sureties from any obligations under this Contract including bonds.

If prior use increases the cost of, or delays the work, the Contractor shall be entitled to extra compensation, or extension of time, or both, as the Supervising Professional may determine.

## **Section 27 - Payments Withheld Prior to Final Acceptance of Work**

The City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to the extent reasonably appropriate to protect the City from loss on account of:

- (1) Defective work not remedied;
- (2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;
- (3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- (4) Damage to another Contractor.

When the above grounds are removed or the Contractor provides a Surety Bond satisfactory to the City which will protect the City in the amount withheld, payment shall be made for amounts withheld under this section.

## **Section 28 - Contractor's Insurance**

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of

policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

- (a) Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

- Bodily Injury by Accident - \$500,000 each accident
  - Bodily Injury by Disease - \$500,000 each employee
  - Bodily Injury by Disease - \$500,000 each policy limit

- (b) Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 04 13 or current equivalent. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements specifically for the following coverages: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further there shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. The following minimum limits of liability are required:

- \$1,000,000 Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
  - \$2,000,000 Per Project General Aggregate
  - \$1,000,000 Personal and Advertising Injury
  - \$2,000,000 Products and Completed Operations Aggregate, which, notwithstanding anything to the contrary herein, shall be maintained for three years from the date the Project is completed.

- (c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

- (d) Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.

- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute

with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.

- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- (4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

## **Section 29 - Surety Bonds**

Bonds will be required from the successful bidder as follows:

- (1) A Performance Bond to the City of Ann Arbor for the amount of the bid(s) accepted;
- (2) A Labor and Material Bond to the City of Ann Arbor for the amount of the bid(s) accepted.

Bonds shall be executed on forms supplied by the City in a manner and by a Surety Company authorized to transact business in Michigan and satisfactory to the City Attorney.

## **Section 30 - Damage Claims**

The Contractor shall be held responsible for all damages to property of the City or others, caused by or resulting from the negligence of the Contractor, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. The Contractor must restore all property injured including sidewalks, curbing, sodding, pipes, conduit, sewers or other public or private property to not less than its original condition with new work.



## **Section 31 - Refusal to Obey Instructions**

If the Contractor refuses to obey the instructions of the Supervising Professional, the Supervising Professional shall withdraw inspection from the work, and no payments will be made for work performed thereafter nor may work be performed thereafter until the Supervising Professional shall have again authorized the work to proceed.

## **Section 32 - Assignment**

Neither party to the Contract shall assign the Contract without the written consent of the other. The Contractor may assign any monies due to it to a third party acceptable to the City.

## **Section 33 - Rights of Various Interests**

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Supervising Professional, to secure the completion of the various portions of the work in general harmony.

The Contractor is responsible to coordinate all aspects of the work, including coordination of, and with, utility companies and other contractors whose work impacts this project.

## **Section 34 - Subcontracts**

The Contractor shall not award any work to any subcontractor without prior written approval of the City. The approval will not be given until the Contractor submits to the City a written statement concerning the proposed award to the subcontractor. The statement shall contain all information the City may require.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and all other contract documents applicable to the work of the subcontractors and to give the Contractor the same power to terminate any subcontract that the City may exercise over the Contractor under any provision of the contract documents.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

## **Section 35 - Supervising Professional's Status**

The Supervising Professional has the right to inspect any or all work. The Supervising Professional has authority to stop the work whenever stoppage may be appropriate to insure the proper execution of the Contract. The Supervising Professional has the authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

The Supervising Professional shall make all measurements and determinations of quantities. Those measurements and determinations are final and conclusive between the parties.

## **Section 36 - Supervising Professional's Decisions**

The Supervising Professional shall, within a reasonable time after their presentation to the Supervising Professional, make decisions in writing on all claims of the City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the contract documents.

## **Section 37 - Storing Materials and Supplies**

Materials and supplies may be stored at the site of the work at locations agreeable to the City unless specific exception is listed elsewhere in these documents. Ample way for foot traffic and drainage must be provided, and gutters must, at all times, be kept free from obstruction. Traffic on streets shall be interfered with as little as possible. The Contractor may not enter or occupy with agents, employees, tools, or material any private property without first obtaining written permission from its owner. A copy of the permission shall be furnished to the Supervising Professional.

## **Section 38 - Lands for Work**

The Contractor shall provide, at its own expense and without liability to the City, any additional land and access that may be required for temporary construction facilities or for storage of materials.

## **Section 39 - Cleaning Up**

The Contractor shall, as directed by the Supervising Professional, remove at its own expense from the City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from its operations unless otherwise specifically approved, in writing, by the Supervising Professional.

## **Section 40 - Salvage**

The Supervising Professional may designate for salvage any materials from existing structures or underground services. Materials so designated remain City property and shall be transported or stored at a location as the Supervising Professional may direct.

## **Section 41 - Night, Saturday or Sunday Work**

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

## **Section 42 - Sales Taxes**

Under State law the City is exempt from the assessment of State Sales Tax on its direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation in City projects are not likewise exempt. State Law shall prevail. The Bidder shall familiarize itself with the State Law and prepare its Bid accordingly. No extra payment will be allowed under this Contract for failure of the Contractor to make proper allowance in this bid for taxes it must pay.

**Section 43**

**CONTRACTOR'S DECLARATION**

I hereby declare that I have not, during the period \_\_\_\_\_, 20\_\_\_, to \_\_\_\_\_, 20\_\_\_, performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled \_\_\_\_\_, for which I shall ask, demand, sue for, or claim compensation or extension of time from the City, except as I hereby make claim for additional compensation or extension of time as set forth on the attached itemized statement. I further declare that I have paid all payroll obligations related to this Contract that have become due during the above period and that all invoices related to this Contract received more than 30 days prior to this declaration have been paid in full except as listed below.

There is/is not (Contractor please circle one and strike one as appropriate) an itemized statement attached regarding a request for additional compensation or extension of time.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Past due invoices, if any, are listed below.

**Section 44**

**CONTRACTOR'S AFFIDAVIT**

The undersigned Contractor, \_\_\_\_\_, represents that on \_\_\_\_\_, 20\_\_\_\_, it was awarded a contract by the City of Ann Arbor, Michigan to \_\_\_\_\_ under the terms and conditions of a Contract titled \_\_\_\_\_. The Contractor represents that all work has now been accomplished and the Contract is complete.

The Contractor warrants and certifies that all of its indebtedness arising by reason of the Contract has been fully paid or satisfactorily secured; and that all claims from subcontractors and others for labor and material used in accomplishing the project, as well as all other claims arising from the performance of the Contract, have been fully paid or satisfactorily settled. The Contractor agrees that, if any claim should hereafter arise, it shall assume responsibility for it immediately upon request to do so by the City of Ann Arbor.

The Contractor, for valuable consideration received, does further waive, release and relinquish any and all claims or right of lien which the Contractor now has or may acquire upon the subject premises for labor and material used in the project owned by the City of Ann Arbor.

This affidavit is freely and voluntarily given with full knowledge of the facts.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Subscribed and sworn to before me, on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_ County, Michigan

Notary Public

\_\_\_\_\_ County, MI

My commission expires on:

## **STANDARD SPECIFICATIONS**

All work under this contract shall be performed in accordance with the Public Services department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Bid. All work under this Contract which is not included in these Standard Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Detailed Specifications included in these contract documents. In the event that work under this Contract is not included in the Standard Specifications nor the Detailed Specifications, work shall be performed in accordance with the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction; the Michigan Manual of Uniform Traffic Control Devices (MMUTCD); and the MDOT Pavement Marking Standards, Pavement Marking Convoy Typical, and Non-Freeway Maintaining Traffic Typical, which are in effect at the date of availability of the contract documents stipulated in the Bid.

Standard Specifications are available online:

<https://www.a2gov.org/departments/engineering/Pages/Engineering-and-Contractor-Resources.aspx>

The Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction are available online:

<https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm>

The MMUTCD is available online:

<https://mdotjboss.state.mi.us/TSSD/getCategoryDocuments.htm?categoryPrjNumbers=1403854,1403855&category=MMUTCD>

The MDOT Pavement Marking Standards are available online:

<https://mdotjboss.state.mi.us/TSSD/getCategoryDocuments.htm?categoryPrjNumbers=1403856,1403857,1403858,2677852,2677853,2668204,2668206&category=Pavement%20Markings>

The MDOT Pavement Marking Convoy Typical are available online:

[https://mdotjboss.state.mi.us/TSSD/getSubCategoryDocuments.htm?prjNumber=1403857&category=Pavement%20Markings&subCategory=Convoy%20Typical&subCategoryIndex=subcat1\\_Pavement%20Markings&categoryPrjNumbers=1403856,1403857,1403858,2677852,2668204,1403859,2677853,1403860,2668206](https://mdotjboss.state.mi.us/TSSD/getSubCategoryDocuments.htm?prjNumber=1403857&category=Pavement%20Markings&subCategory=Convoy%20Typical&subCategoryIndex=subcat1_Pavement%20Markings&categoryPrjNumbers=1403856,1403857,1403858,2677852,2668204,1403859,2677853,1403860,2668206)

The MDOT Non-Freeway Maintaining Traffic Typical are available:

<https://mdotjboss.state.mi.us/TSSD/getSubCategoryDocuments.htm?prjNumber=1403892&category=Work%20Zones&subCategory=Maintaining%20Traffic%20Typical%20>

## DETAILED SPECIFICATIONS

<u>Title</u>	<u>No. of Pages</u>	<u>DS Page No.</u>
Project Schedule	3	2
Vacuum Type Cleaning	1	5
Mailbox, Removal, Relocate, and Reinstall	1	6
Permanent Traffic Signs and Supports	1	7
Temporary Pedestrian Access Route (TPAR) Facilities	3	8
Tree Trimming Allowance	1	11
Cold Milling, Plunge Cut	1	12
Removing HMA around Structure Covers	1	13
Cold Milling for Concrete Curb and Gutter Reveal	1	14
Grading Roadway	2	16
Grading, Sidewalk, Ramp & Driveway Approach	1	17
Subgrade Undercutting and Geotech	2	19
Structure Cover Adjustments	3	21
Structure Covers	2	24
Drainage and Utility Structures	1	26
Drainage and Utility Structure Reconstruction	3	27
Aggregate Base Course, 21AA, CIP	1	30
Concrete Sidewalk	2	31
Flowable Fill	1	33
Acceptance of HMA Mixtures	7	34
HMA Paving	3	41
HMA Soil Erosion Wedge	1	44
HMA Wedging	1	45
Shared Use Path Grading	1	46
Sidewalk Retaining Walls	4	47
Composite Pavement Joint Cleaning	2	51
Polymer Cement Pavement Marking	3	53
Pavement Marking Special	1	56
Bikeway Delineator Post	1	57
Protecting and Preserving Irrigation System, Allowance	1	58

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**PROJECT SCHEDULE**

AA:NSH/NJB/AMW

1 of 3

01/15/2025

Complete the entirety of work under this Contract in accordance with, and subject to, the scheduling requirements as outlined below, and all other requirements of the Contract Documents.

Organize, coordinate, and thoroughly execute the work at the locations shown on the Schedule of Streets included herein. The schedule details the requirements, if any, for the Start of Work (on or after dates specified), and the Completion of Work (on or before dates specified).

For this Contract, the “Start of Work” definition is the date when the temporary “No-Parking” signs become effective, and all required temporary traffic control and SESC measures are in place and ready for use.

For this Contract, the “Completion of Work” definition is the date when the city will consider individual streets or phases to be open to traffic which requires all structures covers are raised to finished grade and permanent pavement markings are in place.

The Contractor is required within 10 days of opening the street to traffic to complete the following, which includes, but is not limited to: turf restoration, clean-up, street cleaning, utility structure cleaning, removal of all temporary traffic control, SESC devices, temporary “No Parking” signs, and other work as directed by the PSAA.

Failure to complete work in a timely manner may result in the suspension of active project work or a delay in starting subsequently planned project work.

No work shall be performed during City Observed Holidays and effected weekends as follows, unless approved three (3) days in advance by the PSAA:

- Memorial Day, from 3:00 p.m. Friday May 23, 2025, through 7:00 a.m. Tuesday May 27, 2025
- Juneteenth, Thursday, June 19, 2025
- Fourth of July, from 3:00 p.m. Thursday July 3, 2025, through 7:00 a.m. Monday, July 7, 2025
- Labor Day, from 3:00 p.m. Friday August 29, 2025, through 7:00 a.m. Tuesday September 2, 2025
- Indigenous Peoples Day, Monday, October 13, 2025
- Veterans Day, Tuesday, November 11, 2025
- Thanksgiving, from 3:00 p.m. Wednesday November 26, 2025, through 7:00 a.m. Monday, December 1, 2025

No work shall be performed the day of, or the day prior, to scheduled University of Michigan home football games, unless approved three (3) days in advance by the PSAA.

The PSAA shall limit the Contractor's work operations to **no more than four (4) streets under construction** at a given time. This is to provide reasonable limits for proper and thorough inspection, and to limit traffic control and/or safety concerns. The Contractor shall not have more than **four (4) operations occurring simultaneously** at all locations during any workday unless approved the PSAA.

The City expects to furnish the Contractor the Contract, for its execution, on or before **April 4, 2025**. The Contractor shall properly execute the Contract digitally, provide the required Bonds and Insurance documentation, to the City. The Contractor shall not begin the work before the applicable date(s) as



described herein without approval from the Project PSAA, and in no case before the receipt of the fully executed Contract and Notice to Proceed.

By no later than **April 7, 2025**, the Contractor shall submit a detailed schedule of work, **Progress Schedule**, for the PSAA's review and approval. The progress schedule must meet the mile-stone dates for the specific streets below, and cover all the work areas by the Project Completion date. The Contractor shall then provide a detailed schedule clearly indicating, the start and the finish date of each work task on each street.

The Contractor shall update the progress schedule each week detailing the work taking place on each of the streets over the next two-week period. PSAA shall have an opportunity to review and approve the schedule in terms of, deviations from the most current, approved schedule, prior to the weekly progress meeting.

The Contractor shall begin the work of this project on or after **April 7, 2025**, and only upon receipt of the fully executed Contract, Notice to Proceed and approved Progress Schedule.

Streets with milestone, required coordination and completion dates:

**S. University Ave** construction cannot begin until **May 6, 2025**, and be completed by **June 30, 2025**. S. University Ave shall be completed, including but not limited to turf restoration, clean-up, street cleaning, utility structure cleaning, removal of all temporary traffic control, SESC devices, temporary "No Parking" signs, and other work as directed by the PSAA.

**Arella Blvd, Bird Rd, Henry St, Mershon Dr and Worden Ave** locations must be completed in their entirety by **June 30, 2025**.

**S. Fifth Ave** construction requires coordination with the 2025 Miscellaneous Utility Project. Resurfacing Program Contractor will place and maintain detour for duration of the utility project. Once notification of utility work is complete the Contractor is required to start mobilizing within five (5) days. All work on S. Fifth Ave shall be completed, including but not limited to; turf restoration, clean-up, street cleaning, utility structure cleaning, removal of all temporary traffic control, SESC devices, temporary "No Parking" signs, and other work as directed by the PSAA by **July 3, 2025**.

**E. Ann St** construction cannot begin until the E. Medical Center Dr Bridge Project is complete, anticipated in late June. Coordination will be required with the University of Michigan. All work on E. Ann St shall be completed, including but not limited to; turf restoration, clean-up, street cleaning, utility structure cleaning, removal of all temporary traffic control, SESC devices, temporary "No Parking" signs, and other work as directed by the PSAA by **August 15, 2025**.

**Project Completion Date** of all other streets, work and phases, in their entirety, not listed above should be on or before **November 17, 2025**. Completion of the project means all locations shown on the Schedule of Streets are complete and ready for use in accordance with the "Completion of Work" as defined above.

Final acceptance of Turf Restoration will occur no sooner than **June 15, 2026**; the year after the area was planted.

Failure to open to traffic or complete all work as specified within the times specified, including time extensions granted thereto as determined by the PSAA, shall entitle the City to deduct dollar amounts

specified as "Liquidated Damages" from the payments due the Contractor. **Liquidated damages of \$2,000 per calendar day** will be assessed per street for any streets not completed on time.

Time is of the essence in the performance of the work of this contract. The Contractor is expected to mobilize sufficient personnel, crews, equipment and work throughout all authorized hours to complete the project by the intermediate (location specific) and final completion dates. Should the Contractor demonstrate that they must work on Sundays to maintain the project schedule, they may do so between the hours of 9:00 a.m. and 5:00 p.m. with prior approval from the City. There will be no additional compensation due to the Contractor for work performed on Sundays. Any requests to work Sundays must be made to the PSAA no later than the prior Thursday.

The PSAA may delay or stop the work due to threatening weather conditions. No compensation shall be due the Contractor for unused materials or downtime due to rain, or the threat of rain. The Contractor is solely responsible for repairing all damage to the work and to the site, including any City infrastructure, and any adjacent properties resulting from its decision to work in the rain.

The Contractor shall not work in the dark except as approved by the PSAA and shall provide lighting for night work as required by the Michigan Department of Transportation, Construction Specification and City of Ann Arbor Standard Specifications. The PSAA may stop work or may require the Contractor to defer certain work to another day, if, in the PSAA's opinion, the Contractor cannot be complete the work within the remaining daylight hours, or if inadequate daylight is present to properly perform or inspect the work. No compensation shall be due to the Contractor for unused materials or downtime, when the PSAA directs work stoppage for reasons due to darkness and/or inadequate remaining daylight. The Contractor is solely responsible for repairing all damages to the work and to the site, including any City infrastructure, and any adjacent properties, which result from working in the dark.

Assessment of Liquidated Damages will occur until the required work is complete in the current construction season. If, with the PSAA's approval, work on any individual street extends beyond seasonal limitations, the assessment of Liquidated Damages will discontinue until the work resumes in the following construction season.

If the construction contract is not complete within the specified period(s) including any extensions of time granted thereto, at the sole discretion of the City of Ann Arbor it may terminate the Contract. Should this occur, no additional compensation will be due to the Contractor, and the Contractor may be forbidden to bid on future City of Ann Arbor projects for a period of at least three (3) years. If the PSAA elects to terminate the Contract, payment for contract items with a Lump Sum unit price will be up to a maximum amount equal to the percentage of the contract work that is complete at the time of termination.

The City's decision to delete streets, add streets, change the construction limits on streets, or, the City's contribution to a delay of the construction on any one street shall not entitle the Contractor to receive additional compensation for work on any other street(s) or phase(s), nor shall it relieve the Contractor of any responsibilities for completion of work on any other street(s) or phase(s).

Include any/all efforts to organize, coordinate, and schedule the project work in the contract unit price bid for the pay item **General Conditions, Max \$\_\_\_\_\_**.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**VACUUM TYPE CLEANING**

AA:DAD/AMW

1 of 1

01/17/2024

- a. **Description.** This work includes furnishing and operating, throughout the construction period, vacuum type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the PSAA, as and when directed by the PSAA for dust control, for dirt/debris control, and for street cleaning immediately prior to paving, and for street and utility structure cleaning after all paving.
  
- b. **Materials.** None specified.
  
- c. **Construction.** The Contractor shall furnish and operate throughout the construction period, vacuum type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the PSAA. When directed by the PSAA, the Contract shall use this equipment to control dust, dirt, and other debris within the project limits and beyond as required, to clean streets surfaces immediately prior to placing HMA pavement mixtures, and for street and utility structure cleaning after any and all paving. The cleaning equipment shall be of sufficient power to remove dust, dirt, and debris from the pavement and from utility structures in and adjacent to the construction area.
  
- d. **Measurement and Payment.** Measurement and pay for this item of work, as described, at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Vacuum Type Cleaning, Max \$_____	Lump Sum

“DS\_Vacuum Type Cleaning, Max \$\_\_\_\_\_” will be paid on a pro-rata basis at the time of each progress payment. Measurement will be based on the ratio between work completed during the payment period and the total contract amount. When all the work of this Contract has been completed, the measurement of this item shall be 1.0 Lump Sum, minus any deductions incurred for inadequate performance as allowed by the contract. This amount will not be increased for any reason, including, but not limited to, extensions of time, agreed-upon extra costs, additional work added to the contract, adjustments to unit prices, and all similar additions to the contract.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**MAILBOX, REMOVAL, RELOCATE, AND REINSTALL**

AA: AMW

1 of 1

11/14/2024

**a. Description.** The work will consist of removing existing mailbox, relocate to a temporary location during construction, and reinstalling mailbox at permanent location identified by the PSAA and in accordance with the City of Ann Arbors Standard Specifications.

**b. Materials.** None specified.

**c. Construction.** Prior to removal, photograph, and document the existing layout of the mailbox. Document the location, spacing, and sizes of all connection hardware and duplicate with new or salvaged hardware at temporary location and permanent location.

Remove existing mailbox and take care not to damage any part of the unit. Relocate and install as directed by the PSAA at the identified temporary location, in accordance with the City of Ann Arbors Standard Specifications.

Once construction is complete remove mailbox from the temporary location, again taking care not to damage the unit. Reinstall in the permanent location identified by the PSAA and is in accordance with the City of Ann Arbors Standard Specifications.

Remove and dispose of all waste materials associated with this item of work.

**d. Measurement and Payment.** Measurement and pay for this item of work, as described, at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Mailbox, Rem, Temp Relocate & Reinstall.....	Each

“**DS\_Mailbox, Rem, Temp Relocate & Reinstall**” includes all material determined necessary to remove, relocate and reinstall the mailbox for both the temporary location and the permanent location.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**PERMANENT TRAFFIC SIGNS AND SUPPORTS**

AA: NJB

1 of 1

01/14/2025

**a. Description.** This work consists of furnishing permanent traffic signs and supports in accordance with the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, as shown on the plans, and as specified herein.

**b. Materials.** The Contractor shall furnish materials in accordance with the following sections of the Michigan Department of Transportation Standard Specifications for Construction, except where otherwise noted below:

Anchor bolts, nuts, and washers – materials as specified in section 908

Band, Sign – materials as specified in sections 908 and 919

Sign, Type IIIB – materials as specified in section 919

The following materials shall be Unistrut or approved equal and shall include the following:

1. Post: exterior dimensions measure 2" x 2" square x 10', 14 gauge with 7/16" pre-punched holes, corner welded. Square tubing to allow for mounting on all four sides. Steel to conform to ASTM A1011 Grade 50, galvanizing to meet ASTM A-653. Must be able to mount signs with drive rivets to provide tamper resistance. Provide a smooth unbroken appearance for posts and anchors. Inline zinc coating to comply with AASHTO M-120 standard. Breakaway installation to meet FHWA approval standard.
2. Anchor: interior dimensions measure 2" x 2" square x 3', galvanized, 12 Gauge sleeve, with two sets of 7/16" holes at the centerline, to allow for post to be rivetted.

**c. Construction.** The contractor shall furnish all new signs and install all signs, include those which a identified on the plans as remove, salvage and re-install with existing support.

Anchor section is to be driven into the ground pneumatically such that it does not mar the top. Anchor section to protrude from the finish surface by 3". Post to slot into the anchor section and extend down into the anchor section by 8-12". Fastened the post to the anchor section with 2 ea rivets.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the respective contract unit prices using the following pay item:

Pay Item	Pay Unit
DS_Band, Sign.....	Each
DS_Sign, Type IIIB.....	Square Foot
DS_Perforated Steel Square Tube Breakaway System.....	Each

Payment for permanent traffic signs and supports includes all labor, material, and equipment required for furnishing and install signs as shown on the plans and as specified herein.

Payment for bases, posts, and mounting hardware shall not be paid for separately but shall be included in the corresponding pay item(s).

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FACILITIES**

AA:NJB

1 of 3

1/22/25

**a. Description.** This work consists of furnishing, installing, maintaining, relocating, and removing temporary pedestrian ramps, mats, and channelizers as identified in the proposal or on the plans. Use TPAR facilities to facilitate pedestrian travel on accessible facilities over curbs or other uneven terrain features with a vertical difference of 1/2 inch or greater. Damaged pedestrian facilities will be replaced as directed by the PSAA.

**b. Materials.**

Temporary Pedestrian Ramp: Provide materials to construct a temporary pedestrian ramp in accordance with the *Americans with Disabilities Act (ADA)*, the standard specifications, and the following:

- i. Ensure the material used to construct the temporary pedestrian ramp is firm, stable, skid resistant, and forms a continuous hard surface. Ensure the surface does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials to construct the surface of the ramp include asphalt materials, Oriented Strand Board (OSB) or plywood, dimensional lumber, certain reclaimed or other materials as approved by the Engineer. Compacted soils, aggregate and sand are prohibited.
- ii. Provide a handrail on both sides of the ramp if the ramp is not exposed to vehicle traffic and has a total rise greater than 6 inches, and a length greater than 72 inches. Ensure the handrail is between 1.25 and 1.5 inches wide and configured to be a “graspable” cross-section. See construction subsection 2.A for additional details. When the ramp is exposed to traffic, in lieu of handrails, use a protective edge 2.5 inches minimum height above the ramp surface or 1:10 flare on both sides of the ramp.
- iii. Ensure the surface of the ramp is free draining; in addition provide features that allow drainage to move past the ramp installation (i.e. along the gutter pan underneath the ramp if the ramp is installed on a curb).
- iv. Provide materials to construct detectable edging along open sides of the ramp if required.
- v. If asphalt materials are not used to construct the surface of the ramp, provide an antiskid coating or surface treatment approved by the Engineer.

Temporary Pedestrian Mat: Provide materials for a temporary pedestrian mat in accordance with the *Americans with Disabilities Act (ADA)*, the standard specifications, and the following:

- i. Ensure the material used for the temporary pedestrian mat is firm, stable, skid resistant, and forms a continuous hard surface. Ensure the surface does not warp, buckle or otherwise become uneven, and materials support the weight of pedestrians as well as motorized scooters and wheelchairs. Suitable materials will be determined by the Engineer after shop drawings or products information is provided.
- ii. Mats shall be at least 60 inches wide and not have traversable edges more than ½ inch high.
- iii. Ensure the surface of the mat is free draining.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FACILITIES**

AA:NJB

2 of 3

1/22/25

Pedestrian Channelizing Device: Provide materials for a temporary pedestrian channelizing device in accordance with the *Americans with Disabilities Act (ADA)*, the standard specifications, and the following:

- i. Upper surface shall be smooth, continuous for hand-trailing.
- ii. Detectible bottom edge shall be continuous, and space between the bottom and ground shall be less than 2 inches;
- iii. Ballast shall be located behind or internal to the device, and no support exceeding 0.5 inches in height shall protrude into the protected access route.
- iv. Devices shall interlock to ensure continuity of guidance.
- v. Device shall be injection molded plastic orange with high visibility reflective decals along both faces

- c. Construction.** Construct the temporary pedestrian ramp in accordance with the manufacturer's recommendations (if applicable), *ADA*, the plans, and the following:

Ensure the useable surface of the ramp is 48 inches wide and does not deflect due to pedestrian traffic. Ensure an anti-skid surface treatment is applied to the useable area of the ramp if it is not made from asphalt materials. The maximum cross slope of the ramp is 2 percent. Ensure both ends of the ramp smoothly transitions to the adjacent surface, with 1/4 inch or less vertical difference.

Construct the ramp to maintain a longitudinal slope from 1:10 to 1:12 where possible. Otherwise, a longitudinal slope from 1:8 to 1:10 may be used for a maximum rise of 3 inches. Temporary pedestrian ramps with longitudinal slopes greater than 1:8 is prohibited.

- Provide a handrail on both sides of the ramp if required as stated herein. Ensure the top of the handrail is between 34 and 38 inches above the surface of the ramp. Ensure a minimum width of 36 inches is maintained between the handrails, with a minimum clearance of 1.5 inches behind and 18 inches above.
- Construct the handrail such that the bending stress applied by a bending moment created by a 250-pound force is less than the allowable stress for the materials and the construction of the handrail. Construct the handrail to withstand the shear stress induced by a 250-pound force. Ensure all fasteners, mounting devices and support structures are also able to withstand shear stress induced by a 250-pound force.

Construct a detectable edging anytime a handrail is required, and anytime the path changes direction. This includes a turn onto the ramp from the path. Detectable edging must begin a maximum of 2.5 inches above the ramp surface and extend at least 6 inches above the ramp surface.

Ensure a clear space (minimum 48 inches by 48 inches) is provided above and below the ramp.

Avoid locating ramps in areas of drainage collection, ponding or running water, which can produce slippery or unsafe conditions. If the ramp is located over a gutter pan or other drainage structure, provide features to facilitate water movement around or under the ramp as approved by the Engineer.

Ensure all debris and construction material is cleared from the surface of the ramp throughout its use. Ensure snow and ice is removed; the use of an approved de-icing agent may be required. Repair or

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) FACILITIES**

AA:NJB

3 of 3

1/22/25

replace the ramp if it becomes uneven, unstable, or displaces due to weather events, construction activities, or other causes as directed by the Engineer.

- d. Measurement and Payment.** Measure and pay for the completed work, as described, at the respective contract unit prices using the following respective pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Temporary Pedestrian Ramp, Furn and Oper.....	Each
DS_Temporary Pedestrian Mat, Furn and Oper .....	Feet
DS_Pedestrian Channelizer Device, Furn and Oper .....	Each

Measure **DS\_Temporary Pedestrian Ramp, Furn and Oper** that are fabricated and reusable, payment shall be for the maximum quantity used at any one time. Ramps that are constructed at each location with suitable material that cannot be relocated, such as HMA, will be paid for at each location.

Measure **DS\_Temporary Pedestrian Mat, Furn and Oper** shall be paid for by center line foot of the maximum used project wide.

Measure **DS\_Pedestrian Channelizer Device, Furn and Oper** shall be paid for by each (up to 5 ft wide unit), maximum used project wide.

Costs for transporting ramps, mats, and channelizers shall be included in the bid prices for the individual items of work.

All TPAR Facilities unit prices should include all labor, equipment, and materials to furnish, install and remove temporary pedestrian ramps and mats at the locations shown on the plans, as well as all costs for maintaining, clearing debris, deicing, reconfiguring, and relocating the temporary pedestrian ramps and mats throughout the life of the contract. All TPAR facilities furnished by the Contractor shall remain the property of the Contractor. The City shall not be responsible for stolen or damaged ramps, mats, channelizers, or other TPAR items. The Contractor shall replace missing TPAR facilities immediately, at no additional cost to the City.

Additional re-installation of each device, operation of these items, shall be to be included in "**Minor Traffic Control, Max \$\_\_\_\_\_**".



CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**TREE TRIMMING, ALLOWANCE**

AA: AMW

1 of 1

01/15/2024

- a. Description.** The work shall consist of trimming trees to remove limbs and branches in accordance with section 201 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, the City of Ann Arbor Standard Specifications and/or as directed by the PSAA.
- b. Materials.** None specified.
- c. Construction.** Trees identified to be trimmed will be communicated with the Contractor by the PSAA. Any damage to the trees or to adjacent trees by the Contractor's operations will be addressed at the Contractor's expense, as directed by the PSAA.

Oak trees shall be trimmed between the months of November 1 and March 15. If oak trees are pruned or damaged outside of those months, immediately cover all wounds and pruning cuts with sealant as directed on the container and contact City Forestry.

Provide tree trimmers, aerial tower truck, chipper, chain saws, and other equipment necessary to do the required work. Remove cut limbs from the site.

- d. Measurement and Payment.** The completed work, as described, will be measured, and paid for at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Tree Trimming, Allowance .....	Dollars

**"DS\_Tree Trimming Allowance"** will be paid when invoices and necessary documentation are submitted; and will include all labor, materials, and equipment necessary to complete the trimming, removal and disposal as directed by the PSAA.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**COLD MILLING, PLUNGE CUT**

AA:NJB

1 of 1

1/18/2024

- a. Description.** This work consists of repairing areas of failed asphalt pavement in partial depth, cold milling removal of existing pavement and placing new hot mix asphalt (HMA) material as directed by the PSAA, in accordance with the City of Ann Arbors Standard Specifications, Article 10 (Construction Specifications), III (Street Construction and Repair), D (Pavement Removal), accept as specified herein.
- b. Materials.** None
- c. Construction.** Remove additional area of HMA by running a second pass of the Cold Milling equipment over the identified area and to a depth as required by the PSAA on site.
- d. Measurement and Payment.** Measure and pay for this item if work, as described, at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Cold Milling, Plunge Cut.....	Square Yard

Measure “**DS\_Cold Milling, Plunge Cut**” area by the unit square yard based on average width and length of the repair area and pay for it at the contract unit price, which price includes the cost for all labor, equipment and materials required to remove, load, haul, and dispose of the cold milled material, and cleaning the cold milled edges and bottom of milling surface if applicable.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**REMOVING HOT MIX ASPHALT AROUND STRUCTURE COVERS**

AA:DAD

1 of 1

02/25/2018

- a. **Description.** This work consists of removing hot mix asphalt (HMA) from around existing (not lowered) structure covers during the cold milling operations, as required and as herein provided, whether structures are shown or not shown on the plans. Covers include those used for storm, sanitary, and water structures, gate and monument boxes, and other private utility structures. This item does not apply to locations (streets) where structures have been temporary lowered in advance of the cold milling operations.
- b. **Materials.** None specified.
- c. **Construction.** Remove HMA surface adjacent to structure covers to the same depth as the cold milled surface without the removal of the aggregate or concrete base. Complete work in accordance with subsections 204.03 and 501.03 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, and as directed by the PSAA.

Remove HMA surface, any thickness, from around existing structure covers using a milling machine, and/or hand tools, or other means as approved by the PSAA. Repair or replacement of any structure covers damaged during this operation is the sole responsibility of the Contractor.

- d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price for the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_HMA Surface, Around Structure Cover, Rem.....	Each

Measure **DS\_HMA Surface, Around Structure Cover, Rem** individually in place by the unit each and pay for it at the contract unit price, which price includes all cost for labor, equipment and materials necessary to complete the work.

The number of castings within the milling limits shall constitute the final amount. Measurement shall take place with both the PSAA and the Contractor (or their agents) present.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**COLD MILLING FOR CONCRETE CURB AND GUTTER REVEAL**

AA:NJB

1 of 1

1/18/2024

- a. Description.** This work consists of cold milling existing concrete curb and gutter areas overlaid with HMA material to reveal the edge-of-metal of the curb and gutter in advance of the rest of the roads cold milling. The idea being it will allow for a condition inspection in advance of the curb repair effort. Work to be done in accordance with section 501 of the Michigan Department of Transportation 2020 Standard Specifications for Construction, as directed by the PSAA, and as described herein.
- b. Materials.** None specified.
- c. Construction.** Perform localized cold milling along the concrete gutter pan overlaid with HMA to reveal the edge-of-metal of the existing concrete curb and gutter. Perform this work in accordance with subsection 501.03 of the MDOT 2020 Standard Specifications for Construction, and as directed by the PSAA at the location designated by the PSAA. Perform subsequent handwork and/or necessary machine work to remove HMA overlay material from the gutter pan and dispose of this material properly.
- d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Cold Milling for Concrete Curb and Gutter Reveal.....	Syd

Measure **DS\_Cold Milling for Concrete Curb and Gutter Reveal** by square yards of gutter pan revealed, unit price includes the cost for all labor, equipment and materials required to remove, load, haul, and dispose of the cold milled material, and sweeping of the cold milled surface. The pay item will not be paid if the work is performed at the same time as the overall road cold milling operation.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**GRADING ROADWAY**

AA: NJB

1 of 2

1/23/2024

- a. **Description.** The pay item "Grading Roadway" shall be used to for effort in motor grading and compact the aggregate base in preparation for placing HMA base material. Effort shall be in accordance with 2024 Standard Specification Article 10 (Construction Specifications) Section III (Street Construction and Repair). G (Subgrade, Subbase and Base Construction) except as specified herein.

Areas that are deemed by the Engineer to require subgrade undercutting with engineered backfill to provide a stable subgrade shall be paid for as "**DS\_Undercutting, Type II \_, Cyd**".

Areas where more HMA is removed than the new proposed cross section shall be built up and paid for as "**DS\_Aggregate Base Course, 21AA, CIP, Ton**".

- b. **Materials.** None specified.

- c. **Construction.** The Contractor shall hone the grade edge of metal to edge of metal where curb and gutter exist or 12 inches past proposed edge of pavement. Working with existing aggregate materials to develop the typical and/or detailed cross-section(s) as shown on the Plans, as detailed in the Specifications, and as directed by the Engineer. This shall include, but not be limited to, the excavation of miscellaneous concrete and miscellaneous HMA pavement, soil, rocks of any size, and bricks; the removal and proper disposal off-site of surplus excavated material; the scarifying, of existing aggregate base, the trimming, grading, compaction and proof-rolling of the prepared subgrade; the full depth saw-cutting of pavement at the removal limits. Road subbase and base materials imported shall be paid for separately.

The Contractor shall add to, re-shape, re-grade, and re-compact the existing roadbed materials, and shall construct the roadway to the cross-section(s) as indicated on the Plans, as detailed in the Specifications, and as directed by the Engineer. The Contractor shall use blade graders, vibratory rollers, and/or other equipment as necessary and as directed by the Engineer, for this work. Use of each specific piece of equipment is subject to the approval of the Engineer.

The Contractor shall remove, dispose, all bricks, if present, as directed by the Engineer.

Signs in the grading limits shall be salvaged and provided to City as directed by the Engineer.

The Contractor shall move exiting or imported materials longitudinally and/or transversely where necessary, and as directed by Engineer.

The Contractor shall keep the work well graded and drained at all times.

The Contractor is solely responsible for the maintenance and protection of the subgrade. Further, any damage to the subgrade which, in the opinion of the Engineer, is caused as a result of the Contractor's operation(s), or its subcontractors' or suppliers' operation(s), shall be repaired by the Contractor at the Contractor's expense. This includes any additional earthwork and/or maintenance materials as directed by the Engineer, for the purposes of the Contractor's maintenance and protection of the subgrade. The Contractor shall not be entitled to any additional compensation for the implementation of these procedures.

The Contractor shall proof roll all graded and compacted surfaces in the presence of the Engineer as detailed in the Specifications. The Engineer will monitor the proof rolling operation to locate deleterious and/or uncompacted materials and will direct undercuts, as necessary.

The Contractor shall coordinate with the City Forester prior to the removal of any tree roots 2-inch or larger in size.

- d. Measurement and Payment.** Measurement for payment for the item "Grading Roadway" shall be measured as the area between edge of metal to edge of metal in curb and gutter section, or 12 inches beyond proposed edge of pavement only of the area worked.

The completed work as measured for this item of work will be paid for at the Contract unit price for the following Contract (Pay) Item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Grading Roadway.....	Square Yard

The pay item **DS\_Grading Roadway** shall be measured in square yards for all the work specified herein, the complete the fine grading of the aggregate prior to the placement of HMA.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**GRADING SIDEWALKS, SIDEWALK RAMPS, AND DRIVEWAYS**

AA:DAD/AMW

1 of 1

12/07/2023

- a. Description.** Remove miscellaneous structures and materials, and complete all earthwork required to construct new and replacement sidewalks, sidewalk ramps and driveway approaches to the lines and grades shown on the plans and/or as directed by the PSAA. Complete this work according to the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, this detailed specification, and as directed by the PSAA.
- b. Materials.** Provide materials in accordance with subsection 205.02 of the MDOT 2020 Standard Specifications for Construction as necessary to achieve the required cross section(s). The Contractor may use excavated material, if suitable, as embankment with approval by the PSAA.
- c. Construction.** Complete this work, as applicable, according to subsection 205.03 of the MDOT 2020 Standard Specifications for Construction. Grading for sidewalks, sidewalk ramps and driveway approaches includes, but is not limited to, the following work:
  - 1. Stripping and stockpiling topsoil for use in turf establishment as approved.
  - 2. Removing rocks or boulders less than 0.5 cubic yards in volume.
  - 3. Excavating material to a depth necessary for construction.
  - 4. Disposing of excess and unsuitable material according to section 205 of the MDOT 2020 Standards Specifications for Construction.
  - 5. Shaping, grading, and compacting the subgrade to proposed grades to prepare it for embankment, subbase or aggregate base bedding materials or for an aggregate surface course.
  - 6. Furnishing and placing embankment material to the grades necessary for construction.
  - 7. Shaping, grading, and compacting embankment to proposed grades to prepare it for subbase or aggregate base bedding materials or for an aggregate surface course.
  - 8. Matching new sidewalk, sidewalk ramp, and driveway approach grades with existing grades as required.
  - 9. Removal of shrubs, brush, and trees less than 6" diameter (DBH) as shown on the plan sheets or as directed by PSAA;
- d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Grading, Sidewalk, Ramp & Driveway Approach.....	Square Foot

Measure “**DS\_Grading, Sidewalk, Ramp & Driveway Approach**” areas in place by the unit square foot and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials necessary to complete the work.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**SUBGRADE UNDERCUTTING**

AA: NJB

1 of 2

11/08/2023

- a. Description.** This work includes removal of unsuitable subgrade material(s) in the areas and limits identified by the PSAA. It also includes installing geotextile and/or geogrid as necessary and backfilling to replace these material(s) and remedy the unstable soil conditions in accordance with the 2020 MDOT Standard Specifications for Construction, and the City of Ann Arbor Public Services Department Standard Specifications, except as modified herein.
- b. Materials.** Provide Granular Material Class II or 21AA dense-graded aggregate materials in accordance with those specified in section 902 of the MDOT 2020 Standard Specifications for Construction.

Provide Coarse Aggregate 3x1 in accordance with sections 902 and 916 the MDOT 2020 Standard Specifications for Construction, except as modified herein. Coarse crushed aggregate must consist of a well graded crushed natural aggregate ranging from one (1) inch to three (3) inch inches in size with no more than 7 percent by weight passing the No. 200 sieve. Coarse aggregate crushed content must be at least 95%.

Provide woven stabilization geotextile in accordance with section 910 of the MDOT 2020 Standard Specifications for Construction.

Provide road grade biaxial geogrid materials in accordance with section 910 of the MDOT 2020 Standard Specifications for Construction.

- c. Construction.** Use construction methods as described in subsection 205.03.E of the MDOT 2020 Standard Specifications for Construction, and as directed by the PSAA.

After either removing the pavement, performing rough/finish grading, and/or at the time of proof rolling, the PSAA will inspect the grade to determine the need for, and the limits of, undercuts. Excavate to the required depth, trim, shape, and re-compact the undercut areas as directed by the PSAA. Properly dispose of all excess materials.

Backfill areas of Undercutting, Type IIA with class 21AA dense-graded aggregate, areas of Undercutting, Type IIB with Granular Material Class II, and areas Undercutting, Type IIC with Coarse Aggregate 3x1 unless directed otherwise by the PSAA.

Place stabilization geotextile and/or structural geogrid as directed by the PSAA in areas where subgrade soils require added stability over a roughly level surface. Where the width of the role allows geosynthetics shall be placed in the middle of the trench and extra width allowed to be placed vertically along the trench wall. Place stabilization geotextile as directed by the PSAA in areas where is the potential of intermixing of dissimilar materials.

Place and compact the aggregate fill in maximum lifts of not more than 12 inches thick. At the discretion of the PSAA, aggregate fill lifts of up to 24 inches may be allowed based on the assessment of subgrade soil conditions.

Compact undercutting backfill material (>12 inches below the finish base grade) to not less than 95% of its maximum unit weight. Compact undercutting backfill material (≤12 inches below the finish base



grade) to not less than 98% of its maximum unit weight. Determine the maximum unit weight of backfill materials using the AASHTO T-180 test.

The PSAA may elect to use one or more types of undercutting to address poor soil conditions identified in a specific area of the project.

- d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit prices using the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Undercutting, Type IIC .....	Cubic Yard
DS_Geotextile, ____ Fabric .....	Square Yard
DS_Geogrid.....	Square Yard

Measure “**DS\_Subgrade Undercutting, Type IIC**” volume in place by the unit cubic yard and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials necessary to complete the work.

When one or more than types of undercutting are used to address poor soil, conditions identified in a specific area of the project, each type will be measured and paid for separately.

Measure **DS\_Geotextile, \_\_\_\_ Fabric** and **DS\_Geogrid** in the field by length and width of material installed. Material going up the sides of the trench will be included.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**STRUCTURE COVER ADJUSTMENTS**

AA:NJB/JDD/AMW

1 of 3

1/22/25

**a. Description.** This work shall consist of adjusting structures covers including handholes, water valve boxes, and monument boxes within the full depth pavement surface as well as adjusting curb inlet structures during the removal and replacement of adjacent concrete curb and gutter. This references the City of Ann Arbor Standard Specifications, except as modified herein or directed by the PSAA.

**b. Materials.** Use of Concrete MDOT P-NC grade, concrete rings outside diameter matching the outside diameter of the manhole, and mortar.

**c. Construction.**

**I. Within Full Depth Pavement Surface**

Contractor shall follow the Standard Specification Article 10 (Construction Specifications), II U (Structure Adjustment). Breakdown the existing cover and corbel masonry so that the steel plate is set 12-inch below the existing surface. The existing frame and cover if in sound condition shall be cleaned up, concrete removed, if necessary, by hand chipper, and set aside for re-use. Backfill plate and hole with sufficient 21 AA aggregate.

After the wearing course has been placed the **Contractor will have 14 days to adjust the structures to final grade** and shall use a skid-steer with attached hydraulically mechanical circular core saw system, or trailer mounted hole saw, to saw pavement full depth and adjust the casting. HMA surface will be cored with the structure cover centered in the collar. The diameter of the collar shall be 4.5 feet for 24-inch diameter cover and a 2 ft diameter core for water boxes and monument boxes.

After coring remove the material down to the steel plate, remove the plate and build up the corbel with concrete rings set in mortar, to support the frame to match the finish grade and cross slope. Backfill area between the core face and frame with concrete.

Concrete surface shall be broom finished and four joints tooled in at a cross pattern. Care shall be taken to keep the HMA surface clean by placing plastic sheeting down at the work area.

**II. Within Concrete Curb and Gutter**

Contractor shall remove any concrete curb and gutter required to access and adjust the curb inlet structure.

After concrete removal, the curb inlet structure shall be adjusted up or down in elevation to promote water flow into the catch basin. The final elevation of the inlet structure shall be approved by the PSAA before curb placement.

After the curb inlet adjustment, concrete curb and gutter shall be installed following the requirements outline in the Standard Specification Article 10 (Construction Specifications), III H (Concrete Curb & Gutter, Sidewalk, and Drive Construction).

**The placement of concrete and adjustment of the inlet structure shall be done simultaneously.**

## STRUCTURE COVER ADJUSTMENTS

AA:NJB/JDD/AMW

2 of 3

1/22/25

If the existing casting frame is in sound condition, it shall be re-used, if agreed upon by the PSAA the frame cannot be reused, a new frame shall be set and **provided by the City. If a frame cannot be provided by the city, it will call out in the plans and be supplied by contractor and paid for separately under applicable pay item.**

Frames and covers which cannot be reused, due to diameter of entry less than 24" or broken, castings shall be delivered to the City Utilities Department yard at 4251 Stone School Road (Wheeler Center) at the Contractor's expense.

Materials shall be stored by the Contractor at locations arranged by the Contractor, subject to the approval of the PSAA. **The Contractor shall not store materials or equipment, including metal castings and steel plates, on any lawn area.**

**The city will provide road structure covers and frames (EJ 1040) for: water, storm and sanitary manholes. The contractor will be required to provide all other materials to adjust the structures. The covers and frames will be obtained from a city yard by the contractor when work starts.**

Hidden, or unknown utility structures may be encountered during the work. It is the Contractor's responsibility to inform the respective utility owner(s) of such findings. In such instances, the City may direct the Contractor to adjust the structure(s) to grade. This work will be paid as "Adjust Structure Cover". Contractor shall be responsible for marking 2 witness points, which they can use to determine the center point after wearing course placement.

The pointing of structures below the limits required for "Adjust Structure Cover" shall be paid for separately as "Dr Structure, Point".

A thermoplastic concrete form may be used for a cast-in-place concrete structure riser/collar, as approved by the Engineer or PSAA. The thermoplastic shall be of sufficient thickness to support the casting frame and cover through the placement of the supporting concrete.

This item includes the final adjustment of castings of any type to their respective finished elevations, up or down. All materials required to make the adjustments shall be included in this item of work. All underground structure covers shall be adjusted such that their finished surface elevation is within ¼-inch of the finished surface sections, grades, slopes, and elevations, as shown on the Plans, and as directed by the PSAA. The work shall be verified by the use of a 10-foot straight-edge placed parallel with the pavement centerline. Structures not meeting the ¼-inch tolerance shall be readjusted as directed by the PSAA, at the Contractor's expense.

This also includes the replacement of the top half of the water valve boxes and monument boxes where required and shall be included in this item of work. Gate valve box tops and covers shall be reused, except when broken or directed by the PSAA. New tops and covers for water valve boxes and monument boxes will be provided by the city. The Contractor shall collect, and transport new valve boxes and covers to the site from the City Utilities Department yard at 4251 Stone School Road (Wheeler Center).

**STRUCTURE COVER ADJUSTMENTS**

AA:NJB/JDD/AMW

3 of 3

1/22/25

**d. Measurement and Payment.** The completed work, as described, will be measured, and paid for at the approved price for the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Sanitary Structure Cover, Adjust .....	Each
DS_Storm Structure Cover, Adjust .....	Each
DS_Water Structure Cover, Adjust .....	Each
DS_Storm Curb Inlet, Adjust .....	Each
DS_Monument Box, Adjust.....	Each
DS_Water Gate Valve Box, Adjust .....	Each

Measure “**DS\_Sanitary Structure Cover, Adjust**”; **DS\_Storm Structure Cover, DS\_Adjust**”; and “**DS\_Water Structure Cover, Adjust**” by unit each for each structure, item shall include all labor, material, and equipment costs required to breakdown the structure remove the cover and frame and remove corbel to depth, clean the frame if re-usable, supply and place steel plate, backfill with gravel, collect and handle frame and covers; after wearing course placed, core 4.5 ft diameter hole and excavate down to the steel plate, remove plate, rebuild corbel, set frame, supply and place concrete collar, finish and clean up.

The placement of covers and frames provided by the city will be incidental to the structure adjust item since the covers and frames are provided by the City and the work is incidental to final adjustment. No additional compensation will be provided when covers and frames are provided by the city.

Measure “**DS\_Storm Curb Inlet, Adjust**” by unit each for each structure, item shall include all labor, material, and equipment costs required to remove the cover and frame, buildup or breakdown corbel, clean the frame if re-usable, backfill with sand and gravel, collect and handle frame and covers, finish and clean up.

Measure “**DS\_Monument Box, Adjust**” and **DS\_Water Gate Valve Box, Adjust** by unit each by unit each for each box, item shall include all labor, material, and equipment costs required to breakdown the structure remove the cover and frame and lower box, supply and place steel plate, backfill with gravel, collect replacement box and cover if needed from PW yard or collect and handle box and covers; after wearing course placed, core 2 ft diameter hole and excavate down to the steel plate, remove plate, adjust box to height, supply and place concrete collar, finish and clean up.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**STRUCTURE COVERS**

AA:NJB

1 of 2

1/15/2025

- a. **Description.** This work shall consist of replacing and furnishing frames and covers for identified utility structures as shown on the plans and as directed by the PSAA, in accordance with Section 403 of the 2020 MDOT Standard Specifications for Construction and the City of Ann Arbor Standard Specifications, except as modified herein.
- b. **Materials.** Provide materials meeting the requirements of subsection 403.02 and section 908 of the MDOT 2020 Standard Specifications. **City will furnish EJ 1040 frames and covers for: sanitary, storm, and water structures, located in the road.** The contractor will be required to provide what is called out in the plans and conforms to the following model(s) shown in the table below, or equivalent approved by the PSAA.

Type of Casting	Use	Pay Item	EJ No.
Curb Inlet/Catch Basin Frame and Cover	Barrier curb & gutter	K	7045Z w/ 7045M1 Sinusoidal Grate
Curb Inlet/ Double Catch Basin Frame and Cover	Low point Barrier curb and gutter	HC	7034Z w/7030 M2 Cubic Grate
Curb Inlet/Catch Basin Frame and Cover	Mountable curb & gutter	C	7065 w/ 7045M1 Sinusoidal Grate
Flat Inlet Frame and Cover	Driveway	Z	5000 w/ Type M2 Sinusoidal Grate
Flat Inlet ADA Ramp Frame and Cover	At ADA Ramp	M5	5000 w/ Type M5 ADA Style Grate
Inlet/Catch Basin Frame and Cover	Beehive	G	1040Z O2 6" Tall
Valve Box and Cover	Water Valve		8560 Screw Type 3 Piece Valve Box Set D

Frames and covers shall have machined bearing surfaces and City of Ann Arbor custom logo. All castings shall arrive asphaltic coated as applied at the manufacturers.

**STRUCTURE COVERS**

AA:NJB

2 of 2

1/15/2025

**c. Construction.** All work shall be performed in accordance with subsection 403.03 of the MDOT 2020 Standard Specifications.

The Contractor shall store materials on site and/or at locations arranged by the Contractor, subject to the approval of the PSAA. The Contractor shall not store materials or equipment, including metal castings and steel plates, on any lawn areas.

**d. Measurement and Payment.** The completed work as measured shall be paid at the Contract unit price for the following Contract items (pay items):

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Sanitary Structure Cover .....	Each
DS_Storm Structure Cover, Type____.....	Each
DS_Water Structure Cover .....	Each

Measurement for “**DS\_Sanitary Structure Cover, DS\_Storm Structure Cover, Type\_\_\_\_, and DS\_Water Structure Cover**” shall be units of each, for each structure casting cover furnished, item of work shall include all labor, materials and equipment needed to furnish and install cover.

The placement of covers and frames provided by the City will be incidental to the structure adjust item since the covers and frames are provided by the City. No additional compensation will be provided when covers and frames are provided by the City.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**DRAINAGE AND UTILITY STRUCTURES**

AA:DAD/AMW

1 of 1

01/15/2025

- a. **Description.** This work consists of cleaning, pointing sanitary and storm structures, and temporary lowering drainage and utility (storm, sanitary, water, private, etc.) structures whether shown or not on the plans, as directed by the PSAA, and as herein provided.
- b. **Materials.** Provide materials in accordance with subsection 403.02 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, unless otherwise directed by the PSAA.
- c. **Construction.** Clean, point, and temporary lower structures in accordance with subsection 403.03 of the MDOT 2020 Standard Specifications for Construction, and as directed by the PSAA.

Reconstruct drainage and utility structures from the base using precast reinforced concrete units or concrete block masonry.

Point structures by removing loose and damaged mortar, filling joints between concrete and masonry units with new mortar, and striking joints so the exposed surface is smooth and free of voids.

When directed by PSAA reconnect sump pump drains, provide pipe and ferncos, and install underdrain incidental to work.

- d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the respective contract unit prices using the following respective pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
DS_Sanitary Structure, Point.....	Foot
DS_Storm Structure, Point.....	Foot
DS_Sanitary Structure, Cleaning, Modified.....	Foot
DS_Storm Structure, Cleaning, Modified.....	Foot
DS_Sanitary Structure, Temp Lowering, Modified.....	Foot
DS_Storm Structure, Temp Lowering, Modified.....	Foot

Measure “**DS\_Sanitary Structure, Point, DS\_Storm Structure, Point, DS\_Sanitary Structure, Cleaning, Modified, DS\_Storm Structure, Cleaning, Modified, DS\_Sanitary Structure, Temp Lowering, Modified, and DS\_Storm Structure, Temp Lowering, Modified**” individually in place by their respective units each and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials necessary to complete the work and any directed remove and/or reconnect sump pump drains, including the pipe, ferncos and underdrain.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**DRAINAGE AND UTILITY STRUCTURE RECONSTRUCTION**

AA:DAD/AMW

1 of 3

1/15/2025

- a. Description.** This work consists of reconstructing drainage and utility structures in accordance with section 403 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, as shown on the plans, as directed by the PSAA, and as specified herein.
- b. Materials.** Provide materials in accordance with subsection 403.02 of the MDOT 2020 Standard Specifications for Construction except as specified herein.

Construct drainage structures of precast or cast in place reinforced concrete sections, or concrete masonry units. Construct all sanitary sewer manholes and gate wells (water main valve manholes) of precast reinforced concrete sections.

Use precast reinforced concrete bases, bottom sections, manhole risers, grade adjustment rings, concentric cones, eccentric cones, and flat slab tops conforming to the requirements of ASTM C 478. Joints on precast manholes used on all sanitary sewers will meet ASTM C 443, rubber O-ring gasket.

Use concrete masonry units conforming to the requirements for concrete masonry units for catch basins and manholes, ASTM C 139.

Use concrete brick conforming to the requirements for concrete building brick, ASTM C 55, Grade N-1.

Plastic coated manhole steps will be injection molded of copolymer, polypropylene, encapsulating a ½-inch grade 60 steel reinforcing bar. Plastic-coated manhole steps will meet the performance test described in ASTM C-478, Paragraph II, and have an impact resistance of 300 ft-lbs, with only minor deflection and no cracking or breaking. The steps will resist pull out forces of 1500 lbs.

- c. Construction.** Use construction methods for reconstructing drainage structures, where directed by the PSAA, conforming to subsection 403.03 of the MDOT 2020 Standard Specifications for Construction except as specified herein.

Excavate to the depth and width required to permit the construction of the required base. The excavation width will be greater than the base. Trim the bottom of the excavation to a uniform horizontal bed and completely dewater before placing any structure components.

Use concrete block construction only for storm sewer manholes and inlets and construct these structures to the size and dimensions shown on the plans. Use clean masonry block units, place them in a full bed of mortar, and thoroughly bond them together in place by completely filling the vertical end grooves with mortar to interlock them with the adjacent blocks. The mortar beds and joints will not exceed 3/4 inch thickness. Completely fill vertical joints and fill joints on the inside face of the structure by rubbing them full of mortar and striking them smooth as construction proceeds vertically. Place and strike smooth a 1/2" thick mortar coat on the entire outside face of the structure. Heat all masonry materials, sand, and water to over 50<sup>0</sup> F during freezing weather and cover and protect the completed work from damage by freezing.

Construct circular precast manhole sections in accordance with the details as shown on the plans.



## DRAINAGE AND UTILITY STRUCTURE RECONSTRUCTION

AA:DAD/AMW

2 of 3

1/15/2025

Construct manhole stack units on level poured-in-place bases, precast concrete bases, or precast concrete bottom sections.

Construct precast cone sections in accordance with the details as shown on the plans. These units will be eccentric for all manholes, precast or block. Top all structures with a minimum of one and a maximum of three adjustment courses. Adjustment courses will be 2 inches in height and constructed using bricks or precast adjustment rings.

Construct manholes, inlets, gate wells, and other structures within 2-1/2 inches of plumb.

Frames and cover castings will be set in full mortar beds and pointed on the structure interior to a smooth, brushed finish. The covers will be set flush with sidewalk, roadway pavement, or ground surfaces. Notify the PSAA prior to the final paving to allow inspection of the final casting adjustments for all utility structures. In gravel streets, set covers six to eight inches below finished gravel surface.

Extend sewer pipes into structures a minimum of 1/2 inch and a maximum of 3 inches.

Finish flow channels for sewer structures in accordance with the details as shown on the plans. Screed and float all flow channels to a smooth, uniform surface and troweled to a hard surface finish.

Furnish and place stubs for future sewer connections as shown on the plans and as directed by the PSAA. Properly support and brace connections when they are not resting on original ground so that any settlement will not disturb the connection. Stubs will consist of one length of sewer pipe, of the size indicated on the plans, with a watertight plug.

Keep the excavation in a dry condition.

### **Sealing Manhole Cone/Chimney Interface Area:**

Place an epoxy or urethane sealing product at the junction of the drainage structure cone/chimney interface as detailed on the plans or as directed by the PSAA. Use only products approved by the PSAA and manufactured by one of the suppliers listed below:

NPR-3501 Neopoxy (epoxy) manufactured by NeoPoxy International, 27057 Industrial Boulevard, Hayward, CA 94545, Phone 510.782.1290, Fax 510.782.1292 ([www.NeoPoxy.us](http://www.NeoPoxy.us))

EasySeal SG (urethane) manufactured by Cretex Specialty Products, N16 W23390 Stone Ridge Drive, Suite A, Waukesha WI 53188, Phone 800 345 3764, Fax 262.542.0301 ([www.cretexseals.com](http://www.cretexseals.com))

Flex-Seal (urethane) manufactured by Sealing Systems, Inc, 9350 County Road 19, Loretto, MN 55357, Phone 800-478-2054, Fax 763-478-8868 ([www.ssisealingsystems.com](http://www.ssisealingsystems.com))

For the purposes of this work, the definition of the manhole chimney is the masonry units sitting atop the pre-cast concrete or manhole block corbel or cone sections and extending up to the bottom of the structure casting. Apply sealant to the entire chimney section. Thoroughly clean the chimney section as detailed in the installation instructions of the sealant manufacturer. Apply all products in strict accordance with the recommendations and installation requirements of the manufacturer. The PSAA will approve the chosen sealing product prior to commencement of the work.

**DRAINAGE AND UTILITY STRUCTURE RECONSTRUCTION**

AA:DAD/AMW

3 of 3

1/15/2025

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price for the following pay item:

<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
DS_Storm Structure, Reconstruct.....	Feet
DS_Sanitary Structure, Reconstruct .....	Feet

Measure “**DS\_Storm Structure, Reconstruct and DS\_Sanitary Structure, Reconstruct**” in vertical feet place by unit feet and pay for it at the contract unit price, which price includes all costs for labor, equipment and materials to complete the work; remove deteriorated section, chip and clear down to a single sound level surface of the existing structure, build the structure back with either mortar with brick and block or precast riser ring, so that structure is within 12 inches of the finished pavement surface, apply waterproof membrane. It also includes any/all costs necessary for dewatering and adjustments required to accommodate field conditions encountered during construction.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**AGGREGATE BASE COURSE, 21AA, CIP**

AA:DAD/AMW

1 of 1

01/17/2024

- a. **Description.** This work consists of constructing an aggregate base course on a surface approved by the PSAA using only crushed limestone. The aggregate base shall be in accordance with City Standards and section 302 of the 2020 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, except as herein modified:
- b. **Material.** Provide aggregate material meeting the requirements for Class 21AA dense-graded aggregate in accordance with City Standards and specified in section 902 of the MDOT 2020 Standard Specifications for Construction. The ONLY permitted material shall be crushed limestone unless otherwise approved by the PSAA.
- c. **Construction.** Construct aggregate base course in accordance with City Standards and subsection 302.03 of the 2020 MDOT Standard Specifications for Construction. Deliver Class 21AA dense-graded aggregate to the job site in a thoroughly blended condition and handle in such a manner that there will be no mixing of underlying soil with the base aggregate.
- d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price using the following pay item:

Pay Item	Pay Unit
DS_Aggregate Base Course, 21AA, CIP.....	Ton

Measure **DS\_Aggregate Base Course, 21AA, CIP** weight by the unit ton and pay for it at contract unit price, which price includes costs for all labor, equipment, and materials necessary to complete the work. Load weight tickets from a certified scale and accepted at the job site by the City's agent will be the basis for measurement.

Weigh any/all unused/waste material on a certified scale to determine quantity(s) unless the PSAA approves an alternate method to arrive at these amount(s). Provide load weight tickets to the City's agent for any/all unused/waste material.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**CONCRETE SIDEWALK**

AA:NJB

1 of 2

1/15/2025

- a. Description.** This work consists of constructing concrete sidewalk and ramps in accordance with 2025 Standard Specifications Article 10 (Construction Specifications), Section III (Street Construction and Repair), H (Concrete Curb & Gutter, Sidewalk and Drive Construction), and Article 12 (Standard Details) SD-DS-4 (Sidewalk and Curb and Gutter Joints) and MDOT 2020 Standard Specifications, Ramp Detail R-28, except as modified herein.
- b. Materials.** Provided materials meeting the requirements specified in 2025 AA Standard Specifications Article 6 (Drive Approaches...) 1, B (Materials)

Use Concrete MDOT Grade 3500  
 Use MDOT 21 AA aggregate for 6-inch base material.  
 Use MDOT Class II granular material for 4-inch base material.

The Contractor is solely responsibility for providing specific concrete mix designs and submitting them to the Engineer for approval 5 day prior to the placement of the concrete.

- c. Construction Methods.** For 4-inch Concrete sidewalk place a minimum of 4 inches of Class II granular material, at least 6-inches wider than the sidewalk, compacted to 95% of its maximum dry density unless otherwise directed by the Engineer.

For 6-inch Concrete sidewalk or ramp, place a minimum of 6 inches of MDOT 21 AA aggregate base, at least 6-inches wider than the sidewalk or ramp, compacted to 95% of its maximum dry density unless otherwise directed by the Engineer.

Preparing the subbase grade; excavation or fill shall be paid for separately under "Grading, Sidewalk, Ramp & Driveway Approach". If at the opinion of the Engineer the existing base material will support the proposed grades and is of sufficient width depth and density, the existing material may remain and the new concrete place on top.

Prior to placing any concrete clean existing concrete with compressed air and coarse brush to remove any friable material on the abutting concrete.

- d. Measurement and Payment.** Measure and pay for the completed work, as described, at the respective contract unit prices using the following respective pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
DS_Conc, Sidewalk, 4 inch.....	Square Feet
DS_Conc, Sidewalk or Ramp, 6 inch .....	Square Feet
DS_Conc, Driveway Approach, 6 inch .....	Square Feet
DS_Conc, Sidewalk, Driveway Approach, 8 inch .....	Square Feet

Measure **DS\_Conc, Sidewalk, 4 inch** areas in place by the unit square feet and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment, Class II granular base, compaction effort, concrete, curing compound, forms and materials to complete the work.

Measure **DS\_Conc, Sidewalk or Ramp, 6 inch** areas in place by the unit square feet and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment, MDOT 21 AA aggregate base, compaction effort, concrete, curing compound, forms and materials to complete the work.

Measure **DS\_Conc, Driveway Approach, 6 inch** areas in place by the unit square feet and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment, MDOT 21 AA aggregate base, compaction effort, concrete, curing compound, forms and materials to complete the work. This is intended for residential driveway approaches.

Measure **DS\_Conc, Sidewalk, Driveway Approach, 8 inch** areas in place by the unit square feet and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment, MDOT 21 AA aggregate base, compaction effort, concrete, curing compound, forms and materials to complete the work. This item is intended for use with non-residential driveway approaches, sidewalk through approach shall match thickness of approach.

Saw cutting is not a separate contract pay item, and payment for this work will be included in the appropriate item of work for which it applies. The Contractor shall include any/all costs for saw cutting to place concrete driveways, sidewalk and sidewalk ramps in the respective contract unit price.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**FLOWABLE FILL**

AA:NJB

1 of 1

01/15/2025

**a. Description.** This work consists of furnishing and placing flowable fill material as backfill between new and/or replacement curb and gutter and the existing pavement at sidewalk ramps, and at other miscellaneous locations as directed by the PSAA. Flow fill is to be used to reduce the likelihood of a trip and fall by a pedestrian crossing through the construction while the concrete work is complete but before the cold milling or HMA removal operations have begun.

**b. Materials.** Provide flowable fill material, as directed by the PSAA, meeting the following mix:

- 1. Portland cement, granular material, fly ash, and water. Per the flowable fill mix design number two included in the 2025 AA Standard Specifications Article 5 (Streets), Section II.P. (Flowable Fill).

**c. Construction.** Furnish and place flowable fill material as directed by the PSAA.

The Contractor shall provide all necessary materials and appurtenances to ensure proper placement of flowable fill. All flowable fill, after setting, should be capable of removal by conventional mechanical excavation methods.

Gaps left between new curb and existing HMA edge shall typically be backfilled with 21AA in none pedestrian crossing areas.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price for the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
DS_Flowable Fill .....	Cubic Yard

Measure **DS\_Flowable Fill** volume in place by the unit cubic yard and pay for it at the contract unit price, which price includes the cost for all labor, equipment and materials necessary to complete the work.

The PSAA will not pay for any flowable fill used at the Contractor's option.

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

1 of 7

1/22/25

- a. **Description.** This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the standard specifications, except were modified herein.
- b. **Materials.** Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

**Table 1: Uniformity Tolerance Limits for HMA Mixtures**

Parameter		Top and Leveling Course		Base Course		
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2	
1	% Binder Content	-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50	
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)	Below 10%	Below 15%	Below 10%	Below 15%	
1. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF). 2. Deviation from JMF.						

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

- c. **Construction.** Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer’s approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless specified otherwise on HMA application estimate. For mixtures meeting the definition of base course, field regress air void content to 3.0 percent with liquid asphalt cement unless specified otherwise on HMA application estimate.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are “Local Agency HMA Sampling Qualified” samplers. At the pre-production or preconstruction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with *MTM 313 (Sampling HMA Paving Mixtures)* or *MTM 324 (Sampling HMA Paving Mixtures Behind the Paver)*. Samples are to be taken from separate hauling load.

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

2 of 7

1/22/25

For production/mainline type paving, obtain a minimum of two samples, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample and maintain possession of the sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram parts with one part being for initial testing and the other part being held for possible dispute resolution testing. Obtain a minimum of three samples for each mix type regardless of the number of days of production.

Obtain samples that are representative of the day's paving. Sample collection is to be spaced throughout the planned tonnage. One sample will be obtained in the first half of the tonnage and the second sample will be obtained in the second half of the tonnage. If planned paving is reduced or suspended, when paving resumes, the remaining sampling must be representative of the original intended sampling timing.

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified.

Ensure daily test samples are obtained, except, if the first test results show that the HMA mixture is in specification, the Engineer has the option of not testing additional samples from that day.

At the pre-production or preconstruction meeting, the Engineer and Contractor will collectively determine the test method for measuring asphalt content (AC) using *MTM 319 (Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method)* or *MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures)*. Back calculation will not be allowed for determining asphalt content.

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual and the Michigan Quality Assurance Procedures Manual*, and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory (AMRL)* accredited for *AASHTO T30* or *T27*, and *AASHTO T164* or *T308*. Ensure on non-National Highway System (NHS) routes, Contractor labs are made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 30 calendar days, except holidays and Sundays, for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendars days, except holidays and Sundays, for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. QA test results will be provided to the Contractor after the Engineer receives the QC test results. Failure on the part of the Engineer or the laboratory to provide QA test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from *MTM 319*. Gradation (*ASTM D5444*) and Crushed particle content (*MTM 117*) based on aggregate from *MTM 319*. The incineration temperature will be established at the pre-production meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.



CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

3 of 7

1/22/25

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment per the Measurement and Payment section of this special provision.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised JMF or proposed alterations to the plant and/or materials to achieve the JMF to the Engineer. Effects on the Aggregate Wear Index (AWI) and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or preconstruction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

Option 1 - Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density using the Gmm from the JMF for the density control target. The required in-place density of the HMA mixture must be 92.0 to 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

Option 2 - Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Use of the density gauge requires establishing a rolling pattern that will achieve the required in-place density. The Engineer will measure pavement density with a density gauge using the Gmm from the JMF for the density control target.

Use of the Roller Method requires developing and establishing density frequency curves, and

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

4 of 7

1/22/25

meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or QC rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer's recommended procedures.

**Table 2: Minimum Number of Rollers Recommended Based on Placement Rate**

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1

a. Number of rollers may increase based on density frequency curve.  
b. The compaction roller may be used as the finish roller also.

After placement, roll the HMA mixture as soon after placement as the roller is able to bear without undue displacement or cracking. Start rolling longitudinally at the sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drum. Ensure each required roller is 8 tons minimum in weight unless otherwise approved by the Engineer.

Ensure the initial breakdown roller is capable of vibratory compaction and is a maximum of 500 feet behind the paving operations. The maximum allowable speed of each roller is 3 miles per hour (mph) or 4.5 feet per second. Ensure all compaction rollers complete a minimum of two complete rolling cycles prior to the mat temperature cooling to 180 degrees Fahrenheit (F). Continue finish rolling until all roller marks are eliminated and no further compaction is possible. The Engineer will verify and document that the roller pattern has been adhered to. The Engineer can stop production when the roller pattern is not adhered to.

**d. Measurement and Payment**

The completed work, as described, will be measured and paid for using applicable pay items as described in subsection 501.04 of the Standard Specifications for Construction, or the contract, except as modified below.

Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

5 of 7

1/22/25

parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractor's QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract base price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the Contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

6 of 7

1/22/25

**Table 3: Penalty Per Parameter**

Mixture Parameter out-of-Specification per Acceptance Tests	Mixture Parameter out-of-Specification per Dispute Resolution Test Lab	Price Adjustment per Parameter
No	N/A	None
Yes	No	None
	Yes	Outside Range 1 but not Range 2: decrease by 10% Outside Range 2: decrease by 25%

The quantity of material receiving a price adjustment is defined as the material produced from the time the first out-of-specification sample was taken until the time the sample leading to the first in-specification test was taken.

Each parameter of Table 1 is evaluated with the total price adjustment applied to the contract base price based on a sum of the two parameter penalties resulting in the highest total price adjustment as per Table 4. For example, if three parameters are out-of-specification, with two parameters outside Range 1 of Table 1 tolerance limits, but within Range 2 of Table 1 limits and one parameter outside of Range 2 of Table 1 tolerance limits and the Engineer approves leaving the mixture in place, the total price adjustment for that quantity of material is 35 percent.

**Table 4: Calculating Total Price Adjustment**

Cost Adjustment as a Sum of the Two Highest Parameter Penalties		
Number of Parameters Out-of-Specification	Range(s) Outside of Tolerance Limits of Table 1 per Parameter	Total Price Adjustment
One	Range 1	10%
	Range 2	25%
Two	Range 1 and Range 1	20%
	Range 1 and Range 2	35%
	Range 2 and Range 2	50%
Three	Range 1, Range 1 and Range 1	20%
	Range 1, Range 1 and Range 2	35%
	Range 1, Range 2 and Range 2	50%
	Range 2, Range 2 and Range 2	50%

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**ACCEPTANCE OF HMA MIXTURES**

AA: NJB

7 of 7

1/22/25

**Table 5: Density Frequency Curve Development**

Tested by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type: \_\_\_\_\_

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type: \_\_\_\_\_

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type: \_\_\_\_\_

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: \_\_\_\_\_

---



---



---

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**HOT MIX ASPHALT (HMA) PAVING**

AA:DAD/AMW

1 of 3

01/15/2024

**a. Description.** This work consists of constructing hot mix asphalt (HMA) pavement base, leveling, and top courses in accordance with section 501 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

**b. Materials.** None specified.

**c. Construction.**

1. Equipment: All equipment shall conform to subsection 501.03.A of the MDOT 2020 Standard Specifications for Construction, except as modified herein.

The Contractor shall have a 10-foot long straight edge, rubber-tired backhoe (Case 580 type, or equivalent), air-compressor with the ability to develop a minimum pressure of 100 pounds per square inch and continuous rated capacity of 150 cubic feet per minute of airflow, and jackhammer available during all paving operations. The Contractor shall be required to perform any miscellaneous cleaning, trimming, material removal, and other tasks as required by the Engineer in order to ensure the proper and orderly placement of all HMA materials on this project.

The Contractor shall provide sufficient rollers to achieve the specified asphalt densities.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the grade and/or adjacent areas; including hauling units. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

2. Cleaning and Bond Coat Application: Cleaning and bond coat application shall be performed in accordance with subsections 501.03.C and 501.03.D of the MDOT 2020 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

The Contractor shall furnish and operate throughout the construction period, vacuum-type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the Engineer, and when directed by the Engineer, for street cleaning immediately prior to, and for street and utility structure cleaning after any and all paving. The cleaning equipment shall be of sufficient power to remove dust, dirt, and debris from the pavement and from utility structures in and adjacent to the construction area. The Engineer shall approve the vac-all or similar equipment prior to beginning the work. The equipment used shall have an effective means for preventing any dust resulting from the operation from escaping into the air.

Apply bond coat at a rate of 0.10 gallons per square yard. Before placing the bond coat, the thoroughly clean the existing pavement surface. The Contractor shall also thoroughly clean all joints, cracks, and edges to a minimum depth of one inch with compressed air, vac-all type equipment, or other approved mechanical or hand methods, to remove all dirt, debris, and all foreign material.

3. HMA Placement: Placement shall conform to subsection 501.03.F of the MDOT 2020 Standard Specifications for Construction, except as modified herein, and as directed by the Engineer.

HMA placement shall not commence until a "Permit to Place" (no additional costs are required to obtain this permit) has been issued in writing by the Engineer. The Engineer will issue a Permit to Place after approving the aggregate base course or the adjacent, underlying layer of pavement section.

The Engineer must approve the final structure adjustments prior to the issuance of the "Permit to Place" for the top course.

Place the top course with a ¼" lip along the edge of the curb and gutter/edge of metal.

All HMA thickness dimensions are compacted-in-place.

4. Paving Operation Scheduling: The Contractor shall schedule the paving operation to avoid leaving longitudinal cold joints "open" overnight.

In all cases, the Contractor shall pave the primary road's through-traffic lanes ("main line") first, from point-of-beginning to the point-of-ending. All other paving including, but not limited to; acceleration and deceleration lanes, intersection approaches, and center left-turn lanes shall be paved following completion of main line paving, unless authorized by the Engineer prior to the placement of any pavement.

5. Rate of Paver Operation: Maintain a paving machine rate of travel so that HMA placement and paving operation is continuous; resulting in no transverse cold joints. The rate of travel; however, shall never exceed 50 feet per minute.

The Contractor shall furnish and operate enough material, equipment, and hauling units to keep the paving machine(s) moving continuously at all times. Failure to do so shall be cause for the suspension of paving operations until the Contractor can demonstrate to the satisfaction of the Engineer that it has dedicated sufficient resources to perform the work in accordance with the project specifications.

6. Longitudinal and Transverse Joints: These joints shall conform to subsection 502.03.F of the MDOT 2020 Standard Specifications for Construction, and as specified herein.

For mainline HMA paving, the width of the mat for each pass of the paver shall be not less than 10.5 feet, or greater than 15 feet, except as noted in the plans and as directed by the Engineer. The Engineer will direct the layout of all HMA longitudinal joints during construction.

7. Feather Joints – shall be constructed so as to vary the thickness of the HMA from zero inches to the required paving thickness at the rate of approximately 1.5" over a distance of 10 feet, or as directed by the Engineer. The Contractor shall rake the larger pieces of aggregate out of feather joints prior to compaction.

8. Butt Joints: Construction of butt joints, where directed by the Engineer, shall conform to subsections 501.03.C.3 and 501.03.C.4 of the MDOT 2020 Standard Specifications for Construction, except as modified herein.

When the Engineer specifies or directs placement of a butt joint, remove the existing HMA surface to the thickness of the proposed overlay, or full-depth, as directed by the Engineer, for the full width or length of the joint. The HMA material shall be saw cut to the directed depth along the pavement edge or removal line to prevent tearing of the pavement surface. Cut joints that will be exposed in the completed surface must be cut with a saw or a cold-milling machine or other methods approved by the Engineer. Joints that will be covered by HMA must be cut with a saw, a cold-milling machine, or other methods approved by the Engineer.

9. Rakers: The Contractor shall provide a minimum of two asphalt rakers during the placement of all wearing and leveling courses.

10. Faulty Mixtures: The Contractor and Engineer shall carefully observe the paving operation for signs of faulty mixtures. The Contractor, at its sole expense, shall remove or correct points of weakness in the surface prior to paving subsequent lifts of HMA material. Such corrective action may include the removal and replacement of thin or contaminated sections of pavement, segregated HMA, and any sections that are weak or unstable. Once the Contractor or his representative is notified by the Engineer that the material being placed is out of allowable tolerances, or that there is a problem with the paving operation, the Contractor shall stop the paving operation at once, and shall not be permitted to continue placing HMA material until again authorized by the Engineer. The Engineer will not pay for separately any costs associated with meeting the above requirements, and will include them in the HMA work item(s) the Contractor was performing at the time of discovery of the faulty mixture.

**d. Measurement and Payment.** The contract includes no separate pay items for measurement and payment of the costs associated with meeting the requirements of this detailed specification. The Contractor shall include these costs in the unit prices bid for the HMA items in the contract.

The Contractor shall return any/all trucks to the plant with unused HMA remaining after the work is complete, and these trucks shall be re-weighed and the corrected weight slip provided to the Engineer. There will no payment any unused HMA material. All weight slips must include the type of mixture (codes are not acceptable), as well as vehicle number, gross weight, tare weight and net weight.



CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**HMA, SOIL EROSION WEDGE**

AA:NJB

1 of 1

01/17/2024

**a. Description.** This work consists of constructing hot mix asphalt (HMA) wedge placed longitudinally along the edge of pavement to mitigate soil erosions at other location(s) as directed by the PSAA, and as described herein.

**b. Materials.** Provide materials in accordance with section 501 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction. Use the same MDOT mixture being placed for the wearing course.

**c. Construction.** The HMA wedge can be placed by the paver by adjusting the wing and guards or by hand while the wearing course is still hot. The wedge shall have an approximate dimension of 12-inch width and be tapered 0 to 3-inch in height. The highest point being at the edge of pavement. The HMA soil erosion wedge shall taper down to match existing driveway elevations. Hand compacting effort and small tools shall be used to consolidate the HMA without deforming the wedge.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price for the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
DS_HMA, Soil Erosion Wedging.....	Foot

Measure **DS\_HMA, Soil Erosion Wedging** by linear foot installed, for each foot being installed. The weight of the HMA tons used will be paid for separately under the HMA 5EL Tonnage pay item. This unit price includes compensation for all labor and equipment cost necessary to complete the work including placement and hand compaction.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**HMA, WEDGING**

AA:DAD/AMW

1 of 1

01/15/2024

- a. **Description.** This work consists of constructing hot mix asphalt (HMA) finish wedges at drive approaches, sidewalk ramps, and any other location(s) directed by the PSAA, and as described herein.
- b. **Materials.** Provide materials in accordance with section 501 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction. Use MDOT mixture approved by the PSAA.
- c. **Construction.** Perform work in accordance with section 501 of the MDOT 2020 Standard Specifications for Construction, and as directed by the PSAA.

**Complete all finish wedging within two days of placing the top course pavement.**

Have a 10-foot long straight-edge, backhoe, air-compressor, and jackhammer available during all paving operations.

Use finish wedges to provide good vertical and horizontal transitions between old and new construction, to eliminate areas of standing water in the top coarse surface and to provide for positive drainage.

Construct joints by feathering the edges of all finish wedges (including the raking out of all large pieces of aggregate) to provide a high quality, smooth riding surface.

Clean the existing surface with compressed air and/or vacuum type street cleaning equipment prior to placement of wedging material.

Apply MDOT SS-1h bond coat on all asphalt and concrete surfaces within the wedging area at a rate between 0.05 and 0.10 gallons/square yard using a power distributor hand sprayer.

- d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price for the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_HMA, Wedging.....	Ton

Measure **DS\_HMA, Wedging** by weight in tons of the material used to perform the work and pay for it at the contract unit price, which price includes all cost for labor, equipment and materials necessary to complete the work including providing, placing and compacting the HMA mixture.

Return any/all trucks to the plant with unused HMA remaining after the work is complete. Re-weigh these trucks and provide a weight slip for this material to the PSAA. There will be no payment for any unused HMA material. All weight slips must include the type of mixture (codes are not acceptable), as well as vehicle number, gross weight, tare weight and net weight.

CITY OF ANN ARBOR  
 DETAILED SPECIFICATION  
 FOR  
**SHARED USE PATH GRADING**

AA:DAD/NJB

1 of 1

01/15/2025

- a. **Description.** This work consists of removing miscellaneous structures and materials, and completing all earthwork required to construct new and replacement asphalt paths to the lines and grades shown on the plans and/or as directed by the PSAA. Complete this work according to sections 205 and 806 Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, this detailed specification, and as directed by the PSAA.
- b. **Materials.** Provide Granular Material Class II and 21AA dense-graded aggregate materials in accordance with those specified in section 902 of the MDOT 2020 Standard Specifications for Construction as necessary to achieve the required cross section(s). The Contractor may use excavated material, if suitable, as embankment with approval by the PSAA.
- c. **Construction.** Complete this work, as applicable, according to subsections 205.03 and 806.03 of the MDOT 2020 Standard Specifications for Construction. Grading for shared use path includes, but is not limited to, the following work:
  - 1. Stripping and stockpiling topsoil for use in turf establishment as approved.
  - 2. Removing rocks or boulders less than 0.5 cubic yards in volume.
  - 3. Excavating material to a depth necessary for construction.
  - 4. Required brushing and tree trimming and removal of materials resulting from this work.
  - 5. Removing and disposing of overburden vegetation and soils alongside the existing pathway edges prior to any crushing and shaping activities.
  - 6. Disposing of excess and unsuitable material according to section 205 of the MDOT 2020 Standards Specifications for Construction.
  - 7. Shaping, grading, and compacting the subgrade to proposed grades to prepare it for embankment or aggregate base bedding material.
  - 8. Furnishing and placing embankment material to the grades necessary for construction.
  - 9. Shaping, grading, and compacting embankment to proposed grades to prepare it for aggregate base bedding material.
  - 10. Matching new shared use path grades with existing or new grades as required.
- d. **Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price using the following pay items:

<u>Pay Item</u>	<u>Pay Unit</u>
DS_Shared use Path, Grading, Modified.....	Square Yard

Measure **DS\_Shared use Path, Grading, Modified** area in place by the unit square yard and pay for it at the contract unit price, which price includes the costs for all labor, equipment and materials necessary to complete the work.

Placement of aggregate base for the path will be paid for separately under pay item "Shared use Path, Aggregate, Ton".

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**SIDEWALK RETAINING WALLS**

AA:DAD/AMW

1 of 4

01/15/2024

**a. Description.** This work consists of constructing concrete retaining walls adjacent to sidewalks in accordance with the requirements and special details included herein, and as directed by the PSAA.

**b. Materials.** Provide concrete Grade P-NC, unless otherwise directed by the PSAA, meeting the requirements of subsection 602.03 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction.

**c. Construction.** Construct retaining walls in accordance with special details includes herein. Curb face exposure shall be 6 inches to 36 inches.

The Contractor shall excavate, cut, remove stumps, remove brush, remove pavement, grade, and trim as needed and as directed, and shall furnish, place, grade, and compact any materials needed to perform the work.

Complete all subgrade work prior to placing concrete items, unless directed or approved by the PSAA.

At locations where the subgrade, subbase or base becomes either disturbed, saturated or otherwise damaged, and where directed by the PSAA, the Contractor shall remove a minimum 6-inch thick layer of the subgrade, subbase or base, and replace it with approved 21AA Aggregate material, compacted in place.

**The Contractor shall coordinate with the City Forester prior to the removal of any tree roots 2 inches in diameter or greater.**

The Contractor shall maintain on-site at all times, a sufficient quantity of adequate materials to protect concrete items. The PSAA may suspend or defer concrete placement if rain protection is not available. The Contractor shall not be entitled to any additional compensation due to work suspension or deferral resulting from a lack of adequate rain protection.

The Contractor is responsible for any damage to concrete items, including but not limited to vandalism; vehicular, pedestrian and/or miscellaneous structural damage; surface texture damage; and rain damage.

**d. Measurement and Payment.** Measure and pay for the completed work, as described, at the contract unit price using the following pay items:

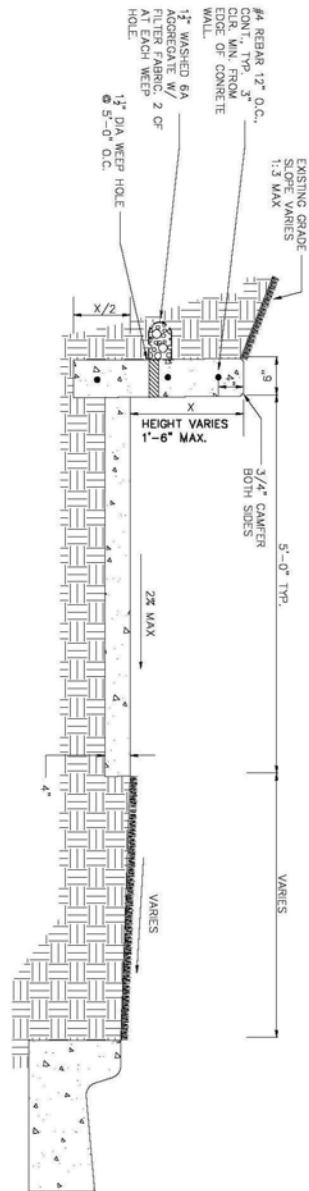
<u>Pay Item</u>	<u>Pay Unit</u>
DS_Sidewalk Retaining Wall, Integral, 6 inch to 18 inch Height .....	Square Foot
DS_Sidewalk Retaining Wall, Integral, 18 inch to 30 inch Height .....	Square Foot

Measure **DS\_Sidewalk Retaining Wall, Integral, \_\_ inch to \_\_ inch Height** exposed vertical face

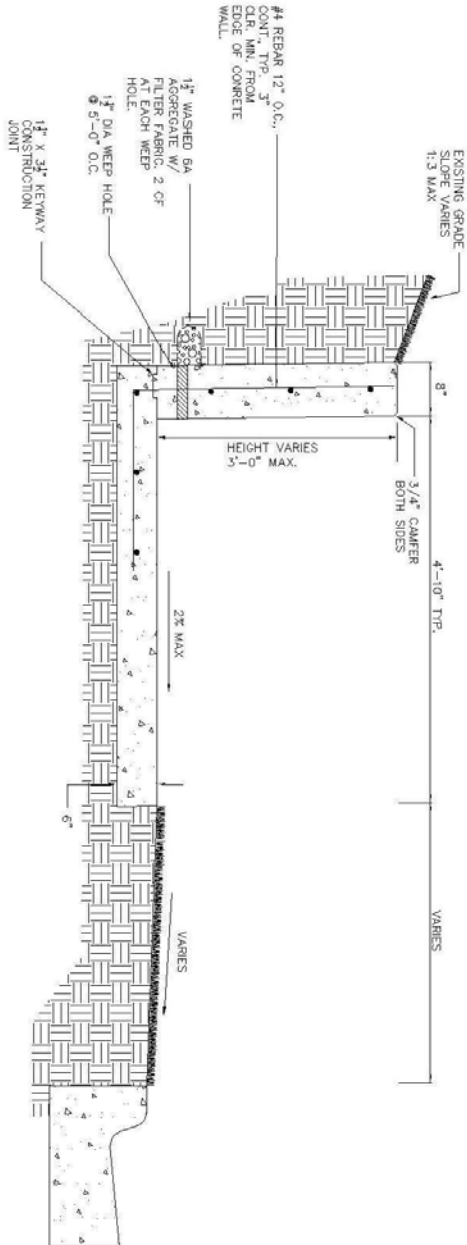
areas in place by the unit square foot and pay for them at their respective contract unit prices, which prices include the costs for all labor, equipment and materials necessary to complete the work.

The PSAA will pay for separately all sidewalk work performed adjacent to any retaining wall.

**INTEGRAL SIDEWALK RETAINING WALL (6" – 18") DETAIL**



**INTEGRAL SIDEWALK RETAINING WALL (18"-36") DETAIL**



CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**COMPOSITE PAVEMENT JOINT CLEANING**

AA:NJB

1 of 2

01/15/2025

**a. Description.** This work consists of cleaning and scaling deleterious material from joint and cracks in the concrete base of a composite pavement. Work shall be in accordance with section 501 of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, and MDOT Standard Plan R-44-G Concrete Pavement Repair, except as modified herein, and as directed by the PSAA.

**b. Materials.** None specified.

**c. Construction.**

1. **Equipment:** The Contractor shall have a rubber-tired backhoe (Case 580 type, or equivalent), air-compressor with the ability to develop a minimum pressure of 100 pounds per square inch and continuous rated capacity of 150 Cubic Feet per Minute (CFM) of airflow, the backhoe or skid-steer shall be equipped with a frost hook and be able to remove loose or failing concrete along cracks and joints.

At various times throughout the work, the Engineer may direct the Contractor to use smaller and/or lighter equipment, and to defer certain work tasks, in order to protect the existing concrete base. The Contractor shall not be entitled to any additional compensation for the use of smaller equipment, lighter equipment, or work task deferral.

2. **Cleaning and Bond Coat Application:** Cleaning and bond coat application shall be performed in accordance with subsections 501.03.C and 501.03.D of the MDOT 2020 Standard Specifications for Construction, and as directed by the PSAA.

The Contractor shall furnish and operate throughout the construction period, vacuum-type street cleaning and utility structure cleaning equipment (Vac-All, Vactor, etc.) approved by the Engineer, and when directed by the Engineer. The cleaning equipment shall be of sufficient power to remove dust, dirt, and debris from the pavement and from utility structures in and adjacent to the construction area. The Engineer shall approve the vac-all or similar equipment prior to beginning the work. The equipment used shall have an effective means for preventing any dust resulting from the operation from escaping into the air.

The Contractor shall also thoroughly clean all joints, cracks, and edges to a minimum depth of 1 inch with compressed air, vac-all type equipment, or other approved mechanical or hand methods, to remove all dirt, debris, and all foreign material.



**COMPOSITE PAVEMENT JOINT CLEANING**

AA:NJB

2 of 2

01/15/2025

**d. Measurement and Payment.** The completed work, as described, will be measured, and paid for at the approved price for the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Pavt Joint and Crack Repr, Det 7 .....	Foot

Measure **DS\_Pavt Joint and Crack Repr, Det 7** length in feet measured along the centerline of the joint or crack which were cleaned with the frost hook, pay for it at the contract unit price, which price includes the costs for all labor, equipment and materials necessary to complete the work.

The void in the concrete base, created through the cleaning and scaling process, will be tack coated and back-filled with HMA, to the elevation of the adjacent concrete surface, under a separate pay item "**DS\_Hand Patch, Ton**".

CITY OF ANN ARBOR  
SPECIAL PROVISION FOR  
**POLYMER CEMENT PAVEMENT MARKING**

AA: NJB

1 of 3

11/25/2024

**a. Description.** This work consists of installing a polymer cement surface system (PCSS) on a prepared substrate in accordance with these specifications the plans, and/or as directed by the PSAA for the purposes of delineating dedicated or shared bicycle lanes. Complete this work in accordance with this special provision, FHWA-MUTCD Interim Approval for Optional Use of Green-Colored Pavement for Bike Lanes (IA-14), PAVE-900 Series pavement marking standard plans, and as shown on the plans, and as directed by the PSAA.

**b. Materials.** Provide materials in accordance with the standard specifications and as specified herein.

Select pavement marking material system in the approved FHWA white color for symbols or other colors as specified for use in bike lanes from one of the following or approved equal:

Ennis-Flint PPG., CycleGripMMAX  
Pavement Surface Coatings LLC, Endurablend  
GAF Materials LLC, StreetBond SB Pro

Ensure all materials are shipped to the job site in sturdy containers plainly marked per section 920 of the Standard Specifications for Construction and the contract.

Provide technical data regarding material type and application rate from the marking manufacturer to the PSAA prior to starting work.

**c. Construction.**

1. Place the marking material in accordance with this special provision and the manufacturer's recommendations.
  
2. Surface preparation requirements depend on surface conditions.

Prepare new hot mix asphalt (HMA) surfaces open to traffic for 10 days or less, with no oil drips, residue, debris, or temporary or permanent markings, by cleaning the marking area with compressed air.

Prepare new Portland cement concrete (PCC) surfaces and PCC surfaces free of oil drips, residue, and debris, temporary, or permanent markings, by removing the curing compound from the area required for pavement markings.

Prepare existing HMA or PCC surfaces that do not have existing markings, but may have oil drip areas, debris, or both, by scarifying the marking area using non-milling grinding teeth or shot blasting. The PSAA will allow the use of water blasting to scarify the marking area on PCC surfaces.

Prepare existing HMA or PCC surfaces with existing markings by completely removing the markings.

Conduct grinding, scarifying, sandblasting, shot blasting, or other operations in such a manner that the finished pavement surface is not damaged and does not exhibit a pattern that will mislead or misdirect the road user. Use vacuum-type equipment or equivalent to collect and contain debris generated by this operation.

When surface preparation is complete, broom the pavement surface, and follow with compressed air cleaning to remove all residue and debris resulting from the preparation work. Control and minimize airborne dust and similar debris generated by surface preparation and cleanup to prevent a hazard to motor vehicle operation or nuisance to adjacent property.

Do not damage transverse and longitudinal joint sealers on HMA and PCC surfaces when performing removal and cleaning work.

Weather Limitations:

Follow manufacturer recommended pavement and air temperatures. Place PCSS only when all the following conditions are met:

- The pavement surface is dry.
- Ambient and substrate temperatures are 50° F and rising and expected to remain above 50° F for 6 hours
- There is no forecast of temperatures below 35° F within 24 hours from the time of placement.
- The weather is not foggy or rainy. When rain appears imminent, all placement operations shall cease, and the work shall not resume until the threat of rain has passed.

When the ambient temperature is below 50° F, but will remain above 40° F during paving and the substrate temperatures are 50° F and rising, place the PCSS with the approval of PSAA and add manufacturer approved accelerators to the mix.

Take care when placing the PCSS if the substrate temperature exceeds 130° F. Closely monitor application temperatures of the substrate above 130° F for performance during

the course of application. Any observable defects occurring as a result of extreme temperature should be cause for immediate halting of placement operations.

Where the ambient paving air temperature is going to exceed 90° F consider use of cold water and ice for the blending operation. Where the provision of cold water or replacing the part of the water requirement with ice is not possible, then use a retarder with the mix.

**Curing and Opening to Traffic:**

The Contractor shall take care to protect the PCSS surface course from traffic until the area is sufficiently cured. Curing time will vary depending on ambient and surface temperatures. Do not open the PCSS to traffic until it has reached sufficient compressive strength and vehicular traffic will not damage the surface. Obtain approval for opening from a representative of the manufacturer, the installer, or the PSAA. The Contractor at its expense shall correct any damage to the PCSS surface resulting from failure to protect it or open it to traffic without approval or proper cure.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Pavt Mrkg, Polymer Cement Surface, Bike Lane Green .....	Square Foot
DS_Pavt Mrkg, Polymer Cement, Bike, Large Sym .....	Each
DS_Pavt Mrkg, Polymer Cement Bike Lt Turn Arrow Sym .....	Each

CITY OF ANN ARBOR  
 DETAIL SPECIFICATION  
 FOR  
**PAVEMENT MARKING, SPECIAL**

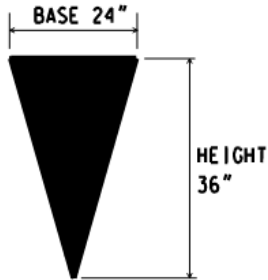
AA: NJB

1 of 1

1/15/2025

- a. **Description.** This work consists of installing pavement markings on a prepared substrate in accordance with sections 205 and 806 Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, and this detailed specification. Complete this work in accordance with the dimensions of MDOT Standard Detail Sheet, PAVE-945 D Series pavement marking standard plans, and as directed by the PSAA.
- b. **Materials.** Provide materials in accordance with the standard specifications.
- c. **Construction.** Place the marking material in accordance with this special provision and the manufacturer's recommendations.
- d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
DS_Pavt Mrkg, Thermo Plastic, Yield Triangle .....	Each
DS_Pavt Mrkg, Polymer Cement, Bike, Large Sym .....	Each
DS_Pavt Mrkg, Polymer Cement Bike Lt Turn Arrow Sym .....	Each



**DETAIL OF YIELD TRIANGLE**  
**FOR YIELD LINE**

**NOTES:**

- 1. Install four triangles per lane.
- 2. Adjust spacing (between 3 to 12 inches) as necessary.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**BIKEWAY DELINEATOR POST**

HRC: NBN

1 of 1

4/24/2024

**a. Description.** This work consists of furnishing and installing all components for the Bikeway Delineator Post as shown on the plans or as directed by the PSAA. The Bikeway Delineator Post shall be in accordance with the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction and as specified herein.

**b. Materials.** The Contractor shall furnish materials in accordance with Section 807 of the MDOT 2020 Standard Specifications for Construction, except where otherwise noted.

All materials for the Bikeway Delineator Post shall be manufactured by Pexco. The model includes the City Post SM Surface Mount, standard top, sheeting, and all associated hardware that includes, but not limited to, anchor bolts.

The Bikeway Delineator Post shall be 28 inches in height and 3 inches round with the bolt-down design. The color shall be black with white sheeting or yellow with gold sheeting as specified on the plans.

**c. Construction.** The Bikeway Delineator Post shall be laid out for approval by the PSAA before installation. The Bikeway Delineator Post shall be placed in the roadway, buffer space, bike lane, or cycle track as shown on the plans. The Bikeway Delineator Post shall be installed per manufacturer recommendations.

**d. Measurement and Payment.** The completed work as measured will be paid for at the contract unit price for the following contract items (pay items):

<b>Pay Item</b>	<b>Pay Unit</b>
DS_Bikeway Delineator Post Black .....	Ea
DS_Bikeway Delineator Post Yellow .....	Ea

**DS\_Bikeway Delineator Post** \_\_ will be measured by the quantity shown on the plans and as specified herein and includes payment for all labor, equipment, and materials required to complete the work. Payment for accessories and mounting hardware required for installation shall not be paid separately but shall be included in the corresponding pay item.

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**PROTECTING AND PRESERVING IRRIGATION SYSTEMS**

AA:DD/AMW

1 of 2

01/22/25

- a. Description.** This work shall consist of all labor, materials, and equipment necessary to investigate, locate, save and protect from damage, ensure continued and proper operation during the performance of the project work, re-establish operation as necessary, and, upon completion of all project work, ensure that all existing sprinkler systems located within the project limits, or those affected by the project, are functioning in a satisfactory manner as determined by the Engineer.
- b. Materials.** None specified.
- c. Construction.** The Contractor shall be aware that properties located within the project limits have underground sprinkler systems that irrigate both private property and portions of the public right-of-way. The irrigation systems have been installed by a variety of private installers and may utilize several different materials and/or suppliers of the various components. Portions of the existing irrigation systems have been installed under paved areas, extend into landscaped islands, or may be required to be located within such areas at the conclusion of the project's construction.

The Contractor shall perform the necessary investigations to determine the precise location of the irrigation systems and all affected components prior to the commencement of construction operations. The Contractor shall determine all impacts to the systems that will result pursuant to the project's construction and take all necessary actions to ensure that the sprinkler systems will remain functional during the project's construction. The Contractor shall re-establish the sprinkler systems in such a manner at appropriate intermediate and final project milestones that the original functionality of the system is maintained to the greatest extent possible.

The Contractor shall contact all property owners prior to the commencement of the work to determine the impacts to their irrigation systems and coordinate with them to ensure satisfactory operation of the irrigation systems during construction.

All work shall be approved by the Engineer and the affected property owner(s) at the conclusion of the project's work.

This is an allowance type item. This allowance is not for solving problems caused by the Contractor's neglect, errors, omissions, or other deeds of the Contractor's own fault. Protecting existing irrigation systems where it is not necessary to remove it to complete the work is included in the contract unit price for the pay item **General Conditions, Max \$\_\_\_\_\_**.

The Contractor is required to present a detailed scope of work and detailed costs for any work contemplated under the irrigation system allowance to the Engineer. No work is to begin until scope and costs have been finalized and approved by the Engineer in writing.

Thereafter, if the approved price for this work is more or less than the allowance amount in the Contract, the Contract Price shall be adjusted accordingly by Change Order. The payment shall be made on the basis of the actual approved amount without additional charge or markups for overhead, insurances, bonds, or any other incidental expenses. The Contractor shall be responsible for all coordination involved and for the timely completion of the work to fit their schedule.

- d. Measurement and Payment.** The completed work, as described, will be measured, and paid for at the approved price for the following pay item:

CITY OF ANN ARBOR  
DETAILED SPECIFICATION  
FOR  
**PROTECTING AND PRESERVING IRRIGATION SYSTEMS**

AA:DD/AMW

2 of 2

01/22/25

**Pay Item**

**Pay Unit**

DS\_Irrigation System, Allowance.....Dollar

The approved price for this item shall include all labor, material, and equipment costs required to complete the work. This payment will be processed when invoices are received and will not exceed the allowance.



**ATTACHMENT B**  
**GENERAL DECLARATIONS**

City of Ann Arbor  
Guy C. Larcom Municipal Building  
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements and Declaration of Compliance Form, Living Wage requirements and Declaration of Compliance Form, Prevailing Wage requirements and Declaration of Compliance Form, Vendor Conflict of Interest Form, Notice of Pre-Bid Conference, General Information, Bid, Bid Forms, Contract, Bond Forms, General Conditions, Standard Specifications, Detailed Specifications, all Addenda, and the Plans (if applicable) and understands them. The Bidder declares that it conducted a full investigation at the site and of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance. The Bidder also declares that it has extensive experience in successfully completing projects similar to this one.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

The undersigned proposes to perform all work shown on the plans or described in the bid documents, including any addenda issued, and to furnish all necessary machinery, tools, apparatus, and other means of construction to do all the work, furnish all the materials, and complete the work in strict accordance with all terms of the Contract of which this Bid is one part.

In accordance with these bid documents, and Addenda numbered \_\_\_\_\_, the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

The Bidder declares that it has become fully familiar with the provisions of Chapter 14, Section 1:320 (Prevailing wages) and Chapter 23 (Living Wage) of the Code of the City of Ann Arbor and that it understands and agrees to comply, to the extent applicable to employees providing services to the City under this Contract, with the wage and reporting requirements stated in the City Code provisions cited. Bidder certifies that the statements contained in the City Prevailing Wage and Living Wage Declaration of Compliance Forms are true and correct. Bidder further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

The Bidder encloses a certified check or Bid Bond in the amount of 5% of the total of the Bid Price. The Bidder agrees both to contract for the work and to furnish the necessary Bonds and insurance documentation within 10 days after being notified of the acceptance of the Bid.

If this Bid is accepted by the City and the Bidder fails to contract and furnish the required Bonds and insurance documentation within 10 days after being notified of the acceptance of this Bid, then the Bidder shall be considered to have abandoned the Contract and the certified check or Bid Bond accompanying this Bid shall become due and payable to the City.

If the Bidder enters into the Contract in accordance with this Bid, or if this Bid is rejected, then the accompanying check or Bid Bond shall be returned to the Bidder.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 202\_.

\_\_\_\_\_  
Bidder's Name

\_\_\_\_\_  
Authorized Signature of Bidder

\_\_\_\_\_  
Official Address

\_\_\_\_\_  
(Print Name of Signer Above)

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Email Address for Award Notice

**ATTACHMENT C**  
**LEGAL STATUS OF BIDDER**

(The bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

\* A corporation organized and doing business under the laws of the State of \_\_\_\_\_, for whom \_\_\_\_\_, bearing the office title of \_\_\_\_\_, whose signature is affixed to this Bid, is authorized to execute contracts.

**NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority**

• A limited liability company doing business under the laws of the State of \_\_\_\_\_, whom \_\_\_\_\_ bearing the title of \_\_\_\_\_ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

\* A partnership, organized under the laws of the state of \_\_\_\_\_ and filed in the county of \_\_\_\_\_, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

---

---

---

---

---

\* An individual, whose signature with address, is affixed to this Bid: \_\_\_\_\_  
(initial here)

**Authorized Official**

\_\_\_\_\_ **Date** \_\_\_\_\_, 202\_

(Print) Name \_\_\_\_\_ Title \_\_\_\_\_

Company:

---

Address:

---

Contact Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Email \_\_\_\_\_

## **ATTACHMENT D PREVAILING WAGE DECLARATION OF COMPLIANCE**

The "wage and employment requirements" of Section 1:320 of Chapter 14 of Title I of the Ann Arbor City Code mandates that the city not enter any contract, understanding or other arrangement for a public improvement for or on behalf of the city unless the contract provides that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. Where the contract and the Ann Arbor City Code are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used. Further, to the extent that any employees of the contractor providing services under this contract are not part of the class of craftsmen, mechanics and laborers who receive a prevailing wage in conformance with section 1:320 of Chapter 14 of Title I of the Code of the City of Ann Arbor, employees shall be paid a prescribed minimum level of compensation (i.e. Living Wage) for the time those employees perform work on the contract in conformance with section 1:815 of Chapter 23 of Title I of the Code of the City of Ann Arbor.

At the request of the city, any contractor or subcontractor shall provide satisfactory proof of compliance with this provision.

The Contractor agrees:

- (a) To pay each of its employees whose wage level is required to comply with federal, state or local prevailing wage law, for work covered or funded by this contract with the City,
- (b) To require each subcontractor performing work covered or funded by this contract with the City to pay each of its employees the applicable prescribed wage level under the conditions stated in subsection (a) or (b) above.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the wage and employment provisions of the Chapter 14 of the Ann Arbor City Code. The undersigned certifies that he/she has read and is familiar with the terms of Section 1:320 of Chapter 14 of the Ann Arbor City Code and by executing this Declaration of Compliance obligates his/her employer and any subcontractor employed by it to perform work on the contract to the wage and employment requirements stated herein. The undersigned further acknowledges and agrees that if it is found to be in violation of the wage and employment requirements of Section 1:320 of the Chapter 14 of the Ann Arbor City Code it shall has be deemed a material breach of the terms of the contract and grounds for termination of same by the City.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Address, City, State, Zip

\_\_\_\_\_  
Phone/Email address

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500

## ATTACHMENT E

### LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

*Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here  No. of employees\_\_*

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$16.43/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$18.32/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

**Check the applicable box below which applies to your workforce**

- Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits
- Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Phone/Email address

## Attachment F

# CITY OF ANN ARBOR LIVING WAGE ORDINANCE

**RATE EFFECTIVE APRIL 30, 2024 - ENDING APRIL 29, 2025**

**\$16.43** per hour

If the employer provides health care benefits\*

**\$18.32** per hour

If the employer does **NOT** provide health care benefits\*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

## **ENFORCEMENT**

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

\* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

**The Law Requires Employers to Display This Poster Where Employees Can Readily See It.**

**For Additional Information or to File a Complaint contact  
Colin Spencer at 734/794-6500 or [cspencer@a2gov.org](mailto:cspencer@a2gov.org)**



**ATTACHEMENT G**

<b>Vendor Conflict of Interest Disclosure Form</b>
--

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

<b>Conflict of Interest Disclosure*</b>	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee <hr/> <input type="checkbox"/> Interest in vendor's company <input type="checkbox"/> Other (please describe in box below)

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

<b>I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:</b>		
<b>Vendor Name</b>	<b>Vendor Phone Number</b>	
<b>Signature of Vendor Authorized Representative</b>	<b>Date</b>	<b>Printed Name of Vendor Authorized Representative</b>

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500, [procurement@a2gov.org](mailto:procurement@a2gov.org)





## ATTACHMENT I

### CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.

You can review the entire ordinance at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights).

**Intent:** It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

**Discriminatory Employment Practices:** No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

**Discriminatory Effects:** No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

**Nondiscrimination by City Contractors:** All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

**Complaint Procedure:** If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights). Then submit it to the Human Rights Commission by e-mail ([hrc@a2gov.org](mailto:hrc@a2gov.org)), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at [hrc@a2gov.org](mailto:hrc@a2gov.org).

**Private Actions For Damages or Injunctive Relief:** To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND  
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

## MICHIGAN DEPARTMENT OF TRANSPORTATION CERTIFIED PAYROLL

COMPLETION OF CERTIFIED PAYROLL FORM FULFILLS THE MINIMUM MDOT PREVAILING WAGE REQUIREMENTS

(1) NAME OF CONTRACTOR / SUBCONTRACTOR (CIRCLE ONE) (2) ADDRESS

(3) PAYROLL NO. (4) FOR WEEK ENDING (5) PROJECT AND LOCATION (6) CONTRACT ID

(a)	(b)	(c)	(d) DAY AND DATE							(e)	(f)	(g)	(h)	(i)	(j) DEDUCTIONS						(k)		
			HOURS WORKED ON PROJECT												TOTAL HOURS ON PROJECT	PROJECT RATE OF PAY	PROJECT RATE OF FRINGE PAY	GROSS PROJECT EARNED	GROSS WEEKLY EARNED	TOTAL WEEKLY HOURS WORKED ALL JOBS		FICA	FEDERAL
EMPLOYEE INFORMATION	WORK CLASSIFICATION	Hour Type								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00
ETH#GEN: ID #:	GROUP/CLASS #:	S								0			\$0.00									\$0.00	\$0.00
NAME:										0			\$0.00									\$0.00	\$0.00

Date \_\_\_\_\_

I, \_\_\_\_\_  
 (Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

\_\_\_\_\_ on the  
 (Contractor or Subcontractor)  
 \_\_\_\_\_; that during the payroll period commencing on the  
 (Building or Work)

\_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and ending the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_,  
 all persons employed on said project have been paid the full weekly wages earned, that no rebates have  
 been or will be made either directly or indirectly to or on behalf of said

\_\_\_\_\_ from the full  
 (Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly  
 from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part  
 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,  
 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

(2) That any payrolls otherwise under this contract required to be submitted for the above period are  
 correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the  
 applicable wage rates contained in any wage determination incorporated into the contract; that the  
 classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide  
 apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of  
 Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a  
 State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- in addition to the basic hourly wage rates paid to each laborer or mechanic listed in  
 the above referenced payroll, payments of fringe benefits as listed in the contract  
 have been or will be made to appropriate programs for the benefit of such  
 employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid,  
 as indicated on the payroll, an amount not less than the sum of the applicable  
 basic hourly wage rate plus the amount of the required fringe benefits as listed  
 in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR  
 SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE  
 31 OF THE UNITED STATES CODE.

## APPENDIX



**REVISED GEOTECHNICAL DATA PACKAGE  
2025 STREET RESURFACING  
ANN ARBOR, MICHIGAN**

**Prepared For:**

CITY OF ANN ARBOR  
Ann Arbor, Michigan

**Prepared By:**

MATERIALS TESTING CONSULTANTS, INC.

October 2024  
MTC Project No. 241423 Rev. 1



# MATERIALS TESTING CONSULTANTS

October 18, 2024

Project No. 241423 Rev. 1

City of Ann Arbor  
Guy C. Larcom City Hall  
301 E. Huron, 4th Floor  
Ann Arbor, Michigan 48107

Attention: Andrea Wright

Reference: Revised Geotechnical Data Package  
2025 Street Resurfacing  
Ann Arbor, Michigan

Dear Ms. Wright:

We have completed a geotechnical investigation for the above-referenced project. The purpose of this investigation has been to identify the general subsurface soil conditions for streets associated with the 2025 street resurfacing program. The report was revised in response to review comments received from the City of Ann Arbor on October 11, 2024. This work has been performed as described in our proposal dated June 17, 2024, and in accordance with our active City of Ann Arbor contract for Geotechnical and Environmental Services.

Presented herein are descriptions of our understanding of the design considerations, the geotechnical investigation and encountered conditions. The Appendix contains the report limitations and data collected during this investigation.

## AVAILABLE INFORMATION

We have been provided the following documents and information for use in this investigation:

- A set of maps with associated requested boring locations, received from Ms. Andrea Wright of the City of Ann Arbor on June 13, 2024.
- A map with additional soil borings along East Ann Street, received from Ms. Andrea Wright of the City of Ann Arbor on August 16, 2024.
- A map with additional soil borings along South Fifth Street, received from Ms. Andrea Wright of the City of Ann Arbor on August 19, 2024
- Telephone and email conversations with Ms. Andrea Wright of the City of Ann Arbor regarding the scope of geotechnical investigation, including removal of South University Avenue from the project scope.

The areas of investigation are shown in Figure Nos. 1 to 10. The investigation was located along 15 streets within the City of Ann Arbor, and a full list of explored locations is provided in



the data table of the Appendix. We understand the investigated roads are candidates for resurfacing in the 2025 season.

## INVESTIGATION METHODOLOGY

### Field Investigation

Pavement cores, hand auger borings and sampling along with field engineering reconnaissance were used to investigate the subsurface conditions. Boring locations are shown on the attached plans, Figure Nos. 1 to 10. Investigation procedures, soil classification information and boring logs are provided in the Appendix.

Number of Borings	47
Boring Depth Range, ft.	0.7 to 5

MTC staked the approximate boring locations in the field. Boring elevations were approximated from the Washtenaw County GIS. The elevations used in this report are given in feet and are based on NAVD88 datum, with boring locations noted on the logs based on offsets from physical reference points. If more precise location and elevation data are desired, a registered professional land surveyor should be retained to locate the borings and determine their ground elevations.

The drilling was performed using hand auger equipment to advance the boreholes through pavement cores. The boreholes were backfilled to the original ground surface after drilling completion and patched at the surface with asphalt cold patch.

Recovered samples were sealed, labeled and transported to our laboratory. All soil samples will be discarded after sixty days unless a longer hold time is specifically requested.

Borings were drilled and other sampling was conducted solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.

### Laboratory

The recovered soil samples were reviewed by an engineer and technically classified according to the methods of ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)". Estimates of the unconfined compressive strength of the cohesive samples were made using a calibrated penetrometer. A copy of the test boring logs along with a description of the terminology used on the logs and a chart of the ASTM D2488 group symbol names are provided in the Appendix. Selected samples were subjected to various laboratory tests, including:



- ASTM D2216 "Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass"
- ASTM D2974 "Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils"

A summary table of the soil conditions, laboratory moisture results and the estimated resilient modulus for each soil type is contained in the Appendix.

The estimated values for resilient modulus,  $M_r$ , have been provided based on the visual classification of the soil and Table 12-2 in the Michigan DOT User Guide for Mechanistic Empirical Pavement Design, Interim Edition dated March 2015. Other data including results from FWD testing, local knowledge, or from past ME pavement performance on similar subgrade materials may also be of use in estimating resilient modulus if they are available. Typically, recommendations based on visual classification are given as a range of values for various assumptions regarding compaction, moisture content and roadway type. Generally, more conservative values of resilient modulus should be used on high traffic roads with a higher cost to early failure, in areas of high soil moisture/high water table and in areas of variable soil, utility trenches, etc. Conversely, less conservative (higher range) values are typically used on lower traffic roads with drier and more uniform soils.

## INVESTIGATION RESULTS

Listed below are summaries of the encountered subsurface conditions within the area of investigation. The boring logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring locations is to be expected.

Groundwater was only encountered in SB2025-039 at a depth of 3.9 ft. Groundwater levels may fluctuate due to seasonal variations such as precipitation, snowmelt, nearby river or lake levels and other factors that may not be evident at the time of measurement. Groundwater levels may be different at the time of construction.

### Subsurface Conditions

#### *Independence Boulevard from Packard Street to Essex Road – Borings SB2025-001 to SB2025-006*

Borings SB2025-001 to SB2025-005 generally encountered 3 to 3 ¼ inches of HMA, while Boring SB2025-006 encountered 6 inches of HMA. Borings SB2025-001 to SB2025-003, SB2025-005 and SB2025-006 generally encountered 9 to 15 inches of gravel base. Boring SB2025-004 encountered 6 ¾ inches of gravel base before meeting shallow refusal within the gravel base. Beneath the surficial materials, Borings SB2025-001, SB2025-002, SB2025-005 and SB2025-006 generally encountered poorly graded sand with varying amounts of clayey fines (SP, SP-SC, SC) to the explored depths of 2.3 to 5 ft, with the exception





of a layer of lean clay with sand (CL) encountered in Boring SB2025-005 at depths ranging from 2 to 4 ft. Boring SB2025-003 encountered sandy lean clay (CL) to the explored depth of 3.8 ft.

*Essex Road from Independence Boulevard to Colony Road – Borings SB2025-007 to SB2025-008*

Borings SB2025-007 and SB2025-008 generally encountered 2 ¾ to 3 inches of HMA and 12 to 20 inches of gravel base. Beneath the pavement sections, Boring SB2025-007 encountered lean clay with sand (CL) to the explored depth of 2.2 ft and Boring SB2025-008 encountered poorly graded sand (SP) to the explored depth of 5 ft.

*Ferdon Road from East Stadium Boulevard to Crestland Drive – Borings SB2025-009 to SB2025-012*

Borings SB2025-009 to SB2025-012 generally encountered 3 to 5 ½ inches of HMA overlying 10 to 15 inches of gravel base. Boring SB2025-012 encountered 16 inches of gravel base before meeting shallow refusal within the gravel base. Beneath the pavement sections, Borings SB2025-009 and SB2025-010 generally encountered lean clay with sand (CL) to the explored depths of 2 ft and Boring SB2025-011 encountered poorly graded sand (SP) to the explored depth of 1.5 ft.

*Steele Place from South Boulevard to Brockman Boulevard – Borings SB2025-013 and SB2025-014*

Borings SB2025-013 and SB2025-014 generally encountered 2 inches of HMA and 15 to 16 inches of gravel base. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey fines (SP, SC) to the explored depths of 2 to 2.3 ft.

*Devolson Avenue from Brockman Boulevard to Anderson Avenue – Borings SB2025-015 and SB2025-016*

Borings SB2025-015 and SB2025-016 generally encountered 5 to 6 inches of HMA and 7 to 12 inches of gravel base. Beneath the pavement sections, the borings generally encountered clayey sand (SC) to the explored depths of 2.2 to 2.5 ft.

*Gladstone Avenue from Columbia Avenue to Packard Road – Borings SB2025-017 to SB2025-019*

Borings SB2025-017 to SB2025-019 generally encountered 3 to 3 ¼ inches of HMA overlying 15 inches of gravel base. Boring SB2025-018 encountered 9 inches of gravel base before meeting shallow refusal within the gravel base. Beneath the pavement sections, Borings



SB2025-017 and SB2025-019 generally encountered poorly graded sand with varying amounts of clayey fines (SP-SC, SC) to the explored depths of 2.1 to 2.2 ft.

*Carhart Avenue from Winchell Drive to Crestland Drive – Borings SB2025-020 to SB2025-022*

Borings SB2025-020 to SB2025-022 generally encountered 4 to 4  $\frac{3}{4}$  inches of HMA and 13 to 18 inches of gravel base. Beneath the pavement sections, Borings SB2025-020 to SB2025-022 generally encountered lean clay (CL) to the explored depths of 1.6 to 5 ft. A layer of dark brown lean clay (CL) with organic odor and organic content of 8.3 percent was encountered in Boring SB2025-020 from 1.5 to 3 ft depth.

*Anderson Avenue from Ferdon Road to Carhart Avenue – Borings SB2025-023 to SB2025-025*

Borings SB2025-023 to SB2025-025 generally encountered 3  $\frac{1}{2}$  to 4 inches of HMA and 10 to 15 inches of gravel base. Beneath the pavement sections, Borings SB2025-024 and SB2025-025 generally encountered lean clay (CL) to the explored depths of 1.9 to 2.4 ft and SB2025-023 encountered clayey sand (SC) to the explored depth of 2 ft.

*Gloucester Way from Oakwood Street to Norwood Street – Borings SB2025-026 to SB2025-028*

Borings SB2025-026 to SB2025-028 generally encountered 4 to 5  $\frac{1}{4}$  inches of HMA and 7 to 10 inches of gravel base. Beneath the pavement sections, Borings SB2025-026 to SB2025-028 generally encountered lean clay (CL) and clayey sand (SC) to the explored depths of 3.8 to 5 ft. Boring SB2025-027 encountered lean clay (CL) and clayey sand (SC) to a depth of 3 ft and silty sand (SM) to the explored depth of 3.2 ft.

*Old Boston Court – Boring SB2025-029*

Boring SB2025-029 encountered 4 inches of HMA and 10 inches of gravel base. Beneath the pavement section, the boring encountered fill, consisting of sandy lean clay (CL), to a depth of 3 ft and native sandy lean clay (CL) to the explored depth of 3.4 ft.

*Washtenaw Service Drive from South Huron Parkway to Pittsfield Boulevard – Borings SB2025-030 to SB2025-033*

Borings SB2025-030 to SB2025-033 generally encountered 3  $\frac{1}{2}$  to 6  $\frac{1}{2}$  inches of HMA and 7 to 11 inches of gravel base. Beneath the pavement sections, Boring SB2025-031 encountered fill, consisting of poorly graded sand with silt (SP-SM) to a depth of 1.3 ft. Beneath the pavement sections and fill, Borings SB2025-031, SB2025-032 and SB2025-033 generally encountered lean clay (CL) to the explored depths of 1.4 to 5 ft, while Boring



SB2025-030 encountered poorly graded sand with silt and gravel to the explored depth of 5 ft.

*LaSalle Drive from St. Aubin Avenue to LeFere Street – Boring SB2025-036*

Boring SB2025-036 encountered 4 ½ inches of HMA over 3 inches of gravel base. Beneath the pavement section, the boring encountered very stiff sandy lean clay (CL) to the explored depth of 1.8 ft.

*Creek Drive from Belvidere Street to LeFere Street – Boring SB2025-037*

Boring SB2025-037 encountered 3 ½ inches of HMA over 9 inches of gravel base. Beneath the pavement section, the boring encountered lean clay (CL) to the explored depth of 4.7 ft.

*Belvidere Drive from Lorraine Street to Creek Drive – Borings SB2025-038 and SB2025-039*

Borings SB2025-038 and SB2025-039 generally encountered 3 to 4 inches of HMA and 11 inches of gravel base. Beneath the pavement sections, Boring SB2025-039 encountered fill, consisting of lean clay (CL), to a depth of 3.9 ft, poorly graded sand (SP) to 4.5 ft and lean clay to the explored depth of 5 ft. Boring SB2025-038 encountered lean clay (CL) to the explored depth of 5 ft. Groundwater was encountered in Boring SB2025-039 at a depth of 3.9 ft.

*South Fifth Avenue from East Williams Street to East Madison Avenue – Borings SB2025-042 to SB2025-044, SB2025-051 and SB2025-052*

Borings SB2025-042 to SB2025-044, SB2025-051 and SB2025-052 encountered the following pavement sections.

Boring No.	HMA (in.)	Concrete (in)	Gravel Base (in)
SB2025-042	7 1/2	-	12
SB2025-043	6	-	11
SB2025-044	2 1/2	7 1/2	-
SB2025-050	3	7	8
SB2025-051	5	5	12

Beneath the pavement sections, Borings SB2025-043, SB2025-044 and SB2025-051 generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SM, SC, SM) to the explored depths of 1.6 to 5 ft, while Boring SB2025-050 encountered poorly graded gravel (GP) to the explored depth of 2.5 ft and Boring SB2025-042 encountered poorly graded sand with silt (SP-SM) to a depth of 1.9 ft and gravelly lean clay (CL) to the explored depth of 2.3 ft.



*East Ann Street from Observatory Street to Zina Pitcher Place – Borings SB2025-045 to SB2025-050*

Borings SB2025-045 to SB2025-050 generally encountered 4  $\frac{3}{4}$  to 6  $\frac{1}{2}$  inches of HMA. Borings SB2025-045, SB2025-046 and SB2025-048 generally encountered 10 to 12 inches of gravel base beneath the HMA, while Boring SB2025-047 encountered 6 inches of concrete. Boring SB2025-050 encountered shallow hand auger refusal within the gravel base and encountered only 3 inches of gravel base.

Beneath the pavement sections, Boring SB2025-045 encountered fill, consisting of poorly graded sand with silt (SP-SM) to a depth of 2.3 ft. Beneath the pavements and fill, Borings SB2025-045 and SB2025-046 encountered poorly graded sand with varying amounts of silty and clayey fines (SP-SC, SP-SM), while Borings SB2025-047 and SB2025-048 generally encountered lean clay (CL) and clayey sand (SC) to the explored depths of 3.1 to 5 ft.

This section has provided a generalized description of the encountered subsurface soil conditions. The boring logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring locations may be expected.



## CLOSURE

In this data package, descriptions of the geotechnical investigation and encountered conditions have been presented. The limitations of this study are described in the Appendix.

We appreciate this opportunity to provide this service to you on this project. Please contact our office should you have any questions or require further assistance.

Sincerely,

## MATERIALS TESTING CONSULTANTS, INC.


Ryan D. Starcher, P.E.  
Project Manager

Robert J. Warren, P.E.  
Senior Project Manager

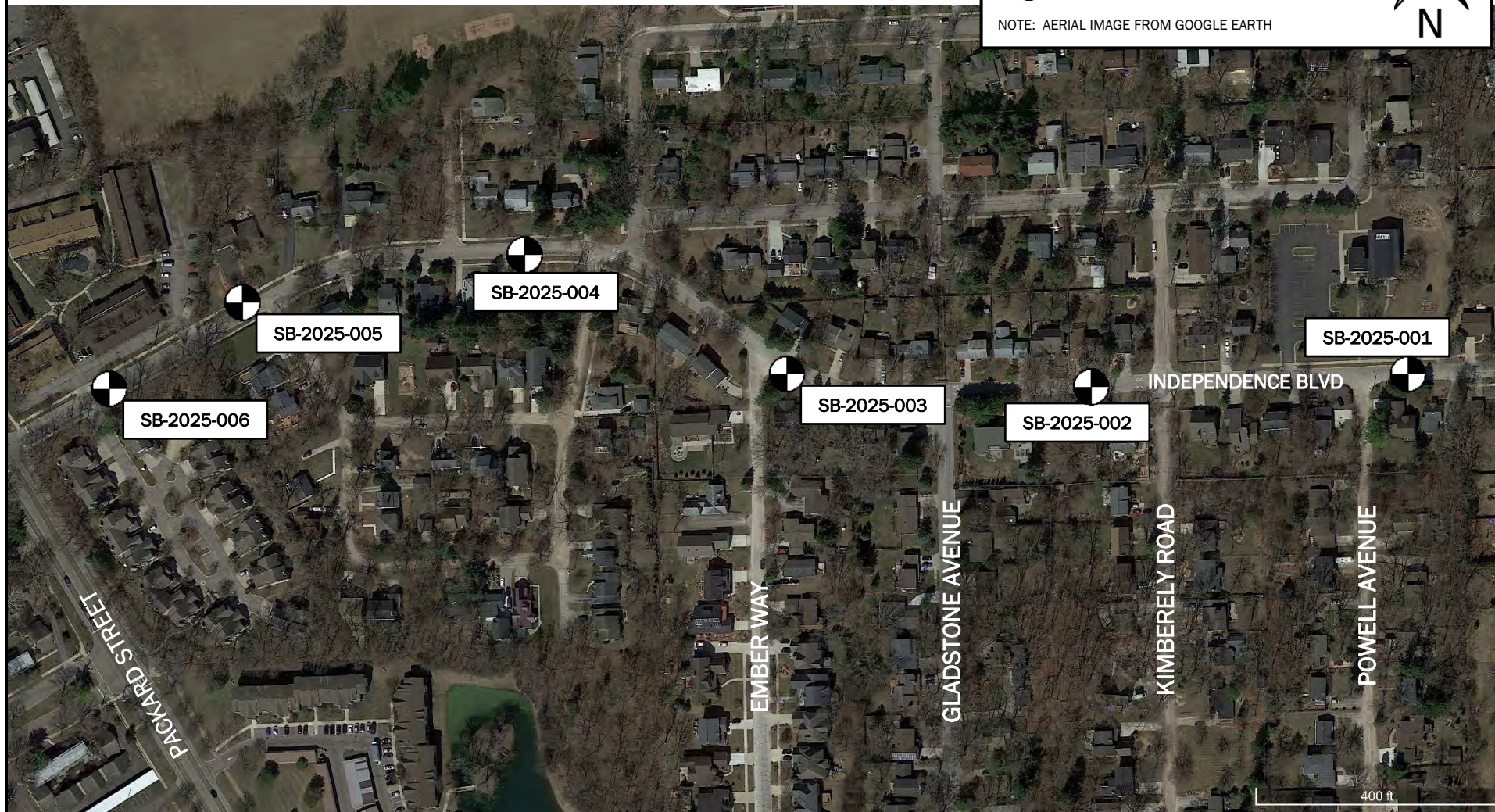
Attachments: Figure Nos. 1 to 10 - Boring Location Plans  
Table 1 – Summary of Investigation Results  
Appendix  
- Limitations  
- Test Drilling and Sampling Procedures  
- Boring Log Terminology and Classification Outline  
- Boring Logs  
- Summary of Laboratory Test Data  
- Core Photograph Log



LEGEND

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH



TITLE: BORING LOCATION PLAN

PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING

SCALE: AS SHOWN

DATE: 10/18/2024

PROJECT NO.: 241423

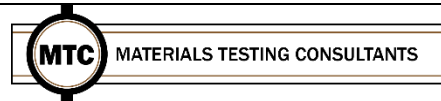
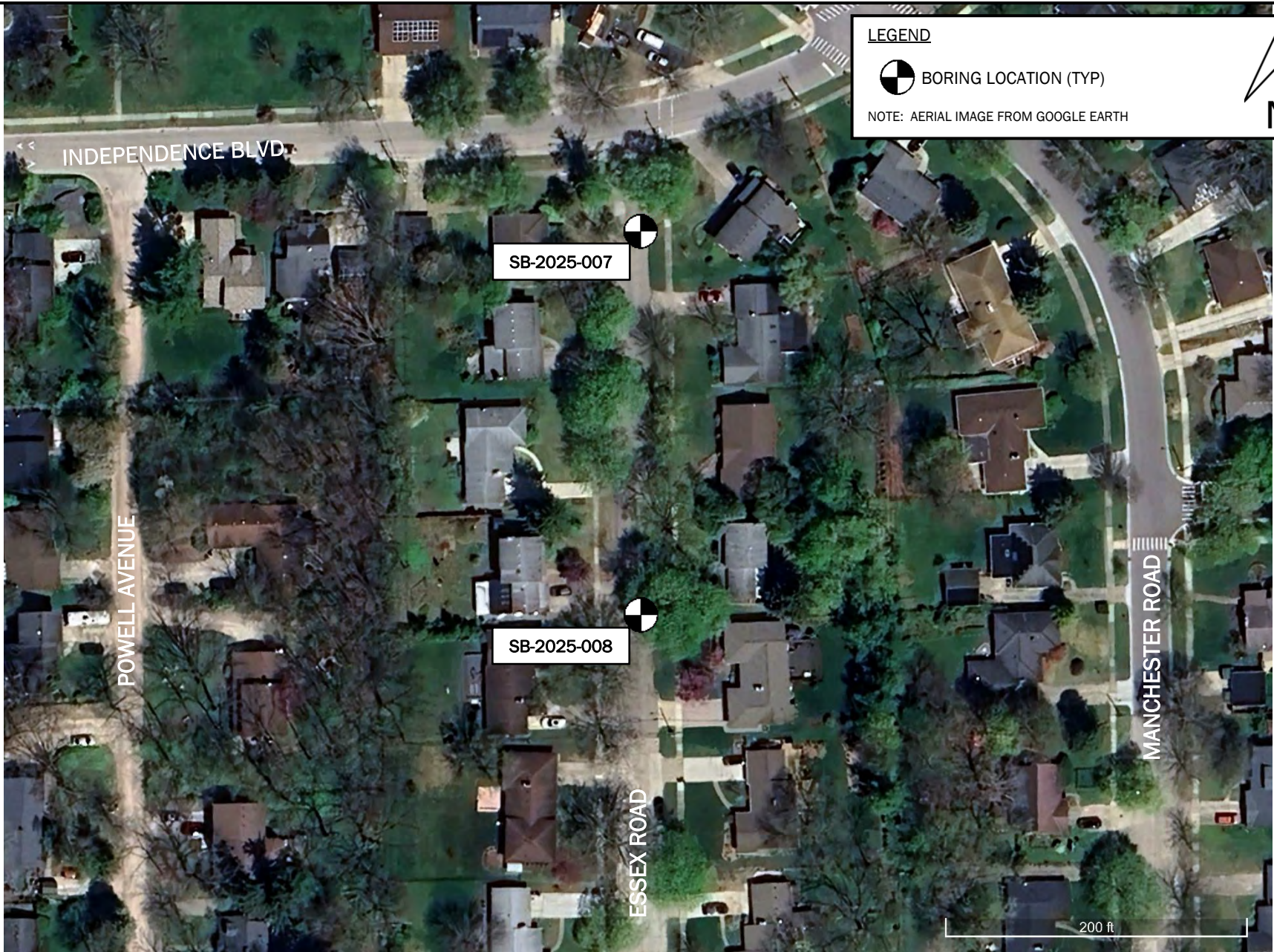


FIG. NO.: 1


DR. BY: JM

REV. BY: RS







**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH

 N

TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING	
SCALE: AS SHOWN	DATE: 10/18/2024	PROJECT NO.: 241423	 <b>MTC</b> MATERIALS TESTING CONSULTANTS
FIG. NO.: 2	DR. BY: JM	REV. BY: RS	





TITLE: BORING LOCATION PLAN

PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING

SCALE: AS SHOWN

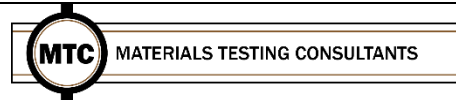
DATE: 10/18/2024

PROJECT NO.: 241423

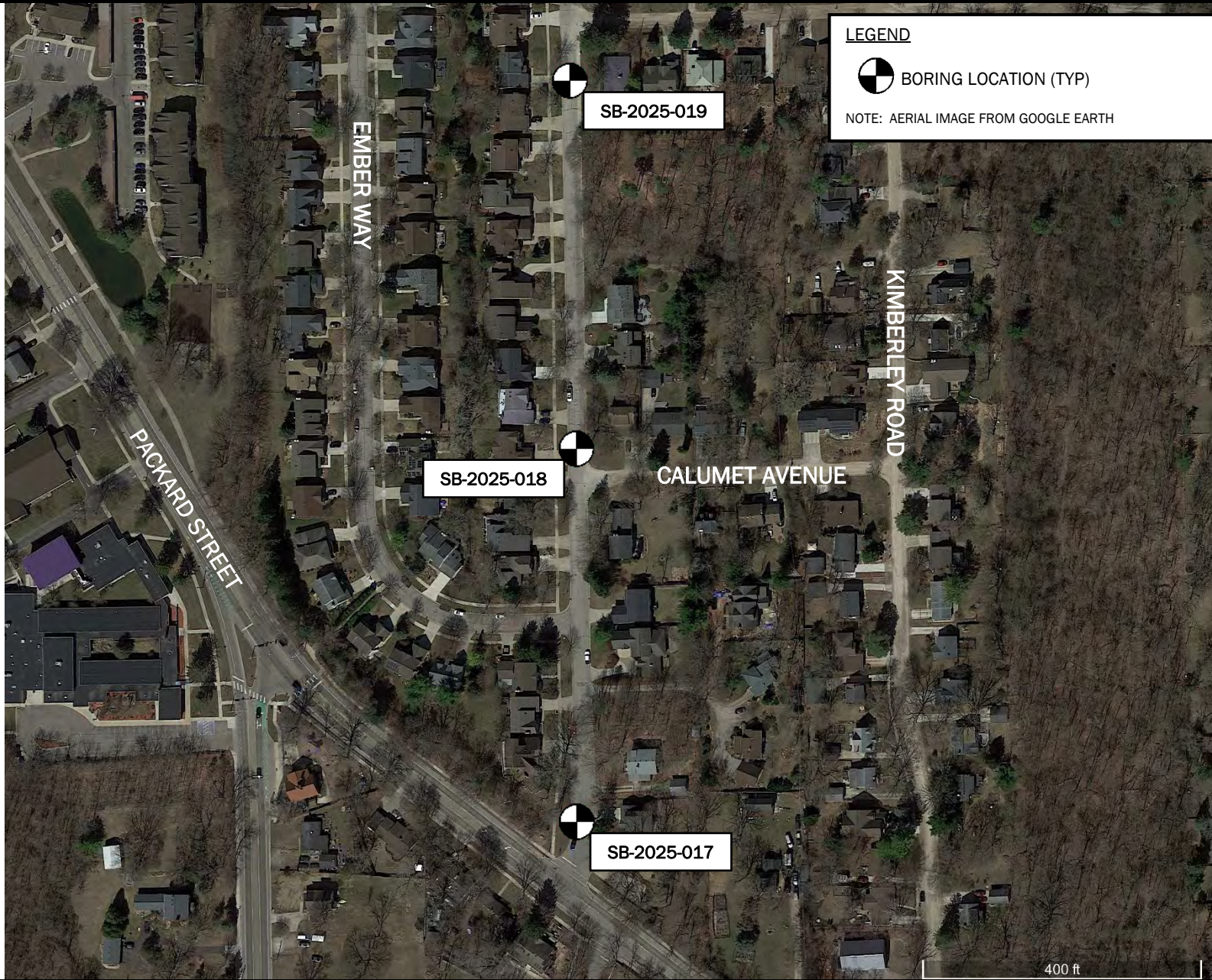
FIG. NO.: 3

DR. BY: JM

REV. BY: RS








**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH


 N

TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING	
SCALE: AS SHOWN	DATE: 10/18/2024	PROJECT NO.: 241423	 MATERIALS TESTING CONSULTANTS
FIG. NO.: 4	DR. BY: JM	REV. BY: RS	






**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH



TITLE: BORING LOCATION PLAN

PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING

SCALE: AS SHOWN

DATE: 10/18/2024

PROJECT NO.: 241423

FIG. NO.: 5

DR. BY: JM

REV. BY: RS



**MATERIALS TESTING CONSULTANTS**





TITLE: BORING LOCATION PLAN

PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING

SCALE: AS SHOWN

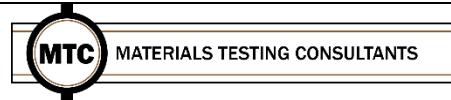
DATE: 10/18/2024

PROJECT NO.: 241423

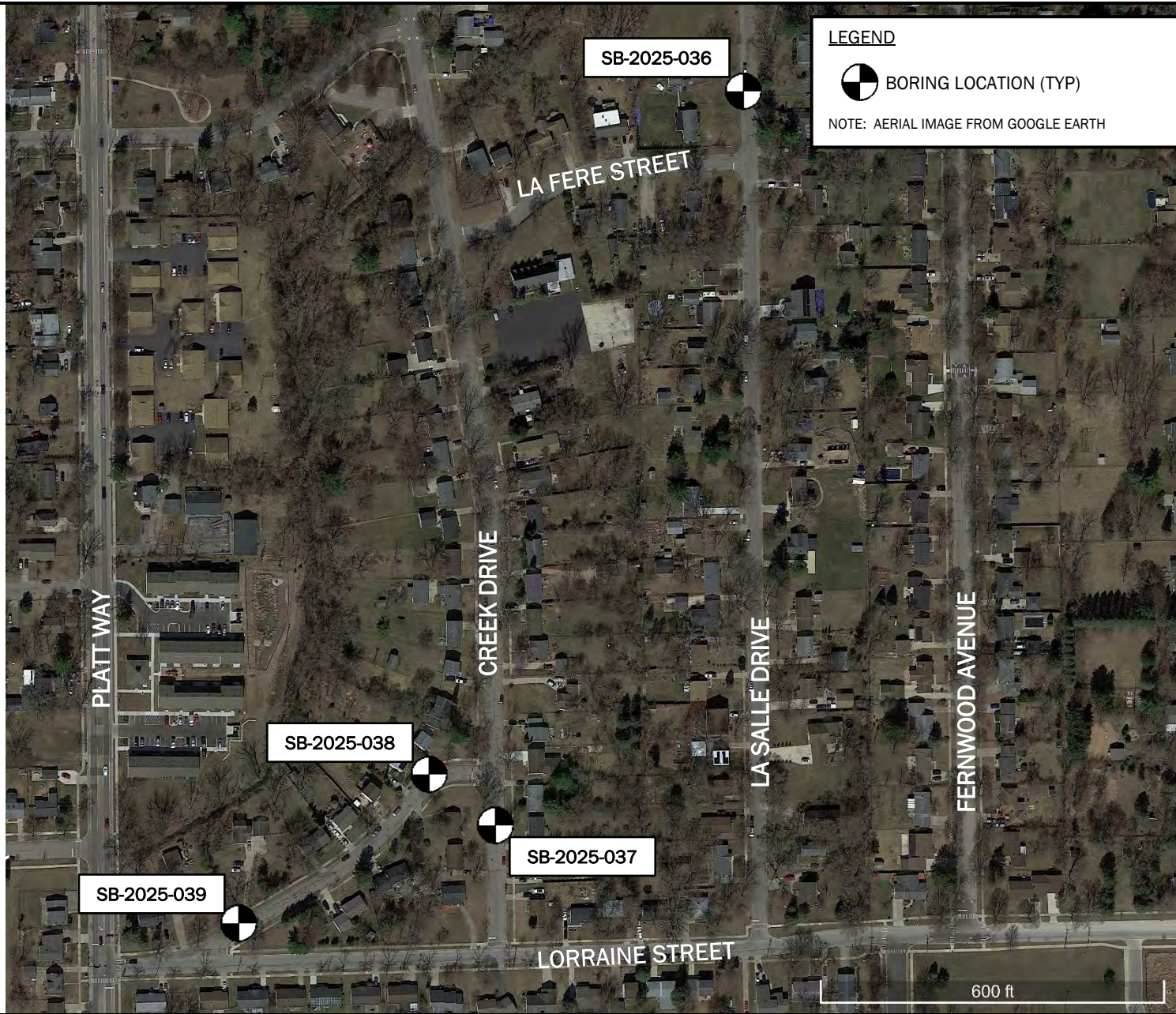
FIG. NO.: 6

DR. BY: JM

REV. BY: RS








**LEGEND**

 BORING LOCATION (TYP)


NOTE: AERIAL IMAGE FROM GOOGLE EARTH




TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING	
SCALE: AS SHOWN	DATE: 10/18/2024	PROJECT NO.: 241423	 <b>MTC</b> MATERIALS TESTING CONSULTANTS
FIG. NO.: 7	DR. BY: JM	REV. BY: RS	

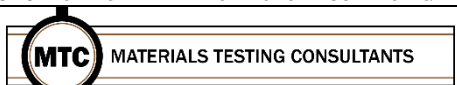


**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH





TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING	
SCALE: AS	DATE: 10/18/2024	PROJECT NO.: 241423	 <b>MTC</b> MATERIALS TESTING CONSULTANTS	
FIG. NO.: 8	DR. BY: RS	REV. BY: RW		







**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH

 N

TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING	
SCALE: AS SHOWN	DATE: 10/18/2024	PROJECT NO.: 241423	 MATERIALS TESTING CONSULTANTS
FIG. NO.: 9	DR. BY: JM	REV. BY: RS	





TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR 2025 RESURFACING PAVEMENT CORING	
SCALE: AS SHOWN	DATE: 10/18/2024	PROJECT NO.: 241423	
FIG. NO.: 10	DR. BY: JM	REV. BY:	





**Table 1 - Summary of Investigation Results**

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
Independence Boulevard	Packard Street to Essex Road	SB2025-001 to SB2025-006	3 to 3 1/4 SB2025-006: 6	9" to 15" Gravel SB2025-004 refusal within gravel base at 7"	SB2025-001: Poorly graded sand with clay (SP-SC) to 2.3 ft SB2025-002: Clayey sand (SC) to 3.5 ft SB2025-003: Sandy lean clay (CL) to 3.8 ft SB2025-004: Boring terminated within aggregate base SB2025-005: Clayey sand (SC) to 2 ft, lean clay with sand (CL) to 4 ft, poorly graded sand with clay (SP-SC) to 5 ft SB2025-006: Poorly graded sand (SP) to 4.3 ft	SC: 3,700 - 5,100 SP-SC: 3,700 - 5,100 SP: 5,500 - 7,500 CL: 3,700 - 5,100	SC: 9.7 to 14.8 CL: 10.2 to 17.5
Essex Road	Independence Boulevard to Colony Road	SB2025-007 to SB2025-008	2 3/4 to 3	12" to 20" Gravel	SB2025-007: Lean clay with sand (CL) to 2.2 ft SB2025-008: Poorly graded sand (SP) to 5 ft	SP: 5,500 - 7,500 CL: 3,700 - 5,101	CL: 16.6
Ferdon Road	East Stadium Blvd to Crestland Drive	SB2025-009 to SB2025-012	3 to 5 1/2	10" to 15" Gravel SB2025-012 refusal within gravel base at 16"	SB2025-009 and SB2025-010: Sandy lean clay (CL) to 2 ft SB2025-011: Poorly graded sand (SP) to 1.5 ft	CL: 3,700 - 5,101 SP: 5,500 - 7,500	CL: 9.4 to 13.8
Steele Place	South Blvd to Brockman Blvd	SB2025-013 to SB2025-014	2	15" to 16" Gravel	SB2025-013: Poorly graded sand (SP) to 2 ft SB2025-014: Clayey sand (SC) to 2.3 ft	SP: 5,500 - 7,500 SP-SC: 3,700 - 5,100	SC: 11.1
Devolson Avenue	Brockman Blvd to Anderson Ave	SB2025-015 to SB2025-016	5 to 6	7" to 12" Gravel	SB2025-015 and SB2025-016: Clayey sand (SC) to 2.2 to 2.5 ft	SC: 3,700 - 5,100	SC: 9.5 to 11.0
Gladstone Avenue	Columbia Ave to Packard Road	SB2025-017 to SB2025-019	3 to 3 1/4	15" Gravel SB-2025-018 refusal within gravel base at 9"	SB2025-017: Poorly graded sand with clay (SP-SC) to 2.1 ft SB2025-019: Clayey sand (SC) to 2.2 ft	SC: 3,700 - 5,100 SP-SC: 3,700 - 5,100	SC: 11.5
Carhart Avenue	Winchell Dr to Crestland Dr	SB2025-020 to SB2025-022	4 to 4 3/4	13" to 18" Gravel	SB2025-020: Lean clay (CL) to 5 ft (possible organics to 3 ft) SB2025-021 and SB2025-022: Lean clay (CL) to 1.6 to 5 ft	CL: 3,700 - 5,100	CL: 13.2 to 32.9
Anderson Avenue	Ferdon Road to Carhart Avenue	SB2025-023 to SB2025-025	3 1/2 to 4	10" to 15" Gravel	SB2025-023: Clayey sand (SC) to 2 ft SB2025-024, SB2025-025: Lean clay (CL) to 1.9 to 2.4	SC: 3,700 - 5,100 CL: 3,700 - 5,100	SC: 11.8 CL: 11.4 to 14.5
Gloucester Way	Oakwood St to Norwood St	SB2025-026 to SB2025-028	4 to 5 1/4	7" to 10" Gravel	SB2025-026: Lean clay (CL) to 5 ft SB2025-027: Lean clay (CL) to 1.8 ft, clayey sand (SC) to 3 ft, silty sand with gravel (SM) to 3.2 ft SB2025-028: Lean clay with sand (CL), clayey sand (SC) to 2.4 ft, lean clay with sand (CL) to 3.8 ft	SC: 3,700 - 5,100 SM: 4,400-6,000 CL: 3,700 - 5,100	CL: 7.4 to 18.8 SC: 14.6





Table 1 - Summary of Investigation Results, Continued

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
Old Boston Court	Platt Road	SB2025-029	4	10" Gravel	Sandy lean clay (CL) to 3.0 ft (Fill), sandy lean clay (possible bureid clayey topsoil) to 3.4 ft	CL: 3,700 - 5,100	CL: 13.2 to 20.1
Washtenaw Service Dr	South Huron Parkway to Pittsfield Blvd	SB2025-030 to SB2025-033	3 1/2 to 6 1/2	7" to 11" Gravel	SB2025-030: Poorly graded sand with silt and gravel (SP-SM) to 5 ft SB2025-031: Poorly graded sand with silt (SP-SM) to 1.3 ft (Fill), sandy lean clay with gravel (CL) to 1.4 ft SB2025-032, SB2025-033: Lean clay (CL) to 3 to 5 ft	SP-SM: 5,900 - 8,100 CL: 3,700 - 5,100	CL: 16.1 to 18.3
LaSalle Dr	St Aubin Ave to LeFere St	SB2025-036	4 1/2	3" Gravel	Sandy lean clay (CL) to 1.8 ft	CL: 3,700 - 5,100	CL: 16.0
Creek Drive	Belvidere St to Lorraine St	SB2025-037	3 1/2	9" Gravel	Lean clay (CL) to 4.7 ft	CL: 3,700 - 5,100	CL: 13.4 to 17.6
Belvidere Drive	Lorraine St to Creek Dr	SB2025-038, SB2025-039	3 to 4	11" Gravel	SB2025-038: Lean clay (CL) to 5 ft SB2025-039: Lean clay (CL) to 3.9 ft (Fill), poorly graded sand (SP) to 4.5 ft, lean clay (CL) to 5 ft	SP: 5,500 - 7,500 CL: 3,700 - 5,100	CL: 16.4 to 25.1
South Fifth Avenue	East William St to East Madison Ave	SB2025-042 to SB2025-044, SB2025-050, SB2025-051	6 to 7 1/2 SB2025-044: 2 1/2 SB2025-051: 3 SB2025-052: 5	11 to 12" Gravel. SB2025-044: 7 1/2" Concrete SB2025-051: 7" Concrete, 8" Gravel SB2025-052: 5" Concrete, 12" Gravel	SB2025-042: Poorly graded sand with silt (SP-SM) to 1.9 ft, gravelly lean clay (CL) to 2.3 ft SB2025-043: Poorly graded sand with silt and gravel (SP-SM) to 1.6 ft SB2025-044: Clayey sand (SC) to 1.5 ft, silty sand (SM) to 2 ft SB2025-051: Poorly graded gravel (GP) to 2.5 ft SB2025-052: Poorly graded sand with silt (SP-SM) to 3.5 ft, clayey sand (SC) to 4.2 ft, poorly graded sand with silt (SP-SM) to 5 ft	SP-SM: 5,900 - 8,100 CL: 3,700 - 5,100 SC: 3,700 - 5,100	SC: 8.4 to 20.8
East Ann St	Observatory St to Zina Pitcher Pl	SB2025-045 to SB2025-050	4 3/4 to 6 1/2	SB2025-045, SB2025-046 and SB2025-048: 10" to 12" Gravel SB2025-047: 6" Concrete SB2025-050 refusal within gravel base at 3"	SB2025-045: Poorly graded sand with silt (SP-SM) to 2.3 ft (Fill), poorly graded sand with silt and gravel (SP-SM) to 2.8 ft SB2025-046: Poorly graded sand with clay (SP-SC) to 3.2 ft SB2025-047: Lean clay (CL) to 2.5 ft, silty sand (SM) to 3.7 ft, clayey sand (SC) to 4.7 ft, lean clay (CL) to 5 ft SB2025-048: Clayey sand (SC) to 2.6 ft, lean clay with sand (CL) to 3.1 ft SB2025-050: None	SP-SM: 5,900 - 8,100 SP-SC: 3,700 - 5,100 CL: 3,700 - 5,100 SM: 4,400 - 6,000 SC: 3,700 - 5,100	CL: 14.7 to 22.5 SC: 17.9 to 20.8



## *APPENDIX*

- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Summary of Laboratory Test Data
- Core Photograph Log



## LIMITATIONS

### Soil Variations

The recommendations in this report are based upon the data obtained from the soil borings. This report does not reflect variations which may occur between these borings, and which would not become evident until construction. If variations then become evident, it would be necessary for a re-evaluation of recommendations of this report, after performing on-site observations.

### Warranties

We have prepared this report in accordance with generally accepted soil and foundation engineering practices. We make no other warranties, either expressed or implied, as to the professional advice provided under the terms of our agreement and included in this report. This report is prepared exclusively for our client and may not be relied upon by other parties without written consent from our office.

### Boring Logs

In the process of obtaining and testing samples and preparing this report, we follow reasonable and accepted practice in the field of soil engineering. Field logs maintained during drilling describe field occurrences, sampling locations, and other information. The samples obtained in the field are subjected to additional testing in the laboratory and differences may exist between the field logs and the final logs. The engineer reviews the field logs and laboratory test data, and then prepares the final boring logs. Our recommendations are based on the contents of the final logs.

### Review of Design Plans and Specifications

In the event that any changes in the design of the building or the location, however slight, are planned, our recommendations shall not be considered valid unless modified or approved in writing by our office. We recommend that we be provided the opportunity to review the final design and specifications in order to determine whether changes in the original concept may have affected the validity of our recommendations, and whether our recommendations have, in fact, been implemented in the design and specifications.



## TEST DRILLING AND SAMPLING PROCEDURES

### Test Drilling Methods:

- Hollow stem auger, ASTM D6151
- Mud rotary, ASTM D5783
- Casing advancer, ASTM D5872
- Rock coring, ASTM D2113
- Core/Hand Auger

*Note: Cone penetration test data can be used to interpret subsurface stratigraphy and can provide data on engineering properties of soils. The ASTM procedure does not include a procedure for determining soil classification from CPT testing. Soil classifications shown on CPT logs are based on published procedures and are not based on physical ASTM soil classification tests.*

### Sampling Methods:

- SPT, ASTM D1586, Auto hammer (140 lb., 30" drop, 2" OD split spoon sampler)
- Grab Samples

*Note: The number of hammer blows required to drive the SPT sampler 12 inches, after seating 6 inches, is termed the soil N-value and provides an indication of the soil's relative density and strength parameters at the sample location. SPT blow counts in 6 inch increments are recorded on the boring logs.*

### Drill Rig:

- CME 55 LC (ATV)
- CME 750 Rubber tired (ATV)
- CME 45 Truck
- Geoprobe Direct Push
- Geoprobe Rotary Sonic

### Boreholes Backfilled With:

- Excavated soil
- Cement bentonite grout
- Piezometer or Monitoring Well (see notes on logs)
- Concrete or asphalt patch where appropriate

### Sample Handling and Disposition:

- Samples labeled, placed in jars, returned to MTC Laboratory
- Discard after 60 days



# BORING LOG TERMINOLOGY AND ASTM D 2488 CLASSIFICATION OUTLINE

## TERMS DESCRIBING CONSISTENCY OR CONDITION

**COARSE-GRAINED SOILS** (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 5
Loose	15 to 35 %	5 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

Per ASTM D2487, the following conditions must be met based on laboratory testing to justify the label 'well graded' in a soil description.

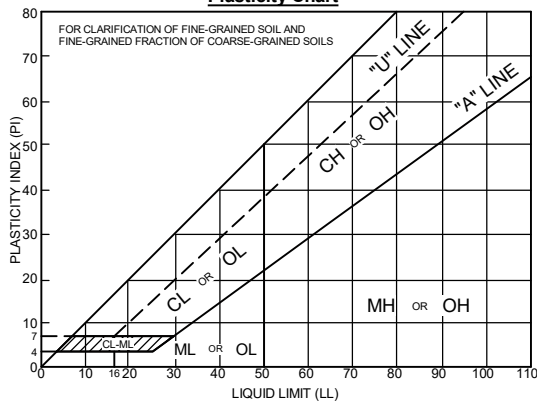
Gravel:  $C_u = \frac{D_{60}}{D_{10}}$  greater than 4;  $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$  between 1 and 3

Sand:  $C_u = \frac{D_{60}}{D_{10}}$  greater than 6;  $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$  between 1 and 3

**FINE-GRAINED SOILS** (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Descriptive Terms	Unconfined Compressive Strength TSF	SPT Blow Count
Very soft	< 0.25	< 2
Soft	0.25 to 0.5	2 to 4
Medium stiff	0.5 to 1.0	4 to 8
Stiff	1.0 to 2.0	8 to 15
Very stiff	2.0 to 4.0	15 to 30
Hard	> 4.0	> 30

**Plasticity Chart**



MAJOR DIVISIONS		TYPICAL NAMES		
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LESS THAN 15% FINES	GW	WELL-GRADED GRAVELS WITH OR WITHOUT SAND
		GRAVELS WITH 15% OR MORE FINES	GP	POORLY-GRADED GRAVELS WITH OR WITHOUT SAND
			GM	SILTY GRAVELS WITH OR WITHOUT SAND
		GC	CLAYEY GRAVELS WITH OR WITHOUT SAND	
	SANDS MORE THAN HALF COARSE FRACTION IS FINER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 15% FINES	SW	WELL-GRADED SANDS WITH OR WITHOUT GRAVEL
			SP	POORLY-GRADED SANDS WITH OR WITHOUT GRAVEL
		SANDS WITH 15% OR MORE FINES	SP-SM	POORLY-GRADED SANDS WITH SILT WITH OR WITHOUT GRAVEL
			SM	SILTY SANDS WITH OR WITHOUT GRAVEL
		SC	CLAYEY SANDS WITH OR WITHOUT GRAVEL	
		FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS	ML
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL			
OL	ORGANIC SILTS OR CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL			
SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%	MH		INORGANIC SILTS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL	
	CH		INORGANIC CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL	
OH	ORGANIC SILTS OR CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL			
HIGHLY ORGANIC SOILS	PT/OL	PEAT AND OTHER HIGHLY ORGANIC SOILS		

## GENERAL NOTES

- Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.
- "Grades with" or "Grades without" may be used to describe soil when characteristics vary within a stratum.
- Preserved soil samples will be discarded after 60 days unless alternate arrangements have been made.

## GROUNDWATER OBSERVATIONS:

**During** - indicates water level encountered during the boring  
**End** - indicates water level immediately after drilling  
**Date and Depth** - Measurements at indicated date

## SAMPLE TYPES AND NUMBERING

S	SPT, split barrel sample, ASTM D1586
U	Shelby tube sample, ASTM D1587
R	Rock core run
*S	Other than 2" split barrel sample
L	SPT with liner, ASTM D1586
A	Auger cuttings
G	Geoprobe liner

## MINOR COMPONENT QUANTIFYING TERMS

Less than 5%	TRACE
5 to 10%	FEW
15 to 25%	LITTLE
30 to 40%	SOME
50 to 100%	MOSTLY

## GRAIN SIZE

BOULDER	>12"
COBBLE	12" to 3"
COARSE GRAVEL	3" to 0.75"
FINE GRAVEL	0.75" to No. 4
COARSE SAND	No. 4 to No. 10
MEDIUM SAND	No. 10 to No. 40
FINE SAND	No. 40 to No. 200



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-001  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: KN      **Rev. By:** RS

**Coordinates:**

**Elevation:** 884 ft      **Datum:** Washtenaw County GIS

**Notes:** Independence Blvd; 11'N of South Curb, 75' W of 2150  
 Independence Blvd Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 07/24/2024

**Date End:** 07/24/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1			[Symbol]	3" HMA	0.3			
	0.50		15" Gravel Base							
	0.75									
	1.00									
	1.25									
	1.50	A-2			SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, few fine gravel, moist	1.5			
	1.75									
	2.00									
	2.25									
						End of Boring				Auger refusal at 2.25' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-002  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: KN      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 881 ft      **Datum:** Washtenaw County GIS  
**Notes:** Independence Blvd; 9.9'N of South Curb, 25.5' E of 2030  
 Independence Blvd Driveway Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 07/24/2024      **Date End:** 07/24/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1			[Symbol]	3" HMA	0.3			
	0.50					15" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50	A-2			SC		1.5	9.7		
	1.75					Brown clayey SAND; mostly coarse to fine sand, some clayey fines, few coarse to fine gravel, moist				
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									
	3.25									
	3.50					3.5				
						End of Boring				Auger refusal at 3.5' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-003  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: KN      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 885 ft      **Datum:** Washtenaw County GIS  
**Notes:** Independence Blvd; 7'N of South Curb, 33.6'W of 1954 Independence Drive Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 07/24/2024      **Date End:** 07/24/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.8 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1			[Gravel Pattern]	3" HMA	0.3	10.2		
	0.50		15" Gravel Base							
	0.75					[Clay Pattern]	1.5			
	1.00									
	1.25									
	1.50	A-2			CL	Brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, trace fine gravel, moist	3.8			
	1.75									
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									
	3.25									
	3.50									
	3.75									
						End of Boring				Auger refusal at 3.75' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-004  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: KN      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 869ft      **Datum:** Washtenaw County GIS  
**Notes:** Independence Blvd. 6.2'S of North Curb, 36'E of 1891 Independence Drive Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 07/25/2024      **Date End:** 07/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 0.8 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				3 1/4" HMA	0.3			
	0.50					7" Gravel Base				
	0.75						0.8			
						End of Boring				Auger refusal at 0.8' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-005

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 852 ft **Datum:** Washtenaw County GIS

**Notes:** Independence Blvd; 5.3'S of N Curb, 75.8' W of 1825 Independence Blvd Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/19/2024

**Date End:** 08/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				3 1/4" HMA	0.3			
	0.50					12" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50	A-2			SC	Dark brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel, moist	2.0	14.8		
	1.75									
	2.00									
	2.25	A-3			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace coarse to fine gravel, moist	3.25	17.5		
	2.50									
	2.75									
	3.00									
	3.25									
	3.50									
	3.75									
	4.00						4.0			
	4.25				SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, trace coarse to fine gravel, moist				
	4.50									
	4.75									
	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-006  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: KN      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 847ft      **Datum:** Washtenaw County GIS  
**Notes:** Independence Blvd; 2.8'N of South Curb, 0.5'W of Light Pole S1N0AN567  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 07/25/2024      **Date End:** 07/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 4.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				6" HMA					
	0.50						0.5				
	0.75										
	1.00						9" Gravel Base				
	1.25	A-2					1.3				
	1.50										
	1.75										
	2.00										
	2.25										
	2.50										
	2.75										
	3.00					SP	Light brown poorly graded SAND; mostly coarse to fine sand, trace coarse to fine gravel, moist				
	3.25										
	3.50										
	3.75										
	4.00										
	4.25						4.3				
						End of Boring				Auger refusal at 4.25' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-007

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 883ft      **Datum:** Washtenaw County GIS

**Notes:** Essex Rd; 5.8' W of E Curb, 44' N of 2407 Essex Road Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/19/2024

**Date End:** 08/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.2 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					3" HMA	0.3			
	0.50					20" Sandy Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50									
	1.75									
	2.00	A-1			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace coarse to fine gravel, moist	2.0 2.2	16.6		Auger refusal at 2.2' due to possible coarse gravel / COBBLE
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-008

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 889 ft **Datum:** Washtenaw County GIS

**Notes:** Essex Road; 6.1' W of E Curb, 25.5'S of 2503 Essex Road Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/19/2024

**Date End:** 08/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				2 3/4" HMA	0.2			
	0.50					12" Gravel Base				
	0.75									
	1.00									
	1.25							1.2		
	1.50						Brown poorly graded SAND; mostly medium to fine sand, trace clayey fines, trace coarse to fine gravel, moist			
	1.75					SP				
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									
	3.25									
	3.50									
	3.75									
	4.00									
	4.25					Grades with trace root fragments at 4'				
	4.50									
	4.75									
	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-009

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 860 ft **Datum:** Washtenaw County GIS

**Notes:** Ferndon Rd; 43.6' N of 1800 E Stadium Blvd Driveway  
Centerline, 4.9' West of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/20/2024

**Date End:** 08/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5 1/2" HMA				
	0.50							0.5		
	0.75						12" Gravel Base			
	1.00									
	1.25									
	1.50							1.5		
	1.75					CL	Brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, trace coarse to fine gravel, moist		9.4	
	2.00						End of Boring			
										Auger refusal at 2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-010

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 866 ft      **Datum:** Washtenaw County GIS

**Notes:** Ferndon Rd; 29.6' N of 1817 Ferndon Road Driveway  
Centerline, 5' W of E Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/20/2024

**Date End:** 08/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				3" HMA	0.3				
	0.50					15" Gravel Base					
	0.75										
	1.00										
	1.25										
	1.50										
	1.75					CL	Brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, trace coarse to fine gravel, moist		13.8		
	2.00						End of Boring				Auger refusal at 2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-011

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 857 ft      **Datum:** Washtenaw County GIS

**Notes:** Ferdon Rd; 6'W of East Curb, 37'N of 2917 Brockman Blvd Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/21/2024

**Date End:** 08/21/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				4" HMA	0.3			
	0.50					10" Gravel Base				
	0.75									
	1.00									
	1.25							1.2		
	1.50					SP	Brown poorly graded SAND; mostly coarse to fine sand, few coarse to fine gravel, trace clayey fines, moist	1.5		
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-012  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 853 ft      **Datum:** Washtenaw County GIS  
**Notes:** Ferdon Rd; 6.5' E of W Curb, 70.3' N of 2107 Ferdon Road Driveway Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/20/2024      **Date End:** 08/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.6 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					3 3/4" HMA	0.3			
	0.50					16" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50									
						End of Boring	1.6			Auger refusal at 1.6' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-013  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 850ft      **Datum:** Washtenaw COunty GIS  
**Notes:** Steere Pl; 36'N of 1905 Steere Place Driveway Centerline, 6.2' W of E Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/20/2024      **Date End:** 08/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				2" HMA	0.2				
	0.50					15" Gravel Base					
	0.75										
	1.00										
	1.25										
	1.50							1.5			
	1.75					SP	Brown poorly graded SAND; mostly coarse to fine sand, trace coarse to fine gravel, moist				
	2.00							2.0			
						End of Boring				Auger refusal at 2' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-014

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 849ft      **Datum:** Washtenaw County GIS

**Notes:** Steere Pl; 0.5' N of 1946 Steere Place Driveway Centerline, 6' W of E Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/20/2024

**Date End:** 08/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				2" HMA	0.2			
	0.50					16" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50									
	1.75							1.5	11.1	
	2.00					SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist			
	2.25						2.3			
						End of Boring				Auger refusal at 2.3' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-015  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 881 ft      **Datum:** Washtenaw County GIS

**Notes:** Devolson Ave; 9'S of 2007 Devolson Avenue Driveway  
Centerline, 4.5'E of West Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/23/2024

**Date End:** 08/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.2 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5" HMA	0.4	9.5		
	0.50					12" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50									
	1.75									
	2.00									
					SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist	2.2			
						End of Boring				Auger refusal at 2.2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-016  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 881 ft      **Datum:** Washtenaw County GIS  
**Notes:** Develson Ave; 22.5'S of 2020 Develson Avenue Driveway  
 Centerline, 4' E of West Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 08/23/2024      **Date End:** 08/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				6" HMA				
	0.50							0.5		
	0.75						7" Gravel Base			
	1.00							1.1		
	1.25						Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist		11.0	
	1.50									
	1.75					SC				
	2.00									
	2.25									
	2.50						2.5			
						End of Boring				Auger refusal at 2.5' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-017  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 840 ft      **Datum:** Washtenaw County GIS  
**Notes:** Gladstone Ave; 5.8'E of West Curb, 11.5'S of 2869  
 Gladstone Ave Driveway Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/21/2024      **Date End:** 08/21/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.1 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				3 1/4" HMA	0.3				
	0.50					15" Gravel Base					
	0.75										
	1.00										
	1.25										
	1.50							1.5			
	1.75					SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, trace coarse to fine gravel, moist				
	2.00							2.1			
						End of Boring				Auger refusal at 2.1' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-018  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 856 ft      **Datum:** Washtenaw County GIS  
**Notes:** Gladstone Ave; 8'E of West Curb, 5.9'N of 2790  
 Gladstone Ave Driveway Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/21/2024      **Date End:** 08/21/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					3" HMA	0.3			
	0.50					9" Gravel Base				
	0.75									
	1.00						1.0			
						End of Boring				Auger refusal at 1.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-019

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 860 ft      **Datum:** Washtenaw County GIS

**Notes:** Gladstone Ave; 0.5'S of 2712 Gladstone Avenue Driveway  
Centerline, 10.1' W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/22/2024

**Date End:** 08/22/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.2 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				3" HMA	0.3			
	0.50					15" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50									
	1.75								11.5	
	2.00					SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel, moist			
						End of Boring				Auger refusal at 2.2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-020

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 884 ft **Datum:** Washtenaw County GIS

**Notes:** Carhart Ave; 6'E of West Curb, 74.5'N of 2000 Carhart Avenue Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/22/2024

**Date End:** 08/22/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					4 3/4" HMA				
	0.50						0.4			
	0.75					13" Gravel Base				
	1.00									
	1.25									
	1.50						1.5			
	1.75	A-1				Dark brown lean CLAY; mostly clayey fines, trace coarse to fine gravel, few organics, moist, odorous	3.0	32.9		A-1: 8.4% Organic Content
	2.00				CL					
	2.25									
	2.50									
	2.75									
	3.00						3.0			
	3.25	A-2				Gray lean CLAY; mostly clayey fines, trace coarse to fine gravel, moist, odorous	3.75	22.6		
	3.50									
	3.75									
	4.00									
	4.25				CL					
	4.50									
	4.75									
	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-021  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 879 ft      **Datum:** Washtenaw County GIS  
**Notes:** Carhart Ave; 4.6'E of West Curb, 2.2'N of 2025 Carhart Avenue Driveway Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/22/2024      **Date End:** 08/22/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.6 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				4" HMA	0.3			
	0.50					12" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50					CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist	1.4		
						End of Boring		13.2		Auger refusal at 1.6' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-022  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 880 ft      **Datum:** Washtenaw County GIS  
**Notes:** Carhart Ave; 62'S of 2112 Carhart Avenue Driveway Centerline, 3.1'W of East Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/23/2024      **Date End:** 08/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				4 3/4" HMA	0.4	15.0		
	0.50					18" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50									
	1.75									
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									
	3.25									
	3.50									
	3.75									
	4.00									
	4.25									
	4.50									
	4.75									
	5.00									
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-023

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 864 ft      **Datum:** Washtenaw County GIS

**Notes:** Anderson Ave; 21.1'E of 1800 Anderson Avenue Driveway  
Centerline, 4.1'N of South Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/26/2024

**Date End:** 08/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				3 1/2" HMA	0.3	11.8		
	0.50					12" Gravel Base				
	0.75									
	1.00									
	1.25									
	1.50						1.3			
	1.75					SC				
	2.00						2.0			
						End of Boring				Auger refusal at 2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-024

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 875 ft      **Datum:** Washtenaw County GIS

**Notes:** Anderson Ave; 21'W of 1905 Anderson Avenue Driveway  
Centerline, 5.8'S of North Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/28/2024

**Date End:** 08/28/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.9 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				4" HMA	0.3	14.5			
	0.50					10" Gravel Base					
	0.75										
	1.00										
	1.25						1.2				
	1.50					CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace coarse to fine gravel, moist				
	1.75						1.9				
						End of Boring			Auger refusal at 1.9' on possible coarse gravel / COBBLE		

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-025  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 875 ft      **Datum:** Washtenaw County GIS  
**Notes:** 17'E of 2006 Anderson Avenue Driveway, 6.2'S of North Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/28/2024      **Date End:** 08/28/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.4 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				3 1/2" HMA	0.3				
	0.50					15" Gravel Base					
	0.75										
	1.00										
	1.25										
	1.50										
	1.75										
	2.00					CL	Brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, trace coarse to fine gravel, moist		11.4		
	2.25										
						End of Boring				Auger refusal at 2.4' on possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-026

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 803 ft **Datum:** Washtenaw County GIS

**Notes:** Gloucester Way; In line with 2636 Gloucester Driveway Centerline, 10'W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/09/2024

**Date End:** 09/09/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				4 1/2" HMA	0.4				
	0.50										
	0.75					7" Gravel Base	1.0				
	1.00										
	1.25	A-2			CL	Gray lean CLAY; mostly clayey fines, few coarse to fine gravel, moist  Grades brown to gray	4.0	18.8			
	1.50										
	1.75										
	2.00										
	2.25										
	2.50										
	2.75										
	3.00										
	3.25	A-3									
	3.50										
	3.75										
	4.00										
	4.25										
	4.50										
	4.75										
	5.00						5.0	15.5			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-027

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 807 ft      **Datum:** Washtenaw County GIS

**Notes:** Gloucester Ave; 12'S of 2172 Gloucester Way Driveway  
Centerline, 3'W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/16/2024

**Date End:** 09/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.2 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5 1/4" HMA	0.4			
	0.50									
	0.75						10" Gravel Base			
	1.00									
	1.25							1.3		
	1.50	A-2			CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, moist	4.5+	16.4		
	1.75						1.8			
	2.00	A-3			SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel		10.9		
	2.25									
	2.50									
	2.75	A-4								
	3.00					SM	Brown silty SAND with gravel; mostly coarse to fine sand, little silty fines, little coarse to fine gravel, moist	3.0		
						End of Boring	3.2			Auger refusal at 3.2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-028

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 812 ft      **Datum:** Washtenaw County GIS

**Notes:** Gloucester Way; 5.1'W of East Curb, 33.5' N of 2752  
Gloucester Way Driveway Centerline

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/02/2024

**Date End:** 08/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.8 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				4" HMA	0.3			
	0.50					7" Gravel Base				
	0.75	A-2								
	1.00									
	1.25									
	1.50	A-3			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, moist	1.1	3.0	6.3	
	1.75						1.5			
	2.00	A-4			SC	Brown clayey SAND; mostly medium to fine sand, little clayey fines, moist			14.6	
	2.25									
	2.50						2.4			
	2.75	A-4			CL	Brown lean CLAY with sand; mostly clayey fines, little medium to fine sand, trace fine gravel, moist				
	3.00							4.5+	7.4	
	3.25									
	3.50									
	3.75						3.8			
						End of Boring				Hand Auger refusal at 3.8' due to hard clay, coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-029

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 801 ft      **Datum:** Washtenaw County GIS

**Notes:** Old Boston Court; 10'W of 2574 Old Boston Ct. Drive  
Centerline, 6.3' N of South Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/02/2024

**Date End:** 08/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.4 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				4" HMA	0.3			Fill: 0.0' to 3.0'
	0.50					10" Gravel Base				
	0.75									
	1.00									
	1.25	A-2					1.2		13.2	
	1.50					Brown to dark brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, trace coarse to fine gravel, moist, Fill				
	1.75									
	2.00									
	2.25									
	2.50									
	2.75	A-3					3.0		20.1	A-3: 2.3% Organic Content
	3.00									
	3.25									
						Gray sandy lean CLAY; mostly clayey fines, some medium to fine sand, trace coarse to fine gravel, moist with occasional roots (buried clayey topsoil)	3.4			Hand Auger refusal at 3.4' due to possible coarse gravel / COBBLE
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-030

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 796ft **Datum:** Washtenaw County GIS

**Notes:** Washtenaw Service Dr; 9.4' E of West Curb, 26.5' S of North Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/26/2024

**Date End:** 08/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5 1/2" HMA				
	0.50						0.5			
	0.75									
	1.00						10" Gravel Base			
	1.25	A-2					1.3			
	1.50									
	1.75									
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									
	3.25	A-3			SP-SM	Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, little fine gravel, few silty fines, moist				
	3.50									
	3.75									
	4.00									
	4.25									
	4.50									
	4.75									
	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-031  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      Rev. By: RS  
**Coordinates:**  
 Elevation: 794ft      Datum: Washtenaw County GIS  
**Notes:** Washtenaw Service Dr; 57.8'S of North Curb, 4.7'W of Light Pole S25AG421  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/26/2024      **Date End:** 08/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 1.4 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					3 1/2" HMA	0.3			Fill: 0.0' to 1.3'
	0.50					7" Gravel Base				
	0.75									
	1.00						0.9			
	1.25				SP-SM	Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist, Fill	1.3			
					CL	Brown sandy lean CLAY with gravel; mostly clayey fines, little coarse to fine gravel, little coarse to fine sand, moist	1.4	2.0		Hand auger refusal at 1.4' due to possible coarse gravel / COBBLE
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-032  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG Rev. By: RS  
**Coordinates:**  
**Elevation:** 812ft **Datum:** Washtenaw County GIS  
**Notes:** Washtenaw Service Dr; 32.5'W of Light Pole S25-AG460, 19.1'S of North Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/27/2024 **Date End:** 08/27/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 3.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100% QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5" HMA	0.4	18.3		
	0.50									
	0.75									
	1.00									
	1.25									
	1.50									
	1.75									
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									

						End of Boring				Auger refusal at 3.0' due to possible coarse gravel / COBBLE
--	--	--	--	--	--	---------------	--	--	--	--

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

Project No.: 241423  
Boring No.: SB2025-033  
Sheet: 1 of 1

Project: 2025 Street Resurfacing Pavement Coring  
Client: City of Ann Arbor  
Location: Ann Arbor, Michigan  
Drill Type: Hand Auger  
Crew Chief: Field Eng.: BG Rev. By: RS  
Coordinates:  
Elevation: 824ft Datum: Washtenaw County GIS  
Notes: 2 Washtenaw Service Dr; 2.9'S of North Curb, 11.5'W of East Curb  
Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 08/27/2024 Date End: 08/27/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				6 1/2" HMA				
	0.50									
	0.75									
	1.00									
	1.25									
	1.50									
	1.75									
	2.00									
	2.25									
	2.50									
	2.75									
	3.00									
	3.25									
	3.50									
	3.75									
	4.00									
	4.25									
	4.50									
	4.75									
	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-036  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 823 ft      **Datum:** Washtenaw County GIS  
**Notes:** LaSalle Dr; 4'E of West Curb, 23.5'S of 3185 LaSalle Drive Driveway Centerline  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 08/02/2024      **Date End:** 08/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.8 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					4 1/2" HMA	0.4			
	0.50					3" Gravel Base	0.6			
	0.75					Brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, moist	2.75	16.0		
	1.00									
	1.25			CL						
	1.50	A-1								
	1.75									
						End of Boring				Hand Auger refusal at 1.8' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-037

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 821 ft      **Datum:** Washtenaw County GIS

**Notes:** Creek Dr.; 33'N of 3480 Creek Drive Driveway Centerline,  
14'E of West Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/03/2024

**Date End:** 09/03/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 4.7 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				3 1/2" HMA	0.3			
	0.50					9" Gravel Base				
	0.75	A-2								
	1.00						1.0			
	1.25						Dark brown lean CLAY; mostly clayey fines, few coarse to fine sand, moist	4.5+	13.8	
	1.50	A-3				Grades brown at 1.5'				
	1.75									
	2.00							4.5+	17.6	
	2.25									
	2.50	A-4			CL	Grades mottled gray brown at 2.6'				
	2.75									
	3.00									
	3.25									
	3.50									
	3.75									
	4.00	A-4								
	4.25									
	4.50							4.5+	13.4	
							4.7			
						End of Boring				Hand auger refusal at 4.7' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-038

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 821 ft      **Datum:** Washtenaw County GIS

**Notes:** Belvidere St; 17'W of 3095 Belvidere Street Driveway Centerline, 2'N of South Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/03/2024

**Date End:** 09/03/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				4" HMA	0.3				
	0.50					11" Gravel Base					
	0.75										
	1.00										
	1.25	A-2									
	1.50						1.3				
	1.75					Dark brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace fine gravel, moist	2.5	19.5			
	2.00					Grades mottled gray brown at 2'					
	2.25	A-3			CL						
	2.50										
	2.75										
	3.00										
	3.25										
	3.50										
	3.75										
	4.00								2.5	22.1	
	4.25										
	4.50										
	4.75										
	5.00						5.0				
						End of Boring					

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-039  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV      **Rev. By:** RS

**Coordinates:**

**Elevation:** 821 ft      **Datum:** Washtenaw County GIS

**Notes:** Belvidere St; 13'W of 3035 Belvidere Street Driveway Centerline, 6'N of South Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/03/2024

**Date End:** 09/03/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	3.9
Sampler	Hand Auger	3 1/4"	End	4.0
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				3" HMA	0.3			Fill: 0.0' to 3.9'	
	0.50					11" Gravel Base					
	0.75										
	1.00										
	1.25										
	1.50	A-2			CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace fine gravel, moist, Fill	4.5+	16.4			
	1.75										
	2.00										
	2.25										
	2.50										
	2.75	A-3			CL	Grades with intermixed topsoil at 3.5'	4.5+	25.1		A-3: 2.5% Organic Content	
	3.00										
	3.25										
	3.50	A-4			SP	Gray poorly graded SAND; mostly coarse to fine sand, wet	3.9				
	3.75										
	4.00	A-5			CL	Brown lean CLAY; mostly clayey fines, moist	4.5				
	4.25										
	4.50										
	4.75						4.5+	18.5			
	5.00					End of Boring	5.0				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-042  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 854ft      **Datum:** Washtenaw County GIS  
**Notes:** S. 5th Ave.; 45'N of 403 S 5th Ave Driveway Centerline, 2'W of East Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/04/2024      **Date End:** 09/04/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				7 1/2" HMA				
	0.50									
	0.75									
	1.00	A-2				12" Gravel Base	0.7			
	1.25									
	1.50									
	1.75	A-3					1.6			
	2.00				SP-SM	Brown poorly graded SAND with silt; mostly coarse to fine sand, few silty fines, trace fine gravel, moist	1.9			
	2.25				CL	Brown gravelly lean CLAY; mostly clayey fines, some coarse to fine gravel, few coarse to fine sand, moist	2.3			
						End of Boring				Hand auger refusal at 2.3' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-043

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 854ft **Datum:** Washtenaw County GIS

**Notes:** S. 5th Ave.; 28'S of 425 S 5th Ave Driveway Centerline, 3'W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/03/2024

**Date End:** 09/03/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.6 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				6" HMA				
	0.50						0.5			
	0.75									
	1.00									
	1.25									
	1.50	A-2					1.4			
					SP-SM	Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, few silty fines, few coarse to fine gravel, moist	1.6			
						End of Boring				Hand auger refusal at 1.6' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-044

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 854ft **Datum:** Washtenaw County GIS

**Notes:** S. 5th Ave.; 13'N of 515 S 5th Ave Driveway Centerline, 6'W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/09/2024

**Date End:** 09/09/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				2 1/2" HMA	0.2	20.8			
	0.50					7 1/2" Concrete					
	0.75										
	1.00						0.9				
	1.25					SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, moist				1.5
	1.50										
	1.75					SM	Brown silty SAND; mostly coarse to fine sand, some silty fines, few coarse to fine gravel, moist				2.0
	2.00										
						End of Boring				Auger refusal at 2' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-045

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 895 ft      **Datum:** Washtenaw County GIS

**Notes:** E Ann St.; 16'S of Eastmost Roundabout Driveway Centerline,  
5'W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/20/2024

**Date End:** 09/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.8 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				4 3/4" HMA	0.4			Fill: 0' to 2.8'	
	0.50					10" Gravel Base					
	0.75										
	1.00										
	1.25										
	1.50										
	1.75					SP-SM	Brown poorly graded SAND with silt; mostly coarse to fine sand, few silty fines, moist, Fill	2.3			
	2.00										
	2.25										
	2.50				SP-SM	Black poorly graded SAND with silt and gravel; mostly coarse to fine sand, little coarse to fine gravel, few silty fines, moist, Fill	2.8				
	2.75					End of Boring					
										Hand auger refusal at 2.8' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-046

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 896ft **Datum:** Washtenaw County GIS

**Notes:** E. Ann St.; 26'W of West Crosswalk on Roundabout, 3'N of South Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/20/2024

**Date End:** 09/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.2 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				6" HMA				
	0.50						0.5			
	0.75									
	1.00						10" Gravel Base			
	1.25						1.3			
	1.50	A-2				Brown poorly graded SAND with clay and gravel; mostly coarse to fine sand, little coarse to fine gravel, few clayey fines, moist				
	1.75									
	2.00									
	2.25									
	2.50						SP-SC			
	2.75									
	3.00					3.2				
						End of Boring				Hand auger refusal at 3.2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-047

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 894 ft **Datum:** Washtenaw County GIS

**Notes:** E. Ann St.; 7'E of 1300 East Ann Street, Eastmost Delivery Drive Centerline, 4'N of South Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/23/2024

**Date End:** 09/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25					5" HMA				
	0.50						0.4			
	0.75					6" Concrete				
	1.00						0.9			
	1.25					Brown lean CLAY; mostly clayey fines, few coarse to fine sand, moist	3.0	17.8		
	1.50									
	1.75			CL						
	2.00	A-1								
	2.25									
	2.50						2.5			
	2.75					Brown silty SAND; mostly medium to fine sand, little silty fines, trace coarse to fine gravel, moist				
	3.00	A-2								
	3.25			SM						
	3.50									
	3.75						3.7			
	4.00	A-3				Brown clayey SAND; mostly medium to fine sand, little clayey fines, moist				
	4.25			SC						
	4.50									
	4.75						4.7			
	5.00	A-4			CL	Gray lean CLAY; mostly clayey fines, moist	2.5	22.5		

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-048

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 890ft **Datum:** Washtenaw County GIS

**Notes:** E. Ann St.; 2'E of Parking Spot 5420 Sign, 4'N of South Curb

**Date Begin:** 09/23/2024

**Date End:** 09/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Depth Drilled:** 3.1 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				6 1/2" HMA	0.5			
	0.50									
	0.75									
	1.00									
	1.25									
	1.50	A-2				12" Gravel Base	1.5	17.9		
	1.75									
	2.00									
	2.25									
	2.50	A-3			SC	Brown clayey SAND; mostly medium to fine sand, some clayey fines, moist	2.5	14.7		
	2.75									
	3.00									
					CL	Gray lean CLAY with sand; mostly clayey fines, little medium to fine sand, trace coarse to fine gravel, moist	3.1			
						End of Boring				Hand auger refusal at 3.1' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-049  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 885ft      **Datum:** Washtenaw County GIS  
**Notes:** E. Ann St.; 51'E of Stop Bar on East side of Intersection with Zina Pitcher Pl, 20.7'S of North Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/09/2024      **Date End:** 09/09/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 0.7 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5" HMA				
	0.50					3" Gravel Base	0.4			
						End of Boring	0.7			Hand Auger refusal at 0.7' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423

**Boring No.:** SB2025-050

**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 848ft **Datum:** Washtenaw County GIS

**Notes:** S. 5th Ave.; 12'S of 526 5th Street Driveway Centerline, 3.3' W of East Curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/04/2024

**Date End:** 09/04/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
	0.25	A-1				3" HMA	0.3				
	0.50					7" Concrete					
	0.75						0.8				
	1.00					8" Gravel Base					
	1.25						1.5				
	1.50	A-2			GP	Gray poorly graded GRAVEL; mostly fine gravel, few coarse gravel, trace silty fines, moist (pea gravel)					
	1.75										
	2.00										
	2.25										
	2.50					2.5					
						End of Boring				Boring terminated at 2.5' due to cave-in of gravel material	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241423  
**Boring No.:** SB2025-051  
**Sheet:** 1 of 1

**Project:** 2025 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 831ft      **Datum:** Washtenaw County GIS  
**Notes:** 13'N of 551 5th Street Driveway Centerline, 16'E of West Curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/04/2024      **Date End:** 09/04/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	N/A
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
	0.25	A-1				5" HMA	0.4			
	0.50					5" Concrete	0.8			
	0.75					12" Gravel Base				
	1.00						1.8			
	1.25	A-2			SP-SM	Light brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist	3.5	8.4		
	1.50									
	1.75									
	2.00									
	2.25	A-3			SC	Brown clayey SAND; mostly medium to fine sand, little clayey fines, moist	4.2			
	2.50									
	2.75									
	3.00									
	3.25	A-4			SP-SM	Light brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist	5.0			
	3.50									
	3.75									
	4.00									
	4.25									
	4.50									
	4.75									
	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



SUMMARY OF LABORATORY TEST DATA

Boring Number	Sample No.*	Sample Depth (ft)	Sample Description (USCS Symbol)	Organic Content (%)	Natural Moisture Content (%)
SB2025-002	A-2	2.25-2.5	SC		9.7
SB2025-003	A-2	2.5-2.75	CL		10.2
SB2025-005	A-1	1.25-1.5	SC		14.8
SB2025-005	A-2	2-2.25	CL		17.5
SB2025-007	A-1	2-2.25	CL		16.6
SB2025-009	A-1	1.5-1.75	CL		9.4
SB2025-010	A-1	1.5-1.75	CL		13.8
SB2025-014	A-1	1.5-1.75	SC		11.1
SB2025-015	A-1	1.5-1.75	SC		9.5
SB2025-016	A-1	1-1.25	SC		11.0
SB2025-019	A-1	1.5-1.75	SC		11.5
SB2025-020	A-1	1.5-1.75	CL	8.4	32.9
SB2025-020	A-2	3-3.25	CL		22.6
SB2025-021	A-1	1.5-1.75	CL		13.2
SB2025-022	A-1	1.75-2	CL		15.0
SB2025-023	A-1	1.25-1.5	SC		11.8
SB2025-024	A-1	1.25-1.5	CL		14.5
SB2025-025	A-1	1.5-1.75	CL		11.4
SB2025-026	A-2	1.75-2	CL		18.8
SB2025-026	A-3	4.75-5	CL		15.5
SB2025-027	A-2	1.5-1.75	CL		16.4
SB2025-027	A-3	2-2.25	SC		10.9
SB2025-028	A-1	1-1.25	CL		6.3
SB2025-028	A-2	1.75-2	SC		14.6
SB2025-028	A-3	2.75-3	CL		7.4
SB2025-029	A-2	1.25-1.5	CL		13.2
SB2025-029	A-3	3-3.25	CL	2.3	20.1
SB2025-032	A-1	1.5-1.75	CL		18.3
SB2025-033	A-1	1.5-1.75	CL		16.1
SB2025-036	A-1	1.25-1.5	CL		16.0
SB2025-037	A-2	1-1.25	CL		13.8
SB2025-037	A-3	1.75-2	CL		17.6
SB2025-037	A-4	4.25-4.5	CL		13.4
SB2025-038	A-2	1.25-1.5	CL		19.5
SB2025-038	A-3	3.75-4	CL		22.1
SB2025-039	A-2	2.25-2.5	CL		16.4
SB2025-039	A-3	3.5-3.75	CL	2.5	25.1
SB2025-039	A-5	4.75-5	CL		18.5
SB2025-044	A-1	1-1.25	SC		20.8
SB2025-047	A-1	1.75-2	CL		17.8
SB2025-047	A-3	3.75-4	SC		20.8
SB2025-047	A-4	4.75-5	CL		22.5
SB2025-048	A-2	1.5-1.75	SC		17.9
SB2025-048	A-3	2.75-3	CL		14.7
SB2025-051	A-3	3.75-4	SC		8.4

\* A - Grab Sample

PROJECT NO.: 241423  
 PAGE: 1 OF 1



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-001



SB2025-002





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-003



SB2025-004



SB-2025-005



SB2025-006





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-007



SB2025-008



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-009



SB2025-010





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-011



SB2025-012



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-013



SB2025-014





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-015



SB2025-016



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-017



SB2025-018





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-019



SB2025-020



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-021



SB2025-022





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-023



SB2025-024

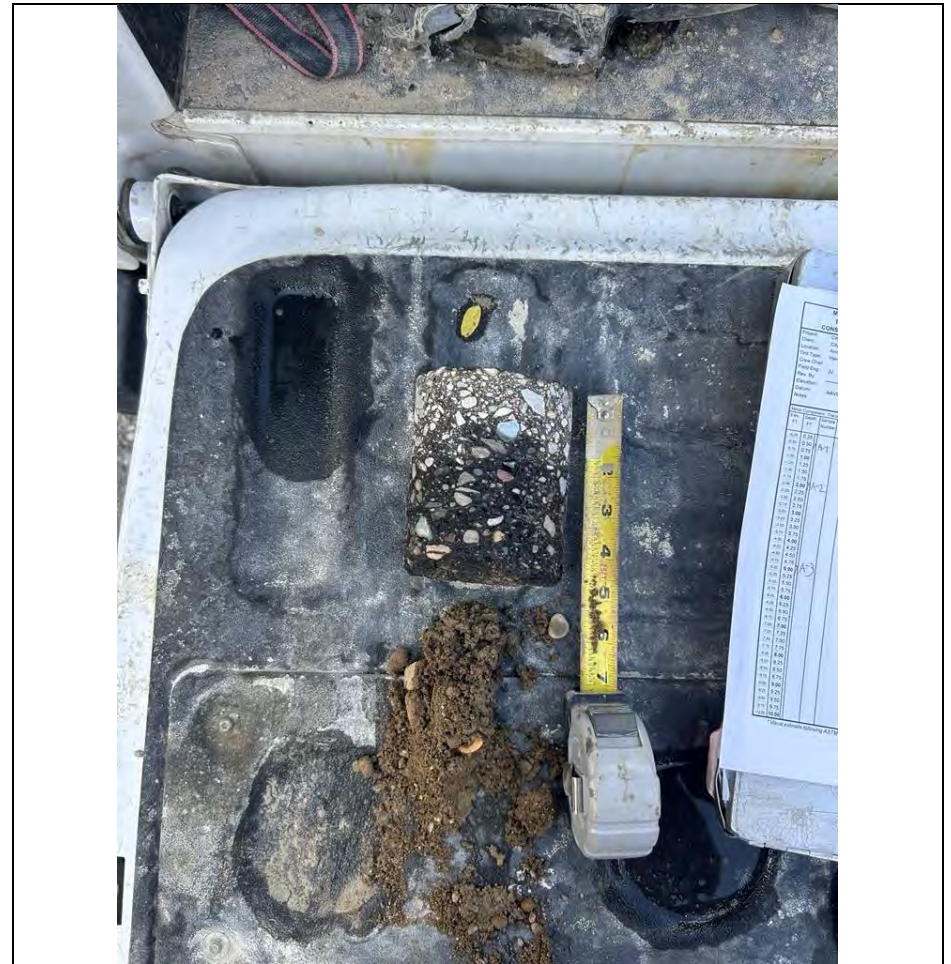
Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-025



SB2025-026





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-027



SB2025-028



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-029



SB2025-030





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-031



SB2025-032



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-033

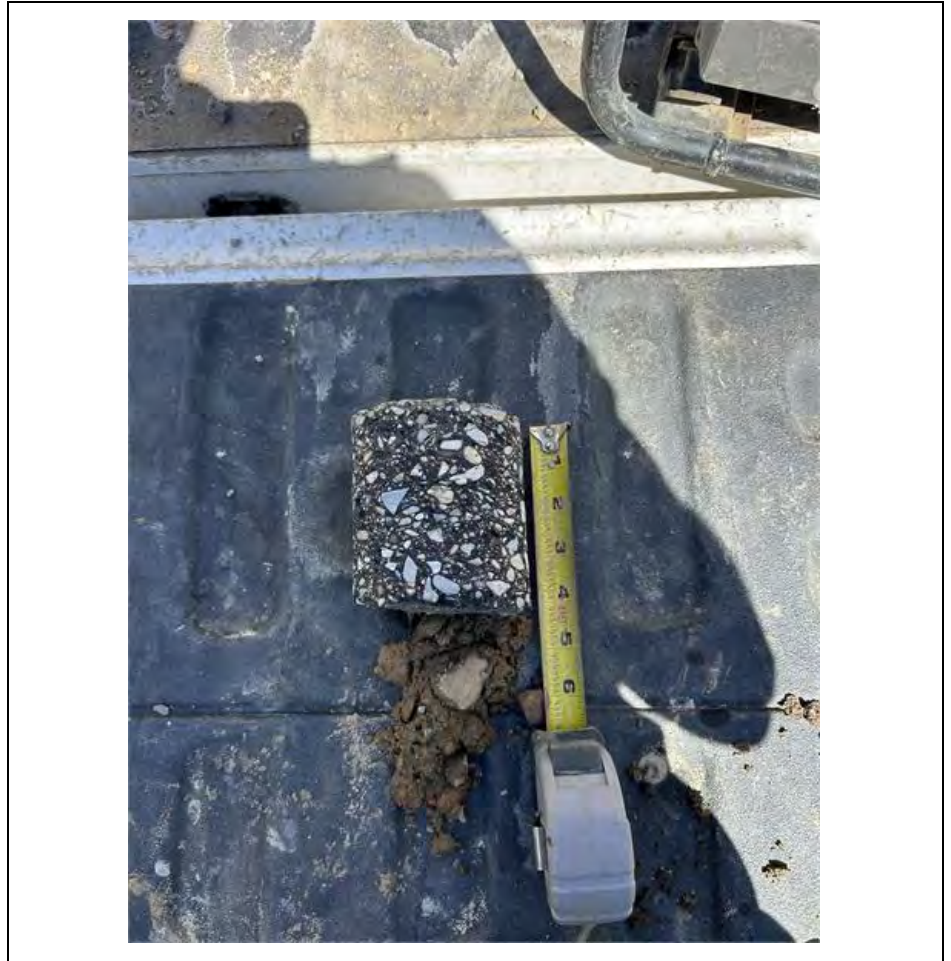


SB2025-036





SB-2025-037



SB2025-038



**MATERIALS TESTING CONSULTANTS**

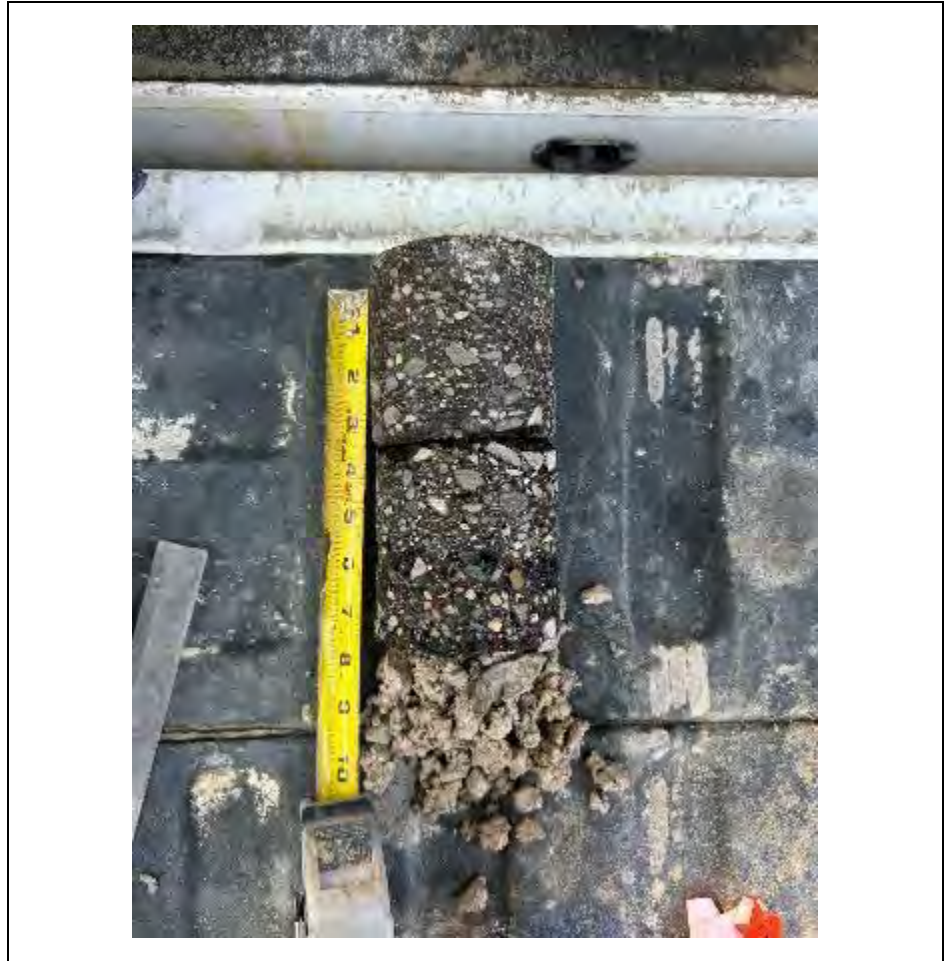
Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-039



SB2025-042





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



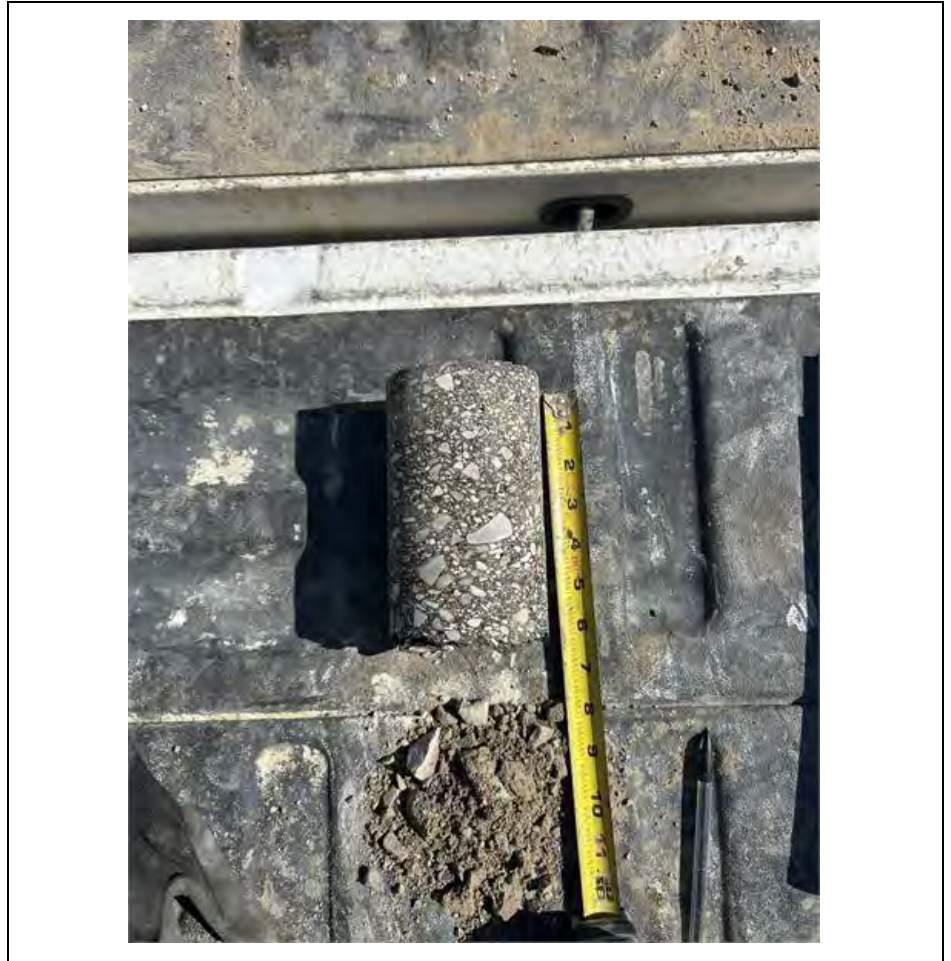
SB-2025-043



SB2025-044



SB-2025-045



SB2025-046





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-047



SB2025-048





**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241423

Recorded By: RS Date: 9/27/2024



SB-2025-049



SB2025-050



**MATERIALS TESTING CONSULTANTS**

Project Name: 2025 Street Resurfacing Pavement Coring

Client: City of Ann Arbor

Project No.: 241423

Recorded By: RS

Date: 9/27/2024



SB2025-051



**GEOTECHNICAL DATA PACKAGE  
2026 STREET RESURFACING  
ANN ARBOR, MICHIGAN**

**Prepared For:**

CITY OF ANN ARBOR  
Ann Arbor, Michigan

**Prepared By:**

MATERIALS TESTING CONSULTANTS, INC.

January 2025  
MTC Project No. 241598



# MATERIALS TESTING CONSULTANTS

January 3, 2025  
Project No. 241598

City of Ann Arbor  
Guy C. Larcom City Hall  
301 E. Huron, 4th Floor  
Ann Arbor, Michigan 48107

Attention: Andrea Wright

Reference: Report of Geotechnical Investigation  
2026 Street Resurfacing  
Ann Arbor, Michigan

Dear Ms. Wright:

We have completed a geotechnical investigation for the above-referenced project. The purpose of this investigation has been to identify the general subsurface soil conditions in the vicinity of the proposed construction. This work has been performed as described in our proposal dated June 17, 2024, and in accordance with our active City of Ann Arbor contract for Geotechnical and Environmental Services.

Presented herein are descriptions of our understanding of the design considerations, the geotechnical investigation, encountered conditions and engineering recommendations. The Appendix contains the report limitations and boring log terminology, soil classification chart, boring logs and laboratory test data.

## DESIGN CONSIDERATIONS

### Available Information

We have been provided the following documents and information for use in this investigation:

- A tabular list and set of maps with associated requested boring locations, received from Ms. Andrea Wright of the City of Ann Arbor on August 20, 2024.
- Telephone and email conversations with Ms. Andrea Wright of the City of Ann Arbor regarding the type of construction and scope of geotechnical investigation.

The areas of investigation are shown in Figure Nos. 1 to 6. The investigation was located along 25 streets within the City of Ann Arbor, and a full list of explored locations is provided in the data table of the Appendix. We understand the investigated roads are candidates for resurfacing in the 2026 season.





## INVESTIGATION METHODOLOGY

### Field Investigation

Pavement cores, hand auger borings and sampling along with field engineering reconnaissance were used to investigate the subsurface conditions. Boring locations are shown on the attached plans, Figure Nos. 1 to 6. Investigation procedures, soil classification information and boring logs are provided in the Appendix.

Number of Borings	74
Boring Depth Range, ft.	0.8 to 5

MTC staked the approximate boring locations in the field. Boring elevations were approximated by GPS. The elevations used in this report are given in feet and are based on NAVD88 datum, with boring coordinates based on the Michigan State Plane South Coordinate System. If more precise location and elevation data are desired, a registered professional land surveyor should be retained to locate the borings and determine their ground elevations.

The drilling was performed using hand auger equipment to advance the boreholes through pavement cores. The boreholes were backfilled to the original ground surface after drilling completion and patched at the surface with asphalt cold patch.

Recovered samples were sealed, labeled and transported to our laboratory. All soil samples will be discarded after sixty days unless a longer hold time is specifically requested.

Borings were drilled and other sampling was conducted solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.

### Laboratory

The recovered soil samples were reviewed by an engineer and technically classified according to the methods of ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)". Estimates of the unconfined compressive strength of the cohesive samples were made using a calibrated penetrometer. A copy of the test boring logs along with a description of the terminology used on the logs and a chart of the ASTM D2488 group symbol names are provided in the Appendix.

Selected samples were subjected to moisture content testing via ASTM D2216 "Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass". A summary table of the soil conditions, laboratory moisture results and the estimated resilient modulus for each soil type is contained in the Appendix.



The estimated values for resilient modulus,  $M_r$ , have been provided based on the visual classification of the soil and Table 12-2 in the Michigan DOT User Guide for Mechanistic Empirical Pavement Design, Interim Edition dated March 2015. Other data including results from FWD testing, local knowledge, or from past ME pavement performance on similar subgrade materials may also be of use in estimating resilient modulus if they are available. Typically, recommendations based on visual classification are given as a range of values for various assumptions regarding compaction, moisture content and roadway type. Generally, more conservative values of resilient modulus should be used on high traffic roads with a higher cost to early failure, in areas of high soil moisture/high water table and in areas of variable soil, utility trenches, etc. Conversely, less conservative (higher range) values are typically used on lower traffic roads with drier and more uniform soils.

## INVESTIGATION RESULTS

Listed below are summaries of the encountered subsurface conditions within the area of investigation. The boring logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring locations is to be expected.

Groundwater was generally not encountered, except for in Boring SB2026-066 on Highland Road. Groundwater levels may fluctuate due to seasonal variations such as precipitation, snowmelt, nearby river or lake levels and other factors that may not be evident at the time of measurement. Groundwater levels may be different at the time of construction.

### Subsurface Conditions

#### *Adams Street from South Main Street to Hill Street – Borings SB2026-001 to SB2026-003*

Borings SB2026-001 to SB2026-003 generally encountered 3 to 4 inches of HMA at the surface. Borings SB2026-001 and SB2026-003 generally encountered 8 to 10 inches of concrete base beneath the HMA, while Boring SB2026-002 encountered 6 ½ inches of concrete and 7 inches of gravel base. The borings generally encountered clayey sand (SC) to the explored depths ranging from 1.3 to 5 ft.

#### *Brown Street from East Hoover Avenue to Hill Street – Borings SB2026-004 to SB2026-006*

Borings SB2026-004 and SB2026-006 generally encountered 5 ½ to 5 ¼ inches of HMA, while Boring SB2026-005 encountered 2 inches of HMA. Beneath the pavement sections, the borings generally encountered 13 to 16 inches of gravel base overlying poorly graded sand with clay (SP-SC) to the explored depths ranging from 2.3 to 5 ft.



*East Davis Avenue from South Main Street to Greene Street – Borings SB2026-007 to SB2026-009*

Borings SB2026-007 to SB2026-009 generally encountered 4 ½ to 5 ¾ inches of HMA and 6 to 10 inches of gravel base at the surface. Beneath the pavement sections, Boring SB2026-007 encountered stiff to very stiff lean clay with sand (CL) to the explored depth of 5 ft, while Borings SB2026-008 and SB2026-009 encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SC, SM) to the explored depths ranging from 1.6 to 1.7 ft.

*Sybil Street from East Hoover Avenue to Hill Street – Borings SB2026-010 to SB2026-012*

Borings SB2026-010 to SB2026-012 generally encountered 2 ¼ to 5 ½ inches of HMA and 8 to 9 inches of gravel base, with the exception of Boring SB2026-012, which did not encounter any base material. Beneath the pavement sections, Borings SB2026-010 and SB2026-011 encountered very stiff lean clay (CL) to the explored depth of 5 ft, with the exception of a layer of poorly graded sand with clay (SP-SC) encountered at depths ranging from 0.9 to 1.7 ft in Boring SB2026-011. Boring SB2026-012 encountered poorly graded sand with varying amounts of clayey and silty fines (SC, SP-SM) to the explored depth of 5 ft. Possible buried sandy topsoil was noted at depths ranging from 4 to 4.3 ft.

*Mary Street from Packard Street to South Davison Street – Borings SB2026-013 to SB2026-016*

Borings SB2026-013 to SB2026-016 encountered generally encountered 3 ¼ to 4 inches of HMA and 6 to 8 inches of gravel base at the surface, with the exception of Boring SB2026-013 which encountered 1 ¾ inches of HMA, 5 inches of concrete and 6 inches of gravel base at the surface. Beneath the pavement sections, Borings SB2026-013 and SB2026-015 generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SC, SP-SM) to the explored depths of 5 ft, while SB2026-014 and SB2026-016 generally encountered clayey sand (SC) to depths ranging from 2.4 to 3.6 ft and very stiff lean clay (CL) to the explored depths of 5 ft.

*Cross Street from South Division Street to Packard Street – Borings SB2026-017 and SB2026-018*

Borings SB2026-017 and SB2026-018 generally encountered 1 ¾ to 2 inches of HMA overlying 5 ¾ inches of concrete and 2 ½ inches of concrete and 3 inches of gravel base, respectively. Beneath the pavements, the borings generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SM, SC) to the explored depths of 5 ft.



*Arch Street from South State Street to Packard Street – Borings SB2026-019 and SB2026-020*

Borings SB2026-019 and SB2026-020 generally encountered 1  $\frac{3}{4}$  to 2  $\frac{1}{2}$  inches of HMA overlying 6 inches of concrete and 8 inches of concrete and 5 inches of gravel base, respectively. Beneath the pavement sections, Boring SB2026-019 encountered poorly graded sand with varying amounts of silty and clayey fines (SP-SM, SC) to the explored depth of 5 ft, while Boring SB2026-020 encountered clayey sand (SC) to a depth of 3.5 ft and very stiff lean clay with sand (CL) to the explored depth of 5 ft.

*White Street from Granger Avenue to Arch Street – Borings SB2026-021 to SB2026-026*

Borings SB2026-021 and SB2026-026 generally encountered 4  $\frac{1}{4}$  to 4  $\frac{1}{2}$  inches of HMA at the surface, while Borings SB2026-022 and SB2026-023 generally encountered 5  $\frac{1}{4}$  to 6 inches of HMA and Borings SB2026-024 and SB2026-025 generally encountered 2  $\frac{1}{2}$  inches of HMA at the surface. Boring SB2026-022 encountered 12 inches of gravel base before meeting shallow refusal within the gravel base and Borings SB2026-023 and SB2026-026 encountered 5 to 9 inches of gravel base, while Borings SB2026-021, SB2026-024, SB2026-025 did not encounter any base material. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SC, SP, SM, SC) to the explored depths ranging from 0.8 to 5 ft.

*Sheheen Avenue from Dewey Avenue to Granger Avenue – Borings SB2026-027 and SB2026-028*

Borings SB2026-027 and SB2026-028 generally encountered 3  $\frac{3}{4}$  to 4 inches of HMA and 3 to 8 inches of gravel base at the surface. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP-SM, SC) to the explored depths of 5 ft, with the exception of a layer of very stiff lean clay (CL) at depths ranging from 3.4 to 4.2 in Boring SB2026-028.

*Dewey Avenue from South State Street to Packard Street – Borings SB2026-029 to SB2026-031*

Borings SB2026-029 to SB2026-031 generally encountered 2  $\frac{3}{4}$  to 5 inches of HMA and 10 to 11 inches of gravel base at the surface, with the exception of Boring SB2026-029 which did not encounter any base material. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey and silty fines (SP, SP-SC, SC) to the explored depths of 2 to 5 ft.



*Rose Avenue from White Street to Golden Avenue – Borings SB2026-032 and SB2026-033*

Borings SB2026-032 and SB2026-033 generally encountered 2 ½ to 4 inches of HMA at the surface. Boring SB2026-033 encountered 6 inches of crushed asphalt base while Boring SB2026-032 did not encounter any base material. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey fines (SP, SP-SC, SC) to the explored depths ranging from 2 to 5 ft.

*Washtenaw Court from Geddes Avenue to Washtenaw Avenue – Borings SB2026-034 and SB2026-035*

Borings SB2026-034 and SB2026-035 generally encountered 4 ½ to 7 ½ inches of HMA overlying 8 ½ inches of concrete at the surface. Beneath the pavement sections, Boring SB2026-035 encountered fill, consisting of poorly graded sand with silt and gravel (SP-SM) and appearing to contain burned wood debris, to a depth of 3.2 ft, where shallow hand auger refusal was encountered on possible coarse gravel, cobble, or wood debris. Boring SB2026-034 encountered poorly graded sand with silt (SP-SM) to the explored depth of 3 ft.

*Wilmot Street from Washtenaw Avenue to Observatory Street – Borings SB2026-036 and SB2026-037*

Borings SB2026-036 and SB2026-037 generally encountered 3 ¼ to 4 inches of HMA, 1 to 2 inches of gravel base and 5 ¼ to 7 inches of rubblized concrete at the surface. Beneath the pavement sections, Boring SB2026-036 encountered poorly graded sand (SP) to the explored depth of 5 ft, while Boring SB2026-037 encountered very stiff lean clay (CL) to the explored depth of 2 ft.

*Wilmot Street East of Elm Street – Boring SB2026-038*

Boring SB2026-038 encountered 5 inches of HMA, 6 ½ inches of concrete and 6 ½ inches of gravel base at the surface. Beneath the pavement section, Boring SB2026-038 encountered hard lean clay (CL) to the explored depth of 2 ft.

*Mack Road East of Elm Street – Borings SB2026-039 and SB2026-040*

Borings SB2026-039 and SB2026-040 generally encountered 4 to 5 ¾ inches of HMA and 9 to 10 inches of gravel base at the surface. Beneath the pavement sections, the borings generally encountered very stiff to hard lean clay (CL) to the explored depths of 2 to 2.5 ft.



*Elm Street from South University Avenue to Geddes Avenue – Borings SB2026-041 to SB226-043*

Borings SB2026-041 to SB226-043 generally encountered 2 ½ to 4 ¼ inches of HMA at the surface. Boring SB2026-041 encountered 3 inches of gravel base and 6 inches of concrete, Boring SB2026-043 encountered 9 inches of concrete and Boring SB2026-042 encountered 2 inches of gravel and 12 inches of concrete before meeting shallow refusal within the concrete. Beneath the pavement sections, Boring SB2026-041 encountered clayey sand (SC) to the explored depth of 2.5 ft while Boring SB2026-043 encountered very stiff lean clay (CL) to the explored depth of 2 ft. Boring SB2026-042 was offset and reattempted (SB2026-042A) and encountered 3 ¾ inches of HMA, 2 ½ inches of gravel and 12 inches of concrete before meeting shallow refusal within the concrete.

*Walnut Street from South University Avenue to Geddes Avenue – Borings SB2026-044 to SB2026-46*

Borings SB2026-044 to SB2026-46 generally encountered 6 ½ to 9 inches of HMA at the surface. Boring SB2026-045 encountered 3 ½ inches of crushed asphalt base while Borings SB2026-044 and SB2026-046 did not encounter any base material. Beneath the pavement sections, the borings generally encountered very stiff lean clay (CL) to the explored depths of 5 ft.

*Seneca Avenue from Oswego Street to Onondaga Street – Borings SB2026-047 and SB2026-048*

Boring SB2026-047 encountered 4 ½ inches of HMA overlying 3 inches of gravel base at the surface, while Boring SB2026-048 encountered 8 inches of HMA at the surface. Beneath the pavement sections, Boring SB2026-047 encountered clayey sand (SC) to the explored depth of 5 ft, while Boring SB2026-048 encountered very stiff lean clay (CL) to the explored depth of 5 ft.

*Oswego Street from Geddes Avenue to Lenawee Drive – Borings SB2026-049 to SB2026-051*

Borings SB2026-049 to SB2026-051 generally encountered 3 to 5 inches of HMA at the surface. Boring SB2026-049 encountered 3 1/2 inches of concrete base and Boring SB2026-051 encountered 7 ½ inches of concrete base, while Boring SB2026-050 encountered 3 inches of gravel base overlying 2 ¾ inches of concrete. Beneath the pavement sections, the borings generally encountered fill, consisting of poorly graded sand with silt (SP-SM), to depths ranging from 1.3 to 1.7 ft and very stiff lean clay (CL) to the explored depths of 5 ft.





*Onondaga Street from Geddes Avenue to Hill Street – Borings SB2026-052 to SB2026-054*

Borings SB2026-052 to SB2026-054 generally encountered 5 to 5 ¼ inches of HMA overlying 6 ¾ to 11 inches of gravel base. Beneath the pavement sections, Boring SB2026-052 encountered very stiff lean clay (CL) to the explored depth of 5 ft and Borings SB2026-053 and SB2026-054 encountered poorly graded sand with varying amounts of clayey fines (SP-SC, SC) to depths ranging from 1.5 to 2.5 ft and very stiff lean clay (CL) to the explored depths of 5 ft.

*Highland Road from Geddes Avenue to Lenawee Drive – Borings SB2026-055, SB2026-056, SB2026-066 to SB2026-069*

Borings SB2026-055, SB2026-056, SB2026-066 to SB2026-069 generally encountered 4 ¼ to 7 inches of HMA at the surface. Borings SB2026-055, SB2026-056 and SB2026-068 generally encountered 5 ½ to 7 ¼ inches of gravel base, while Borings SB2026-066, SB2026-067 and SB2026-069 did not encounter any base material. Beneath the pavement sections, Borings SB2026-067 and SB2026-069 generally encountered very stiff lean clay (CL) to the explored depths of 3 to 5 ft, while Borings SB2026-055 and SB2026-068 encountered poorly graded sand with varying amounts of clayey and silty fines (SM, SP) to depths ranging from 2 to 2.5 ft and very stiff lean clay (CL) to the explored depths of 5 ft. Boring SB2026-056 encountered stiff lean clay (CL) to a depth of 1.5 ft and clayey sand (SC) to the explored depth of 5 ft, while Boring SB2026-066 encountered poorly graded sand with clay (SP-SC) to the explored depth of 5 ft. Groundwater was encountered at a depth of 2.5 ft in Boring SB2026-066.

*Lenawee Drive from Lafayette Road to Highland Road – Boring SB2026-057*

Boring SB2026-057 encountered 6 inches of HMA and 12 inches of gravel base at the surface. Beneath the pavement section, the boring encountered poorly graded sand with clay (SP-SC) to the explored depth of 5 ft.

*Concord Road from Lafayette Road to Highland Road – Borings SB2026-058 and SB2026-059*

Borings SB2026-058 and SB2026-059 generally encountered 4 ½ to 5 inches of HMA at the surface. Boring SB2026-058 encountered 10 inches of gravel base and Boring SB2026-059 encountered 7 ½ inches of gravel base before meeting shallow refusal within the gravel base. Beneath the pavement, Boring SB2026-058 encountered lean clay (CL) to the explored depth of 5 ft.





*Regent Drive North of Highland Road - Borings SB2026-060 to SB2026-063*

Borings SB2026-060 to SB2026-063 generally encountered 4 1/2 to 5 inches of HMA over 8 to 11 inches of gravel base at the surface. Beneath the pavement sections, the borings generally encountered very stiff to hard lean clay (CL) to the explored depths of 4 to 5 ft.

*Awixa Road from Geddes Avenue to Lenawee Drive - Borings SB2026-064 and SB2026-065*

Borings SB2026-064 and SB2026-065 generally encountered 4 to 5 inches of HMA and 7 inches of gravel base at the surface. Beneath the pavement sections, the borings generally encountered poorly graded sand with varying amounts of clayey or silty fines (SP-SM, SP-SC, SC) to the explored depths of 5 ft.

*Ridgeway Street North of Geddes Avenue - Borings SB2026-070 to SB2026-073*

Borings SB2026-070 and SB2026-071 generally encountered 4 3/4 to 5 1/2 inches of HMA and 4 to 12 inches of gravel at the surface, while Borings SB2026-072 and SB2026-073 generally encountered 7 3/4 to 8 3/4 inches of HMA and 1 1/4 to 6 1/4 of crushed HMA base at the surface. Beneath the pavement sections, Borings SB2026-072 and SB2026-073 generally encountered lean clay (CL) to the explored depths of 5 ft, while Boring SB2026-070 encountered clayey sand (SC) to a depth of 3 ft and very stiff lean clay (CL) to the explored depth of 5 ft and Boring SB2026-071 encountered lean clay (CL) to a depth of 3 ft and clayey sand (SC) to the explored depth of 5 ft.

The consistency of cohesive soil is based on estimates of the unconfined compressive strength obtained with a calibrated penetrometer.

This section has provided a generalized description of the encountered subsurface soil conditions. The boring logs located in the Appendix should be reviewed for detailed soil descriptions. Some variation between boring locations may be expected.



## CLOSURE

In this data package, descriptions of the geotechnical investigation and encountered conditions have been provided. The limitations of this study are described in the Appendix.

We appreciate this opportunity to provide this service. Please contact our office should you have any questions or require further assistance.

Sincerely,

**MATERIALS TESTING CONSULTANTS, INC.**

Ryan D. Starcher, P.E.  
Project Manager

Robert J. Warren, P.E.  
Senior Project Manager

Attachments: Figure Nos. 1 to 6 - Boring Location Plans  
Table 1 – Summary of Investigation Results  
Appendix  
- Limitations  
- Test Drilling and Sampling Procedures  
- Boring Log Terminology and Classification Outline  
- Boring Logs  
- Summary of Laboratory Test Data



**Table 1 - Summary of Investigation Results**

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
Adams Street	South Main Street to Hill Street	SB2026-001 to SB2026-003	3 to 4	SB2026-001, SB2026-003: 8" to 10" Concrete SB2026-002: 6 1/2" Concrete, 7" Gravel	Clayey sand (SC) to 1.3 to 5 ft	SC: 3,700 - 5,100	SC: 7.3 - 11.1
Brown Street	East Hoover Avenue to Hill Street	SB2026-004 to SB2026-006	SB2026-004, SB2026-006: 5 1/2 to 6 1/4 SB2026-005: 2	13" to 16" Gravel	Poorly graded sand with clay (SP-SC) to 2.3 to 5 ft	SP-SC: 3,700 - 5,100	
East Davis Avenue	South Main Street to Greene Street	SB2026-007 to SB2026-009	4 1/2 to 5 3/4	6" to 10" Gravel	SB2026-007: Lean clay with sand (CL) to 5 ft SB2026-008: Poorly graded sand with clay (SP-SC) to 1.6 ft SB2026-009: Silty sand (SM) with gravel to 1.7 ft	SP-SC: 3,700 - 5,100 CL: 3,700 - 5,100 SM: 4,400-6,000	CL: 16.8 - 18.1
Sybil Street	East Hoover Avenue to Hill Street	SB2026-010 to SB2026-012	SB2026-010, SB2026-012: 4 3/4 to 5 1/2 SB2026-011: 2 1/4	SB2026-010: 8" Gravel SB2026-011: 9" Gravel SB2026-012: None	SB2026-010: Lean clay with sand (CL) to 5 ft SB2026-011: Poorly graded sand with clay (SP-SC) to 1.7 ft, lean clay (CL) to 5 ft SB2026-012: Clayey sand (SC) to 1.9 ft, poorly graded sand with silt (SP-SM) to 4 ft, clayey sand (SC) to 5 ft	CL: 3,700 - 5,100 SC: 3,700 - 5,100 SP-SC: 3,700 - 5,100	CL: 14.7 - 16.3 SC: 11.8 - 16.2
Mary Street	Packard Street to South Division Street	SB2026-013 to SB2026-016	3 1/4 to 4 SB2026-013: 1 3/4	6" to 8" Gravel SB2026-013: 5" Concrete, 6" Gravel	SB2026-013: Poorly graded sand with silt (SP-SM) to 5 ft SB2026-014, SB2026-016: Clayey sand (SC) to 2.4 to 3.6 ft, lean clay (CL) to 5 ft SB2026-015: Poorly graded sand with clay (SP-SC) to 5 ft	SP-SM: 5,900 - 8,100 SP-SC: 3,700 - 5,100 SC: 3,700 - 5,100 CL: 3,700 - 5,100	SC: 13.7 - 27.7 CL: 14.6 - 15.0
Cross Street	South Division Street to Packard Street	SB2026-017 and SB2026-018	1 3/4 to 2	SB2026-017: 5 3/4" Concrete SB2026-018: 2 1/2" Concrete, 3" Gravel	Poorly graded sand with varying amounts of clayey and silty fines (SP-SM, SC) to 5 ft	SC: 3,700 - 5,100 SP-SM: 5,900 - 8,100	SC: 15.6
Arch Street	South State Street to Packard Street	SB2026-019 and SB2026-020	1 3/4 to 2 1/2	SB2026-019: 6" Concrete SB2026-020: 8" Concrete, 5" Gravel	SB2026-019: Poorly graded sand with varying amounts of silty and clayey fines (SP-SM, SC) to 5 ft SB2026-020: Clayey sand (SC) to 3.6 ft, lean clay (CL) to 5 ft	SP-SM: 5,900 - 8,100 SC: 3,700 - 5,100 CL: 3,700 - 5,99	SC: 11.0 - 12.1 CL: 20.1



Table 1 - Summary of Investigation Results, Continued

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
White Street	Granger Avenue to Arch Street	SB2026-021 to SB2026-026	SB2026-021, SB2026-026: 4 1/4 to 4 1/2 SB2026-022, SB2026-023: 5 1/4 to 6 SB2026-024, SV2026-025: 2 1/2	SB2026-022: Refusal within gravel base at 12" SB2026-023, SB2026-026: 5 to 9" Gravel SB2026-021, SB2026-024, SB2026-025: None	SB2026-021: Clayey sand (SC) to 0.9 ft, silty sand (SM) to 2 ft SB2026-023, SB2026-024: Clayey sand (SC) to 2.3 to 5 ft SB2026-025: Poorly graded sand with clay (SP-SC) to 0.8 ft SB2026-026: Poorly graded sand with silt (SP-SM) to 2 ft	SC: 3,700 - 5,100 SP-SC: 3,700 - 5,100 SP-SM: 5,900 - 8,100	SC: 12.7 - 14.1
Sheehan Avenue	Dewey Avenue to Granger Avenue	SB2026-027 and SB2026-028	3 3/4 to 4	SB2026-027: 3" Gravel SB2026-028: 8" Gravel	SB2026-027: Clayey sand (SC) to 3.8 ft, poorly graded sand with silt (SP-SM) to 5 ft SB2026-028: Clayey sand (SC) to 3.4 ft, lean clay (CL) to 4.2 ft, clayey sand (SC) to 5 ft	SC: 3,700 - 5,100 SP-SM: 5,900 - 8,100 CL: 3,700 - 5,100	CL: 20.3 SC: 9.5 - 16.5
Dewey Avenue	South State Street to Packard Street	SB2026-029 to SB2026-031	SB2026-029, SB2026-031: 2 3/4 to 3 3/4 SB2026-030: 5	SB2026-030, SB2026-031: 10 to 11" Gravel SB2026-029: None	SB2026-29: Poorly graded sand with clay (SP-SC) to 1.5 ft, poorly graded sand (SP) to 5 ft SB2026-030, SB2026-031: Clayey sand (SC) to 2 to 2.5 ft	SC: 3,700 - 5,100 SP: 5,500 - 7,500 SP-SC: 3,700 - 5,100	SC: 14.8 - 17.9
Rose Avenue	White Street to Golden Avenue	SB2026-032 and SB2026-033	SB2026-032: 2 1/2 SB2026-033: 4	SB2026-032: None SB2026-033: 6" Crushed Asphalt	SB2026-032: Poorly graded sand with varying amounts of clayey fines (SP, SP-SC) to 5 ft SB2026-033: Clayey sand (SC) to 2.5 ft	SC: 3,700 - 5,100 SP: 5,500 - 7,500 SP-SC: 3,700 - 5,101	SC: 8.6
Washtenaw Court	Geddes Avenue to Washtenaw Avenue	SB2026-034 and SB2026-035	4 1/2 to 7 1/2	8 1/2" Concrete	SB2026-034: Poorly graded sand with silt (SP-SM) to 3 ft SB2026-035: Poorly graded sand with silt and gravel (SP-SM) to 3.2 ft (Fill)	SP-SM: 5,900 - 8,100	
Wilmot Street	Washtenaw Avenue to Observatory Street	SB2026-036 and SB2026-037	3 1/4 to 4	1 to 2" Gravel, 5 1/4" to 7" Rubblized Concrete	SB2026-036: Poorly graded sand (SP) to 5 ft SB2026-037: Lean clay (CL) to 2 ft	SP: 5,500 - 7,500 CL: 3,700 - 5,100	CL: 18.1
	East of Elm Street	SB2026-038	5	6 1/2" Concrete, 6 1/2" Gravel	Lean clay (CL) to 2 ft	CL: 3,700 - 5,100	CL: 17.1
Mack Road	East of Elm Street	SB2026-039 and SB2026-040	4" to 5 3/4"	9" to 10" Gravel	Lean clay (CL) to 2 to 2.5 ft	CL: 3,700 - 5,100	CL: 13.5 - 14.7



Table 1 - Summary of Investigation Results, Continued

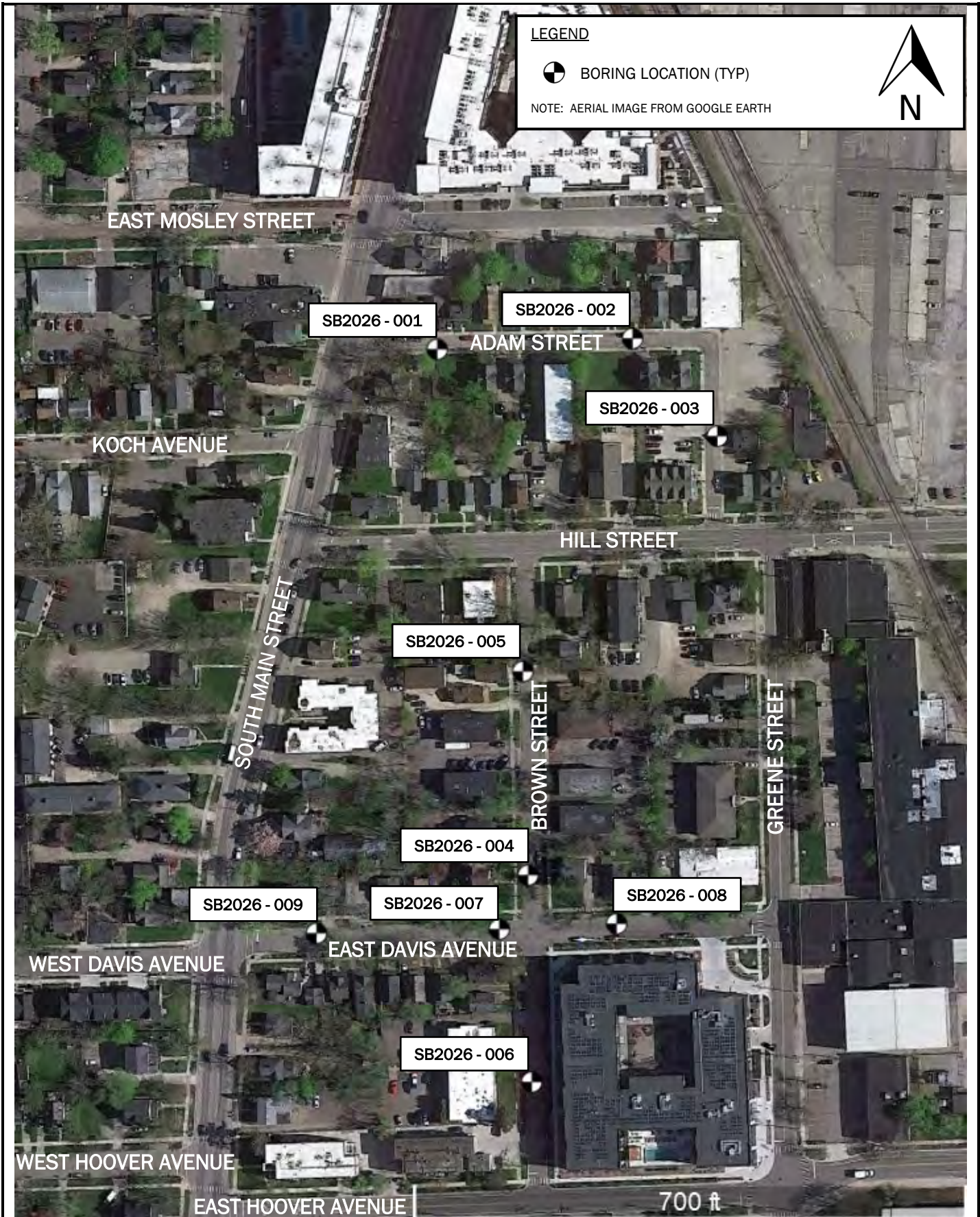
Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
Elm Street	South University Avenue to Geddes Avenue	SB2026-041 to SB2026-043	2 1/2" to 4 1/4"	SB2026-041: 3" Gravel, 6" Concrete SB2026-042: 2" Gravel, refusal within concrete base at 12" SB2026-043: 9" Concrete	SB2026-041: Clayey sand (SC) to 2.5 ft SB2026-043: Lean clay (CL) to 2 ft	CL: 3,700 - 5,100 SC: 3,700 - 5,100	CL: 18.2 SC: 10.1
Walnut Street	South University Avenue to Geddes Avenue	SB2026-044 to SB2026-046	6 1/2 to 9	SB2026-045: 3 1/2" Crushed Asphalt SB2026-044, SB2026-046: None	Lean clay (CL) to 5 ft	CL: 3,700 - 5,100	CL: 10.9 - 25.3
Senaca Avenue	Oswego Street to Onondaga Street	SB2026-047 and SB2026-048	SB2026-047: 4 1/2 SB2026-048: 8	SB2026-047: 3" Gravel SB2026-048: None	SB2026-047: Clayey sand (SC) to 5 ft SB2026-048: Lean clay (CL) to 5 ft	CL: 3,700 - 5,100 SC: 3,700 - 5,100	CL: 13.8 SC: 30.4
Oswego Street	Geddes Avenue to Hill Street	SB2026-049 to SB2026-051	3 to 5	SB2026-049: 3 1/2" Concrete SB2026-050: 3" Gravel, 2 3/4" Concrete SB2026-051: 7 1/2" Concrete	Poorly graded sand with silt (SP-SM) to 1.3 to 1.7 ft (Fill), lean clay (CL) to 5 ft	CL: 3,700 - 5,100 SP-SM: 5,900 - 8,100	CL: 7.9 - 15.3
Onondaga Street	Geddes Avenue to Hill Street	SB2026-052 to SB2026-054	5 to 5 1/4	6 3/4 to 11" Gravel	SB2026-052: Lean clay (CL) to 5 ft SB2026-053: Clayey sand (SC) to 2.5 ft, Lean clay (CL) to 5 ft SB2026-054: Poorly graded sand with clay (SP-SC) to 1.5 ft, sandy clay (CL) to 5 ft	CL: 3,700 - 5,100 SC: 3,700 - 5,100 SP-SC: 3,700 - 5,100	CL: 12.9 - 23.8 SC: 19.9
Highland Road	Geddes Avenue to Lenawee Drive	SB2026-055, SB2026-056, SB2026-066 to SB2026-069	4 1/4 to 7	SB2026-055, SB2026-056, SB2026-068: 5 1/2 to 7 1/4" Gravel SB2026-066, SB2026-067, SB2026-069: None	SB2026-055: Silty sand (SM) to 2 ft, lean clay (CL) to 5 ft SB2026-056: Lean clay (CL) to 1.5 ft, clayey sand to 5 ft SB2026-066: Poorly graded sand with clay (SP-SC) to 5 ft SB2026-067, SB2026-069: Lean clay (CL) to 3 to 5 ft SB2026-068: Poorly graded sand (SP) to 2.5 ft, lean clay (CL) to 5 ft	CL: 3,700 - 5,100 SC: 3,700 - 5,100 SM: 4,400 - 6,000 SP-SC: 3,700 - 5,100 SP: 5,500 - 7,500	CL: 13.7 - 23.6 SC: 12.4
Lenawee Drive	Lafayette Road to Highland Road	SB2026-057	6	12" Gravel	Poorly graded sand with clay (SP-SC) to 5 ft	SP-SC: 3,700 - 5,100	




Table 1 - Summary of Investigation Results, Continued

Street Name	Limits	Borings	Asphalt Thickness (inches)	Base Thickness and Description	Subgrade Soils	Estimated Resilient Modulus, psi	Laboratory Results - Moisture, %
Concord Road	Lafayette Road to Highland Road	SB2026-058 and SB2026-059	4 1/2 to 5	SB2026-058: 10" Gravel SB2026-059: 7 1/2" Gravel, refusal within gravel base	Lean clay (CL) to 5 ft	CL: 3,700 - 5,100	CL: 21.7
Regent Drive	North of Highland Road	SB2026-060 to SB2026-063	4 to 4 3/4	8 to 11" Gravel	Lean clay (CL) to 4 to 5 ft	CL: 3,700 - 5,100	CL: 9.8 - 15.1
Awixa Road	Geddes Avenue to Lenawee Drive	SB2026-064 and SB2026-065	4 to 5	7" Gravel	SB2026-064: Clayey sand (SC) to 5 ft SB2026-065: Poorly graded sand with clay (SP-SC) to 4.5 ft, poorly graded sand with silt (SP-SM) to 5 ft	SC: 3,700 - 5,100 SP-SC: 3,700 - 5,100 SP-SM: 5,900 - 8,100	SC: 15.6
Ridgeway Street	North of Geddes Avenue	SB2026-070 to SB2026-073	SB2026-070, SB2026-071: 4 3/4 to 5 1/2 SB2026-072, SB2026-073: 7 3/4 to 8 3/4	SB2026-070, SB2026-071: 4 to 12" Gravel SB2026-072, SB2026-073: 1 1/4 to 6 1/4" Crushed HMA	SB2026-070: Clayey sand (SC) to 3 ft, lean clay (CL) to 5 ft SB2026-071: Lean clay (CL) to 3 ft, clayey sand (SC) to 5 ft SB2026-072, SB2026-073: Lean clay (CL) to 5 ft	CL: 3,700 - 5,100 SC: 3,700 - 5,100	CL: 13.3 - 18.1 SC: 12.4 - 16.3







**LEGEND**

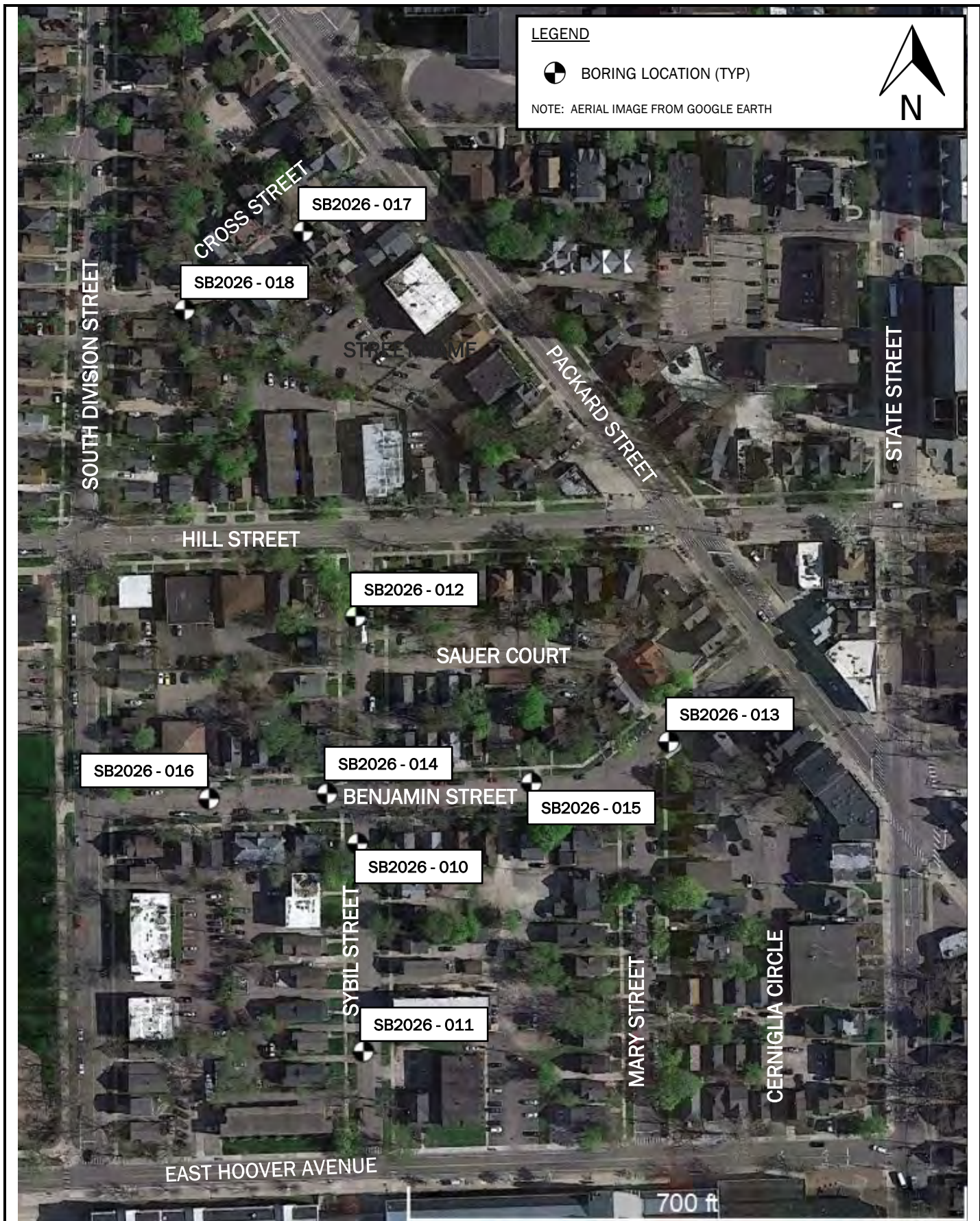
 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH


 N

TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2026 STREET RESURFACING	
SCALE: AS	DATE: 1/3/2025	PROJECT NO.: 241598		
FIG. NO.: 1	DR. BY: BG	REV. BY: RS		





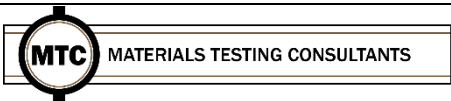
**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH




TITLE: BORING LOCATION PLAN		PROJECT: CITY OF ANN ARBOR 2026 STREET RESURFACING	
SCALE: AS	DATE: 1/3/2025	PROJECT NO.: 241598	
FIG. NO.: 2	DR. BY: BG	REV. BY: RS	








TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2026 STREET RESURFACING	
SCALE: AS	DATE: 1/3/2025	PROJECT NO.: 241598		
FIG. NO.: 3	DR. BY: BG	REV. BY: RS		






**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH


**N**

TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2026 STREET RESURFACING	
SCALE: AS	DATE: 1/3/2025	PROJECT NO.: 241598	 <b>MTC</b> MATERIALS TESTING CONSULTANTS	
FIG. NO.: 4	DR. BY: BG	REV. BY: RS		







**LEGEND**

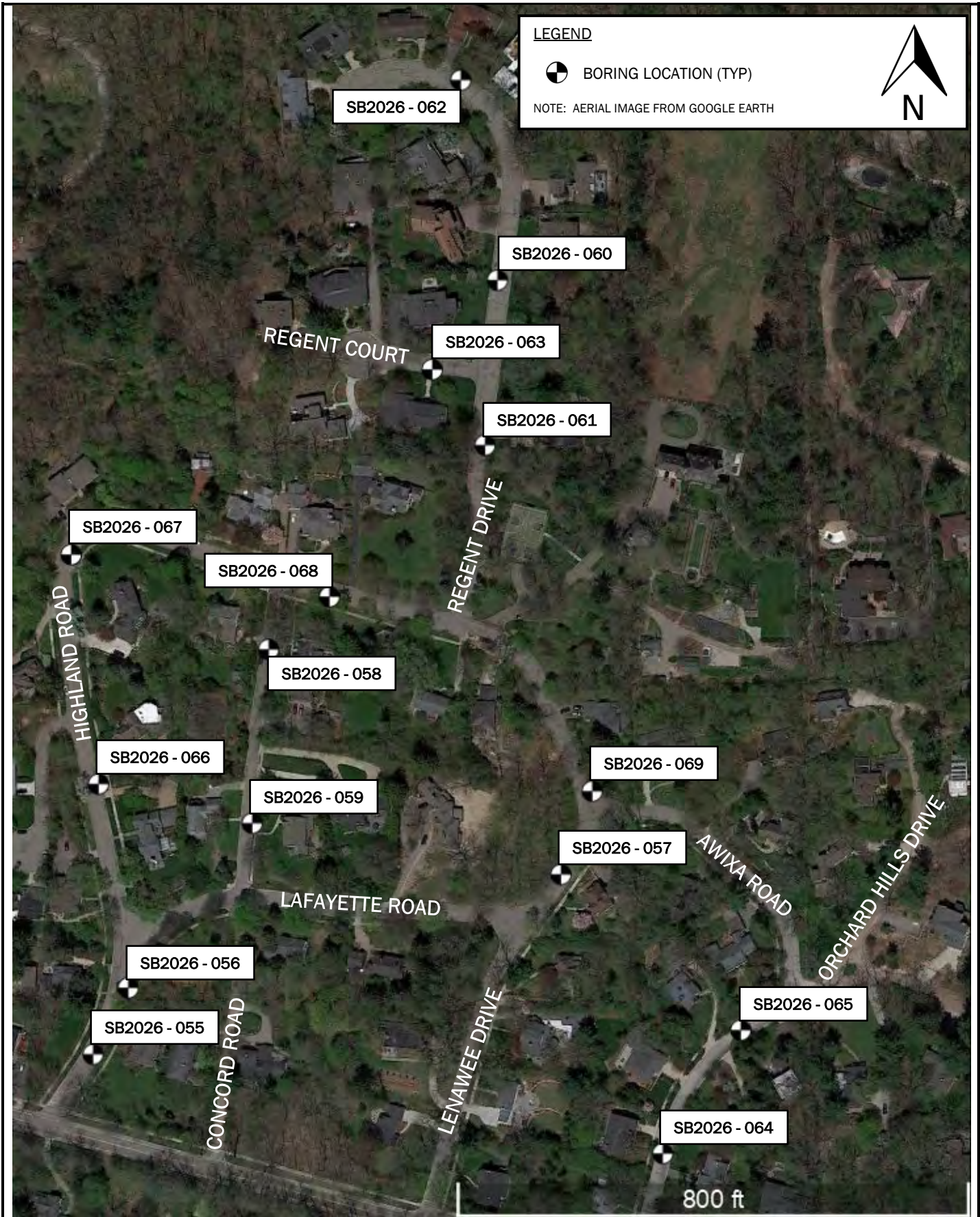
 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH




TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2026 STREET RESURFACING	
SCALE: AS	DATE: 1/3/2025	PROJECT NO.: 241598		
FIG. NO.: 5	DR. BY: BG	REV. BY: RS		







**LEGEND**

 BORING LOCATION (TYP)

NOTE: AERIAL IMAGE FROM GOOGLE EARTH



TITLE: BORING LOCATION PLAN			PROJECT: CITY OF ANN ARBOR 2026 STREET RESURFACING	
SCALE: AS	DATE: 1/3/2025	PROJECT NO.: 241598	 <b>MATERIALS TESTING CONSULTANTS</b>	
FIG. NO.: 6	DR. BY: BG	REV. BY: RS		



## *APPENDIX*

- Limitations
- Test Drilling and Sampling Procedures
- Boring Log Terminology and Classification Outline
- Boring Logs
- Summary of Laboratory Test Data
- Core Photograph Log



## LIMITATIONS

### Soil Variations

The recommendations in this report are based upon the data obtained from the soil borings. This report does not reflect variations which may occur between these borings, and which would not become evident until construction. If variations then become evident, it would be necessary for a re-evaluation of recommendations of this report, after performing on-site observations.

### Warranties

We have prepared this report in accordance with generally accepted soil and foundation engineering practices. We make no other warranties, either expressed or implied, as to the professional advice provided under the terms of our agreement and included in this report. This report is prepared exclusively for our client and may not be relied upon by other parties without written consent from our office.

### Boring Logs

In the process of obtaining and testing samples and preparing this report, we follow reasonable and accepted practice in the field of soil engineering. Field logs maintained during drilling describe field occurrences, sampling locations, and other information. The samples obtained in the field are subjected to additional testing in the laboratory and differences may exist between the field logs and the final logs. The engineer reviews the field logs and laboratory test data, and then prepares the final boring logs. Our recommendations are based on the contents of the final logs.

### Review of Design Plans and Specifications

In the event that any changes in the design of the building or the location, however slight, are planned, our recommendations shall not be considered valid unless modified or approved in writing by our office. We recommend that we be provided the opportunity to review the final design and specifications in order to determine whether changes in the original concept may have affected the validity of our recommendations, and whether our recommendations have, in fact, been implemented in the design and specifications.





## TEST DRILLING AND SAMPLING PROCEDURES

### Test Drilling Methods:

- Hollow stem auger, ASTM D6151
- Mud rotary, ASTM D5783
- Casing advancer, ASTM D5872
- Rock coring, ASTM D2113
- Core/Hand Auger

*Note: Cone penetration test data can be used to interpret subsurface stratigraphy and can provide data on engineering properties of soils. The ASTM procedure does not include a procedure for determining soil classification from CPT testing. Soil classifications shown on CPT logs are based on published procedures and are not based on physical ASTM soil classification tests.*

### Sampling Methods:

- SPT, ASTM D1586, Auto hammer (140 lb., 30" drop, 2" OD split spoon sampler)
- Grab Samples

*Note: The number of hammer blows required to drive the SPT sampler 12 inches, after seating 6 inches, is termed the soil N-value and provides an indication of the soil's relative density and strength parameters at the sample location. SPT blow counts in 6 inch increments are recorded on the boring logs.*

### Drill Rig:

- CME 55 (ATV)
- Acker Renegade (ATV)
- CME 45 Truck
- Geoprobe 7822 (ATV)
- Geoprobe Rotary Sonic

### Boreholes Backfilled With:

- Excavated soil
- Cement bentonite grout
- Piezometer or Monitoring Well (see notes on logs)
- Concrete or asphalt patch where appropriate

### Sample Handling and Disposition:

- Samples labeled, placed in jars, returned to MTC Laboratory
- Discard after 60 days



# BORING LOG TERMINOLOGY AND ASTM D 2488 CLASSIFICATION OUTLINE

## TERMS DESCRIBING CONSISTENCY OR CONDITION

**COARSE-GRAINED SOILS** (major portions retained on No. 200 sieve): includes (1) clean gravel and sands and (2) silty or clayey gravels and sands. Condition is rated according to relative density as determined by laboratory tests or standard penetration resistance tests.

Descriptive Terms	Relative Density	SPT Blow Count
Very loose	0 to 15 %	< 5
Loose	15 to 35 %	5 to 10
Medium dense	35 to 65 %	10 to 30
Dense	65 to 85 %	30 to 50
Very dense	85 to 100 %	> 50

Per ASTM D2487, the following conditions must be met based on laboratory testing to justify the label 'well graded' in a soil description.

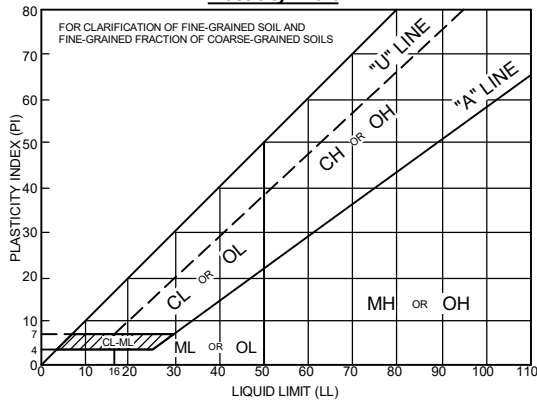
Gravel:  $C_u = \frac{D_{60}}{D_{10}}$  greater than 4;  $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$  between 1 and 3

Sand:  $C_u = \frac{D_{60}}{D_{10}}$  greater than 6;  $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$  between 1 and 3

**FINE-GRAINED SOILS** (major portions passing on No. 200 sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings, SPT blow count, or unconfined compression tests.

Descriptive Terms	Unconfined Compressive Strength TSF	SPT Blow Count
Very soft	< 0.25	< 2
Soft	0.25 to 0.5	2 to 4
Medium stiff	0.5 to 1.0	4 to 8
Stiff	1.0 to 2.0	8 to 15
Very stiff	2.0 to 4.0	15 to 30
Hard	> 4.0	> 30

**Plasticity Chart**



MAJOR DIVISIONS				TYPICAL NAMES
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LESS THAN 15% FINES	GW	WELL-GRADED GRAVELS WITH OR WITHOUT SAND
		GRAVELS WITH 15% OR MORE FINES	GP	POORLY-GRADED GRAVELS WITH OR WITHOUT SAND
			GM	SILTY GRAVELS WITH OR WITHOUT SAND
		GC	CLAYEY GRAVELS WITH OR WITHOUT SAND	
	SANDS MORE THAN HALF COARSE FRACTION IS FINER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 15% FINES	SW	WELL-GRADED SANDS WITH OR WITHOUT GRAVEL
			SP	POORLY-GRADED SANDS WITH OR WITHOUT GRAVEL
		SANDS WITH 15% OR MORE FINES	SP-SM	POORLY-GRADED SANDS WITH SILT WITH OR WITHOUT GRAVEL
			SM	SILTY SANDS WITH OR WITHOUT GRAVEL
		SC	CLAYEY SANDS WITH OR WITHOUT GRAVEL	
		FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS	ML
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL			
OL	ORGANIC SILTS OR CLAYS OF LOW TO MEDIUM PLASTICITY WITH OR WITHOUT SAND OR GRAVEL			
SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%	MH		INORGANIC SILTS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL	
	CH		INORGANIC CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL	
OH	ORGANIC SILTS OR CLAYS OF HIGH PLASTICITY WITH OR WITHOUT SAND OR GRAVEL			
HIGHLY ORGANIC SOILS		PT/OL	PEAT AND OTHER HIGHLY ORGANIC SOILS	

## GENERAL NOTES

- Classifications are based on the United Soil Classification System and include consistency, moisture, and color. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate.
- "Grades with" or "Grades without" may be used to describe soil when characteristics vary within a stratum.
- Preserved soil samples will be discarded after 60 days unless alternate arrangements have been made.

## GROUNDWATER OBSERVATIONS:

- During - indicates water level encountered during the boring
- End- indicates water level immediately after drilling
- Date and Depth - Measurements at indicated date

## SAMPLE TYPES AND NUMBERING

S	SPT, split barrel sample, ASTM D1586
U	Shelby tube sample, ASTM D1587
R	Rock core run
*S	Other than 2" split barrel sample
L	SPT with liner, ASTM D1586
A	Auger cuttings
G	Geoprobe liner

## MINOR COMPONENT QUANTIFYING TERMS

Less than 5%	TRACE
5 to 10%	FEW
15 to 25%	LITTLE
30 to 40%	SOME
50 to 100%	MOSTLY

## GRAIN SIZE

BOULDER	>12"
COBBLE	12" to 3"
COARSE GRAVEL	3" to 0.75"
FINE GRAVEL	0.75" to No. 4
COARSE SAND	No. 4 to No. 10
MEDIUM SAND	No. 10 to No. 40
FINE SAND	No. 40 to No. 200



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-001  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      Rev. By: RS  
**Coordinates:**  
**Elevation:** 828 ft      **Datum:** Washtenaw County GIS  
**Notes:** Adams Street: 17"W of 109 Adams St driveway centerline, 3.5'N of south curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/16/2024      **Date End:** 09/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 1.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
827.8	0.25	A-1				3" HMA	0.3			
827.5	0.50					10" Concrete				
827.3	0.75									
827.0	1.00						1.1			
826.8	1.25					SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist	1.3	7.9	
						End of Boring				Hand auger refusal at 1.3' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-002  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 825 ft      **Datum:** Washtenaw County GIS  
**Notes:** Adams Street: 5'W of 122 Adams St driveway centerline, 8'S of north curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
824.8	0.25	A-1				3" HMA	0.3	7.3			
824.5	0.50					6 1/2" Concrete					
824.3	0.75						0.8				
824.0	1.00					7" Gravel Base					
823.8	1.25	A-2				Dark brown clayey SAND; mostly medium to fine sand, some clayey fines, moist  Grades brown at 2'		7.3			
823.5	1.50										1.4
823.3	1.75										
823.0	2.00										
822.8	2.25										
822.5	2.50										
822.3	2.75										
822.0	3.00										
821.8	3.25										
821.5	3.50										
821.3	3.75										
821.0	4.00										
820.8	4.25										
820.5	4.50										
820.3	4.75										
820.0	5.00					5.0					

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-003  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 825 ft      **Datum:** Washtenaw County GIS  
**Notes:** Adams Street: 23'N of 131 Adams St driveway centerline, 5'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.9 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
824.8	0.25	A-1				4" HMA	0.3				
824.5	0.50					8" Concrete					
824.3	0.75										
824.0	1.00						1.0				
823.8	1.25										
823.5	1.50					SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist		11.1		
823.3	1.75							1.9			
						End of Boring				Hand auger refusal at 1.9' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-004  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 840 ft      **Datum:** Washtenaw County GIS  
**Notes:** Brown Street: 41'S of 829 Brown St driveway centerline, 4'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/17/2024      **Date End:** 09/17/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 4.7 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
839.8	0.25	A-1				5 1/2" HMA					
839.5	0.50						0.5				
839.3	0.75					14" Gravel Base					
839.0	1.00										
838.8	1.25										
838.5	1.50	A-2									
838.3	1.75						1.6				
838.0	2.00					SP-SC	Brown poorly graded SAND with clay and gravel; mostly coarse to fine sand, little coarse to fine gravel, few clayey fines, moist				
837.8	2.25										
837.5	2.50										
837.3	2.75										
837.0	3.00										
836.8	3.25										
836.5	3.50										
836.3	3.75										
836.0	4.00										
835.8	4.25										
835.5	4.50						4.7				
						End of Boring				Hand auger refusal due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-005

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 839 ft      **Datum:** Washtenaw County GIS

**Notes:** Brown Street: 24'S of 808 Brown St driveway centerline, 4'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/16/2024

**Date End:** 09/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
838.8	0.25	A-1			SP-SC	2" HMA	0.2			
838.5	0.50					13" Gravel Base				
838.3	0.75									
838.0	1.00									
837.8	1.25									
837.5	1.50							1.3		
837.3	1.75									
837.0	2.00									
836.8	2.25									
836.5	2.50									
836.3	2.75									
836.0	3.00									
835.8	3.25									
835.5	3.50									
835.3	3.75									
835.0	4.00									
834.8	4.25									
834.5	4.50									
834.3	4.75	A-2								
834.0	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-006  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 843 ft      **Datum:** Washtenaw County GIS  
**Notes:** Brown Street: 77'S of 912 Brown St driveway centerline, 3.5'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/16/2024      **Date End:** 09/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
842.8	0.25	A-1				6 1/4" HMA				
842.5	0.50						0.5			
842.3	0.75					16" Gravel Base				
842.0	1.00									
841.8	1.25									
841.5	1.50									
841.3	1.75	A-2					1.8			
841.0	2.00									
840.8	2.25		SP-SC			Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, few coarse to fine gravel, moist	2.3			
						End of Boring				Hand auger refusal at 2.3' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-007

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 840 ft      **Datum:** Washtenaw County GIS

**Notes:** East Davis Street: 63'E of 834 Brown St driveway centerline (on Davis St), 5.5'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/17/2024

**Date End:** 09/17/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
839.8	0.25	A-1				5" HMA	0.4				
839.5	0.50					10" Gravel Base					
839.3	0.75										
839.0	1.00	A-2				Dark brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace coarse to fine gravel, moist	2.25	18.1			
838.8	1.25										
838.5	1.50										
838.3	1.75										
838.0	2.00										
837.8	2.25										
837.5	2.50	A-3			CL	Grades brown	1.5	16.8			
837.3	2.75										
837.0	3.00										
836.8	3.25										
836.5	3.50										
836.3	3.75										
836.0	4.00					5.0					
835.8	4.25										
835.5	4.50										
835.3	4.75										
835.0	5.00										
						End of Boring					

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-008  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 836 ft      **Datum:** Washtenaw County GIS  
**Notes:** East Davis Street: 41'W of 203 E Davis St driveway centerline, 5'S of north curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/16/2024      **Date End:** 09/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.6 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
835.8	0.25	A-1				4 1/2" HMA	0.4			
835.5	0.50					10" Gravel Base				
835.3	0.75									
835.0	1.00									
834.8	1.25	A-2					1.2			
834.5	1.50				SP-SC	Brown poorly graded SAND with clay and gravel; mostly coarse to fine sand, little coarse to fine gravel, few clayey fines, moist	1.6			
						End of Boring				Hand auger refusal due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-009  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 845 ft      **Datum:** Washtenaw County GIS  
**Notes:** East Davis Street: 9'W of 108 E Davis St driveway centerline, 6'S of north curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.7 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
844.8	0.25	A-1				5 3/4" HMA				
844.5	0.50						0.5			
844.3	0.75					6" Gravel Base				
844.0	1.00						1.0			
843.8	1.25	A-2				Brown silty SAND with gravel; mostly coarse to fine sand, little coarse to fine gravel, little silty fines, moist				
843.5	1.50				SM					

End of Boring

Hand auger refusal at 1.7' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-010

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 823 ft      **Datum:** Washtenaw County GIS

**Notes:** Sybil: 27'S of Benjamin St crosswalk centerline on Sybil Street, 4'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024

**Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
822.8	0.25	A-1				4 3/4" HMA	0.4				
822.5	0.50					8" Gravel Base					
822.3	0.75										
822.0	1.00										
821.8	1.25	A-2			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, moist	2.5	16.3			
821.5	1.50										
821.3	1.75										
821.0	2.00										
820.8	2.25										
820.5	2.50										
820.3	2.75										
820.0	3.00										
819.8	3.25	A-3					4.0				
819.5	3.50										
819.3	3.75										
819.0	4.00										
818.8	4.25										
818.5	4.50										
818.3	4.75										
818.0	5.00					5.0					

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-011  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV      **Rev. By:** RS

**Coordinates:**

**Elevation:** 824 ft      **Datum:** Washtenaw County GIS

**Notes:** Sybil Street: 11'N of 918 Sybil St driveway centerline, 6'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024

**Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
823.8	0.25	A-1				2 1/4" HMA	0.2			
823.5	0.50					9" Gravel Base				
823.3	0.75	A-2								
823.0	1.00									
822.8	1.25				SP-SC	Brown poorly graded SAND with clay and gravel; mostly coarse to fine sand, few clayey fines, few fine gravel, moist	0.9			
822.5	1.50	A-3								
822.3	1.75									
822.0	2.00									
821.8	2.25									
821.5	2.50									
821.3	2.75									
821.0	3.00	A-4			CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist	2.75		14.7	
820.8	3.25									
820.5	3.50									
820.3	3.75									
820.0	4.00									
819.8	4.25						Grades with sand lenses			
819.5	4.50							3.5		
819.3	4.75									
819.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-012

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 822 ft      **Datum:** Washtenaw County GIS

**Notes:** Sybil Street: 7'N 803 Sybil St driveway centerline, 7'E of est curb

**Date Begin:** 09/20/2024

**Date End:** 09/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
821.8	0.25					5 1/2" HMA				
821.5	0.50						0.5			
821.3	0.75	A-1				Dark brown clayey SAND; mostly medium to fine sand, little clayey fines, trace coarse to fine gravel, moist				
821.0	1.00									
820.8	1.25				SC				16.2	
820.5	1.50	A-2								
820.3	1.75						1.9			
820.0	2.00					Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist				
819.8	2.25									
819.5	2.50	A-3								
819.3	2.75					Grades light brown at 3.5'				
819.0	3.00				SP-SM					
818.8	3.25									
818.5	3.50									
818.3	3.75	A-4					4.0			
818.0	4.00	A-5					4.3			
817.8	4.25				SC	Dark brown clayey SAND; mostly medium to fine sand, little clayey fines, moist (Possible Buried Sandy Topsoil)				
817.5	4.50									
817.3	4.75				SC	Brown clayey SAND; mostly medium to fine sand, little clayey fines, moist				
817.0	5.00	A-6						11.8		

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-013

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 828 ft      **Datum:** Washtenaw County GIS

**Notes:** Mary Street: 17"W of 809 Mary St driveway centerline, 4.5'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024

**Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
827.8	0.25	A-1				1 3/4" HMA				0.1
827.5	0.50					5" Concrete				0.6
827.3	0.75					6" Gravel Base				1.1
827.0	1.00									
826.8	1.25	A-2				Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist				
826.5	1.50									
826.3	1.75									
826.0	2.00									
825.8	2.25	A-3			SP-SM	Grades with little clayey fines from 3' to 3.5'				
825.5	2.50									
825.3	2.75									
825.0	3.00									
824.8	3.25	A-4				Grades without clayey fines				
824.5	3.50									
824.3	3.75									
824.0	4.00									
823.8	4.25									
823.5	4.50									
823.3	4.75									
823.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-014

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 821 ft      **Datum:** Washtenaw County GIS

**Notes:** Benjamin Street: 34'E of 423 Benjamin St driveway centerline, 8'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024

**Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
820.8	0.25	A-1				3 1/4" HMA	0.3				
820.5	0.50					8" Gravel Base					
820.3	0.75										
820.0	1.00										
819.8	1.25	A-2			SC	Dark brown clayey SAND; mostly medium to fine sand, little clayey fines, moist	3.6	27.7			
819.5	1.50										
819.3	1.75										
819.0	2.00										
818.8	2.25										
818.5	2.50										
818.3	2.75										
818.0	3.00										
817.8	3.25										
817.5	3.50										
817.3	3.75	A-3			CL	Brown to gray lean CLAY; mostly clayey fines, few coarse to fine sand, moist	3.5				
817.0	4.00										
816.8	4.25										
816.5	4.50										
816.3	4.75										
816.0	5.00					5.0	15.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-015  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 821 ft      **Datum:** Washtenaw County GIS  
**Notes:** Benjamin Street: 7'W of 517 Benjamin St driveway centerline,  
 2.5'S of north curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
820.8	0.25	A-1				3 1/4" HMA	0.3				
820.5	0.50					6" Gravel Base					
820.3	0.75						0.8				
820.0	1.00	A-2			SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, moist with occasional clay lenses					
819.8	1.25										
819.5	1.50										
819.3	1.75										
819.0	2.00										
818.8	2.25										
818.5	2.50										
818.3	2.75										
818.0	3.00										
817.8	3.25										
817.5	3.50	A-3									
817.3	3.75										
817.0	4.00										
816.8	4.25										
816.5	4.50										
816.3	4.75										
816.0	5.00						5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-016

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 821 ft      **Datum:** Washtenaw County GIS

**Notes:** Benjamin Street: 8'W of 415 Benjamin St driveway centerline,  
9'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024

**Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
820.8	0.25	A-1				4" HMA	0.3			
820.5	0.50					8" Gravel Base				
820.3	0.75									
820.0	1.00						1.0			
819.8	1.25	A-2				Brown clayey SAND; mostly medium to fine sand, little clayey fines, moist	13.7			
819.5	1.50									
819.3	1.75				SC					
819.0	2.00									
818.8	2.25									
818.5	2.50				2.4					
818.3	2.75	A-3				Brown lean CLAY with sand; mostly clayey fines, few medium to fine sand, moist	3.5			
818.0	3.00									
817.8	3.25									
817.5	3.50									
817.3	3.75				CL					
817.0	4.00									
816.8	4.25									
816.5	4.50									
816.3	4.75									
816.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-017

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 842 ft      **Datum:** Washtenaw County GIS

**Notes:** Cross Street: 28'W of 430 Cross St driveway centerline, 0.5'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024

**Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
841.8	0.25	A-1			SP-SM	1 3/4" HMA	0.2	15.6		
841.5	0.50					5 3/4" Concrete	0.6			
841.3	0.75				SP-SM	Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist	2.5			
841.0	1.00									
840.8	1.25									
840.5	1.50									
840.3	1.75	A-2			SC	Brown clayey SAND; mostly medium to fine sand, little clayey fines, moist	3.5			
840.0	2.00									
839.8	2.25									
839.5	2.50	A-3			SP-SM	Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist	5.0			
839.3	2.75									
839.0	3.00									
838.8	3.25									
838.5	3.50									
838.3	3.75									
838.0	4.00									
837.8	4.25									
837.5	4.50									
837.3	4.75									
837.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-018

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 835 ft      **Datum:** Washtenaw County GIS

**Notes:** Cross Street: 13'E of 713 Division Street driveway centerline on Cross St, 0.5'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024

**Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
834.8	0.25	A-1				2" HMA	0.2			
834.5	0.50					2 1/2" Concrete	0.5			
834.3	0.75					3" Gravel Base	0.8			
834.0	1.00	A-2			SP-SM	Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, little coarse to fine gravel, few silty fines, moist	1.9			
833.8	1.25									
833.5	1.50									
833.3	1.75									
833.0	2.00									
832.8	2.25									
832.5	2.50	A-3			SP-SM	Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist	5.0			
832.3	2.75									
832.0	3.00									
831.8	3.25									
831.5	3.50									
831.3	3.75									
831.0	4.00									
830.8	4.25									
830.5	4.50									
830.3	4.75									
830.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-019

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 832 ft **Datum:** Washtenaw County GIS

**Notes:** Arch Street: 45'E of 715 Arch St driveway centerline, 6'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/24/2024

**Date End:** 09/24/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
831.8	0.25	A-1				1 3/4" HMA	0.1			Fill: 0.0' to 1.6'
831.5	0.50					6" Concrete				
831.3	0.75						0.7			
831.0	1.00	A-2			SP-SM	Brown poorly graded SAND with silt; mostly coarse to fine sand, few silty fines, few coarse to fine gravel, moist, Fill with asphalt pieces				
830.8	1.25									
830.5	1.50						1.6			
830.3	1.75									
830.0	2.00									
829.8	2.25									
829.5	2.50	A-3			SP-SM	Light brown poorly graded SAND with silt; mostly medium to fine sand, moist				
829.3	2.75									
829.0	3.00									
828.8	3.25									
828.5	3.50									
828.3	3.75									
828.0	4.00	A-3			SC	Brown clayey SAND; mostly medium to fine sand, some clayey fines, moist	4.5			
827.8	4.25									
827.5	4.50									
827.3	4.75	A-3								
827.0	5.00						5.0	11.0		
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-020

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 827 ft      **Datum:** Washtenaw County GIS

**Notes:** Arch Street: 8'W of 712 Arch St driveway centerline, 5'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024

**Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
826.8	0.25	A-1				2 1/2" HMA	0.2			
826.5	0.50					8" Concrete				
826.3	0.75									
826.0	1.00	A-2				5" Gravel Base	0.9			
825.8	1.25									
825.5	1.50	A-3			SC	Dark brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace fine gravel, moist  Grades brown	1.3	12.1		
825.3	1.75									
825.0	2.00									
824.8	2.25									
824.5	2.50									
824.3	2.75									
824.0	3.00	A-4			CL	Gray lean CLAY with sand; mostly clayey fines, little medium to fine sand, moist	3.6			
823.8	3.25									
823.5	3.50									
823.3	3.75									
823.0	4.00									
822.8	4.25									
822.5	4.50	A-4					5.0	3.0	20.1	
822.3	4.75									
822.0	5.00									
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-021  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      Rev. By: RS  
**Coordinates:**  
**Elevation:** 829 ft      **Datum:** Washtenaw County GIS  
**Notes:** White Street: 37°N of 1201 White St driveway centerline, 18°W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/23/2024      **Date End:** 09/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
828.8	0.25	A-1				4 1/2" HMA	0.4	13.6		
828.5	0.50									
828.3	0.75		SC			Brown clayey SAND; mostly medium to fine sand, some clayey fines, moist	0.9			
828.0	1.00	A-2								
827.8	1.25									
827.5	1.50		SM			Brown silty SAND; mostly medium to fine sand, little silty fines, moist				
827.3	1.75									
827.0	2.00					2.0				
						End of Boring				Hand auger refusal at 2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-022  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 831 ft      **Datum:** Washtenaw County GIS  
**Notes:** White Street: 14'N of 1234 White St driveway centerline, 4.5W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024      **Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
830.8	0.25	A-1				6" HMA				
830.5	0.50						0.5			
830.3	0.75					6" Gravel Base				
830.0	1.00					Metal obstruction at 1'	1.0			
						End of Boring				Hand auger refusal at 1.0' due to possible coarse gravel / COBBLE / obstruction

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-023  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 829 ft      **Datum:** Washtenaw County GIS  
**Notes:** White Street: 31'N of 1106 White St driveway centerline, 7'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/30/2024      **Date End:** 12/30/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
828.8	0.25	A-1				5 1/4" HMA	0.4	12.7		
828.5	0.50					9" Gravel Base				
828.3	0.75									
828.0	1.00									
827.8	1.25									
827.5	1.50									
827.3	1.75									
827.0	2.00									
826.8	2.25									
826.5	2.50									
826.3	2.75									
826.0	3.00									
825.8	3.25									
825.5	3.50									
825.3	3.75									
825.0	4.00									
824.8	4.25									
824.5	4.50									
824.3	4.75									
824.0	5.00									
					SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist	1.3			
						End of Boring	5.0			

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-024

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 834 ft      **Datum:** Washtenaw County GIS

**Notes:** White Street: 6'N of 1339 White St driveway centerline, 6'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024

**Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.3 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
833.8	0.25	A-1			SC	2 1/2" HMA	0.2			
833.5	0.50					Dark brown clayey SAND; mostly medium to fine sand, little clayey fines, trace coarse to fine gravel, moist		14.1		
833.3	0.75									
833.0	1.00									
832.8	1.25									
832.5	1.50									
832.3	1.75	A-2								
832.0	2.00									
831.8	2.25						2.3			

End of Boring

Hand auger refusal at 2.3' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-025  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JV      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 835 ft      **Datum:** Washtenaw County GIS  
**Notes:** White Street: 10'N of 1407 White St driveway centerline, 6'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024      **Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 0.8 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
834.8	0.25	A-1				2 1/2" HMA	0.2			
834.5	0.50					Brown poorly graded SAND with clay and gravel; mostly coarse to fine sand, few clayey fines, few coarse to fine gravel, moist				
834.3	0.75				SP-SC		0.8			
						End of Boring				Hand auger refusal at 0.8' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-026

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 833 ft      **Datum:** Washtenaw County GIS

**Notes:** White Street: 7.7'N of 1326 White St driveway centerline, 13'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/23/2024

**Date End:** 09/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
832.8	0.25	A-1				4 1/4" HMA				Fill: 0' to 2'
832.5	0.50					5" Gravel Base	0.4			
832.3	0.75						0.8			
832.0	1.00	A-2			SP-SM	Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, little coarse to fine gravel, few silty fines, moist, Fill with asphalt pieces				
831.8	1.25									
831.5	1.50									
831.3	1.75									
831.0	2.00					End of Boring				Hand auger refusal at 2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-027

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 834 ft      **Datum:** Washtenaw County GIS

**Notes:** Sheehan Avenue: 6.7'S of 1332 Sheehan Ave driveway centerline, 13.5'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024

**Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
833.8	0.25	A-1				3 3/4" HMA	0.3			
833.5	0.50					3" Gravel Base	0.6			
833.3	0.75					Brown clayey SAND; mostly medium to fine sand, some clayey fines, moist				
833.0	1.00									
832.8	1.25									
832.5	1.50									
832.3	1.75									
832.0	2.00	A-2						9.5		
831.8	2.25				SC					
831.5	2.50									
831.3	2.75									
831.0	3.00	A-3					Grades light brown			
830.8	3.25									
830.5	3.50									
830.3	3.75						3.8			
830.0	4.00									
829.8	4.25				SP-SM	Light brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, few fine gravel, few silty fines, moist				
829.5	4.50									
829.3	4.75									
829.0	5.00	A-4							5.0	

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-028

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 835 ft      **Datum:** Washtenaw County GIS

**Notes:** Sheehan Avenue: 9'N of 1314 Sheehan Ave driveway centerline, 2'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/27/2024

**Date End:** 09/27/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
834.8	0.25	A-1				4" HMA	0.3			
834.5	0.50					8" Gravel Base				
834.3	0.75	A-2				Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace fine gravel, moist	1.0	12.3		
834.0	1.00									
833.8	1.25									
833.5	1.50									
833.3	1.75									
833.0	2.00									
832.8	2.25	A-3			SC	Gray lean CLAY; mostly clayey fines, few coarse to fine sand, moist	2.5	20.3		
832.5	2.50									
832.3	2.75									
832.0	3.00									
831.8	3.25	A-4			CL	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace fine gravel, moist	4.2	16.5		
831.5	3.50									
831.3	3.75									
831.0	4.00	A-4			SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace fine gravel, moist	5.0	16.5		
830.8	4.25									
830.5	4.50									
830.3	4.75	A-4				Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace fine gravel, moist	5.0	16.5		
830.0	5.00									
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-029

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 832 ft **Datum:** Washtenaw County GIS

**Notes:** Dewey Avenue: 34'E of 903 Dewey Ave driveway centerline, 9.1'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/30/2024

**Date End:** 12/30/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
831.8	0.25	A-1				2 3/4" HMA	0.2			
831.5	0.50					Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, trace coarse to fine gravel, moist				
831.3	0.75									
831.0	1.00				SP-SC					
830.8	1.25									
830.5	1.50	A-2				Brown poorly graded SAND; mostly coarse to fine sand, trace clayey fines, trace coarse to fine gravel, moist, trace tree root fragments	1.5			
830.3	1.75									
830.0	2.00									
829.8	2.25									
829.5	2.50									
829.3	2.75									
829.0	3.00									
828.8	3.25									
828.5	3.50						SP			
828.3	3.75									
828.0	4.00									
827.8	4.25									
827.5	4.50									
827.3	4.75									
827.0	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-030

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 833 ft **Datum:** Washtenaw County GIS

**Notes:** Dewey Avenue: 29'E of 933 Dewey Ave driveway centerline, 4'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024

**Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
832.8	0.25	A-1				5" HMA	0.4	14.8		
832.5	0.50					11" Gravel Base				
832.3	0.75									
832.0	1.00									
831.8	1.25									
831.5	1.50									
831.3	1.75									
831.0	2.00				SC	Dark brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel, moist				
830.8	2.25									
830.5	2.50									
						End of Boring				Auger refusal at 2.5' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-031  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 833 ft      **Datum:** Washtenaw County GIS  
**Notes:** Dewey Avenue: 31'E of 721 Dewey Ave driveway centerline,  
 7.7'S of north curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 09/19/2024      **Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
832.8	0.25	A-1				3 3/4" HMA	0.3	17.9			
832.5	0.50					10" Gravel Base					
832.3	0.75										
832.0	1.00						1.1				
831.8	1.25										
831.5	1.50					SC					
831.3	1.75										
831.0	2.00					2.0					
						End of Boring				Auger refusal at 2.0' due to possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-032  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 838 ft      **Datum:** Washtenaw County GIS  
**Notes:** White Street: 16'S of 1457 White St driveway centerline, 6.8'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/30/2024      **Date End:** 12/30/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
837.8	0.25	A-1			SP-SC	2 1/2" HMA	0.2			
837.5	0.50					Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, trace coarse to fine gravel, moist				
837.3	0.75									
837.0	1.00									
836.8	1.25									
836.5	1.50									
836.3	1.75									
836.0	2.00									
835.8	2.25									
835.5	2.50									
835.3	2.75									
835.0	3.00									
834.8	3.25									
834.5	3.50	A-2			SP		Brown poorly graded SAND; mostly coarse to fine sand, trace clayey fines, trace coarse to fine gravel, moist	3.8		
834.3	3.75									
834.0	4.00									
833.8	4.25									
833.5	4.50									
833.3	4.75									
833.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-033  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 831 ft      **Datum:** Washtenaw County GIS  
**Notes:** Rose Avenue: 45°W of 1011 Rose Ave driveway centerline, 0.6'S of north curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/19/2024      **Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
830.8	0.25	A-1				4" HMA	0.3			
830.5	0.50					6" Crushed Asphalt				
830.3	0.75						0.8			
830.0	1.00					Brown clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel, moist		8.6		
829.8	1.25									
829.5	1.50									
829.3	1.75				SC					
829.0	2.00									
828.8	2.25									
828.5	2.50					2.5				

						End of Boring				Auger refusal at 2.5' due to possible coarse gravel / COBBLE
--	--	--	--	--	--	---------------	--	--	--	--

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-034

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 885 ft      **Datum:** Washtenaw County GIS

**Notes:** Washtenaw Court: 60'S of 1206 Washtenaw Ct driveway centerline, 23'E of west curb on Washtenaw Ct

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/24/2024

**Date End:** 12/24/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
884.8	0.25	A-1				7 1/2" HMA				
884.5	0.50									
884.3	0.75									
884.0	1.00									
883.8	1.25									
883.5	1.50									
883.3	1.75									
883.0	2.00									
882.8	2.25									
882.5	2.50									
882.3	2.75									
882.0	3.00									

						End of Boring				Hand auger refusal at 3.0' due to possible coarse gravel / COBBLE
--	--	--	--	--	--	---------------	--	--	--	---

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-035

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 886 ft **Datum:** Washtenaw County GIS

**Notes:** Washtenaw Court: 15'S of 1224 Washtenaw Ct driveway centerline, 25'E of west curb on Washtenaw Ct

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/24/2024

**Date End:** 12/24/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.2 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
885.8	0.25	A-1				4 1/2" HMA	0.4			Fill: 0.0' to 3.2'
885.5	0.50					8 1/2" Concrete				
885.3	0.75						1.1			
885.0	1.00									
884.8	1.25					Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, few silty fines, few coarse to fine gravel, moist, Fill				
884.5	1.50									
884.3	1.75									
884.0	2.00									
883.8	2.25				SP-SM					
883.5	2.50									
883.3	2.75	A-2				Burned wood debris from 3.0' to 3.2'	3.2			
883.0	3.00									

End of Boring

Hand auger refusal at 3.2' due to possible coarse gravel / COBBLE / Wood

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-036  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 886 ft      **Datum:** Washtenaw County GIS

**Notes:** Wilmot Street: 10.5'E of 1333 Wilmot St driveway centerline,  
3.9'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024

**Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
885.8	0.25	A-1				3 1/4" HMA	0.3			Fill: 0' to 5'
885.5	0.50					2" Gravel Base	0.4			
885.3	0.75					5 1/4" Rubblized Concrete				
885.0	1.00						0.9			
884.8	1.25					Brown poorly graded SAND; mostly coarse to fine sand, trace coarse to fine gravel, trace silty fines, moist				
884.5	1.50									
884.3	1.75									
884.0	2.00									
883.8	2.25									
883.5	2.50									
883.3	2.75									
883.0	3.00									
882.8	3.25									
882.5	3.50									
882.3	3.75									
882.0	4.00									
881.8	4.25									
881.5	4.50									
881.3	4.75									
881.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-037

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 883 ft      **Datum:** Washtenaw County GIS

**Notes:** Wilmot Street: 33'W of 1303 Wilmot Ct driveway centerline,  
2.7'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/25/2024

**Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
882.8	0.25	A-1				4" HMA	0.3	18.1	3.0	
882.5	0.50					1" Gravel Base	0.4			
882.3	0.75					7" Rubblized Concrete	1.0			
882.0	1.00									
881.8	1.25					Gray lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist				
881.5	1.50				CL					
881.3	1.75									
881.0	2.00									

End of Boring

Hand auger refusal at 2' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-038  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 888 ft      **Datum:** Washtenaw County GIS  
**Notes:** Wilmot Court: 8'E of 1348 Wilmot Ct driveway centerline, 6.6'N of south curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
887.8	0.25	A-1				5" HMA	4.25	17.1		
887.5	0.50					6 1/2" Concrete				
887.3	0.75									
887.0	1.00									
886.8	1.25					6 1/2" Gravel Base				
886.5	1.50									
886.3	1.75					Brown lean CLAY; mostly clayey fines, trace coarse to fine gravel, moist				
886.0	2.00				CL	2.0				
						End of Boring				Hand auger refusal at 2.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-039

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 886 ft      **Datum:** Washtenaw County GIS

**Notes:** Mack Road: 8'W of 523 Mack Rd driveway centerline, 2.5'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024

**Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
885.8	0.25	A-1				4" HMA	0.3			
885.5	0.50					9" Gravel Base				
885.3	0.75									
885.0	1.00									
884.8	1.25							1.1	4.5+	13.5
884.5	1.50					CL	Brown lean CLAY; mostly clayey fines, few coarse to fine gravel, moist			
884.3	1.75									
884.0	2.00						2.0			

End of Boring

Hand auger refusal at 2.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-040

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 886 ft      **Datum:** Washtenaw County GIS

**Notes:** Mack Road: 32.5'S of 510 Mack Rd driveway centerline, 4.2'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024

**Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
885.8	0.25	A-1				5 3/4" HMA					
885.5	0.50						0.5				
885.3	0.75					10" Gravel Base					
885.0	1.00										
884.8	1.25										
884.5	1.50						1.4				
884.3	1.75					CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist	3.25	14.7		
884.0	2.00										
883.8	2.25										
883.5	2.50						2.5				
						End of Boring				Hand auger refusal at 2.5' on possible coarse gravel / COBBLE	

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-041  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      Rev. By: RS  
**Coordinates:**  
**Elevation:** 885 ft      **Datum:** Washtenaw County GIS  
**Notes:** Elm Street: 9.5'S of 533 Elm St driveway centerline, 2.8'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
884.8	0.25	A-1				2 1/2" HMA	0.2	10.1		
884.5	0.50					3" Gravel Base	0.5			
884.3	0.75					6" Concrete				
884.0	1.00						1.0			
883.8	1.25					Light brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace coarse to fine gravel, moist				
883.5	1.50									
883.3	1.75				SC					
883.0	2.00									
882.8	2.25									
882.5	2.50					2.5				

						End of Boring				Hand auger refusal at 2.5' due to possible coarse gravel / COBBLE
--	--	--	--	--	--	---------------	--	--	--	---

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-042  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 890 ft      **Datum:** Washtenaw County GIS  
**Notes:** Elm Street: 30.1'S of 513 Elm St driveway centerline, 4'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
889.8	0.25					4 1/4" HMA				
889.5	0.50					2" Gravel Base	0.4			
889.3	0.75					12" Concrete	0.5			
889.0	1.00									
888.8	1.25									
888.5	1.50						1.5			
						End of Boring				Boring terminated at 1.5' due to encountered concrete

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-042A  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 890 ft      **Datum:** Washtenaw County GIS  
**Notes:** Elm Street: 35.4'S of 513 Elm St driveway centerline, 5.5'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/18/2024      **Date End:** 09/18/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.5 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
889.8	0.25					3 3/4" HMA	0.3			
889.5	0.50					2 1/2" Gravel Base	0.5			
889.3	0.75					12" Concrete				
889.0	1.00									
888.8	1.25									
888.5	1.50						1.5			
						End of Boring				Boring terminated at 1.5' due to encountered concrete

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-043  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 879 ft      **Datum:** Washtenaw County GIS  
**Notes:** Elm Street: 18'S of 1417 S. University Ave driveway centerline,  
 2.5'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 09/19/2024      **Date End:** 09/19/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 2.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
878.8	0.25	A-1				3" HMA	0.3	3.0	18.2	
878.5	0.50					9" Concrete				
878.3	0.75									
878.0	1.00									
877.8	1.25					Brown lean CLAY; mostly clayey fines, few coarse to fine gravel, trace coarse to fine sand, moist				
877.5	1.50				CL					
877.3	1.75									
877.0	2.00					2.0				

End of Boring

Hand auger refusal at 2.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-044

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 883 ft      **Datum:** Washtenaw County GIS

**Notes:** Walnut Street: 13'S of 538 Walnut St driveway centerline, 25'E of west curb on Walnut St

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/26/2024

**Date End:** 12/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
882.8	0.25	A-1				8 1/2" HMA				
882.5	0.50									
882.3	0.75						0.7			
882.0	1.00						2.0	15.2		
881.8	1.25	A-2			CL	Gray lean CLAY; mostly clayey fines, few coarse to fine gravel, few coarse to fine sand, moist				
881.5	1.50									
881.3	1.75									
881.0	2.00									
880.8	2.25									
880.5	2.50						2.5			
880.3	2.75						3.5	14.3		
880.0	3.00									
879.8	3.25									
879.5	3.50									
879.3	3.75				CL	Brown and gray lean CLAY; mostly clayey fines, few fine gravel, few coarse to fine sand, moist				
879.0	4.00									
878.8	4.25									
878.5	4.50									
878.3	4.75									
878.0	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-045

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 887 ft      **Datum:** Washtenaw County GIS

**Notes:** Walnut Street: 35°N of 515 Walnut St driveway centerline, 7.7°W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 09/16/2024

**Date End:** 09/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
886.8	0.25	A-1				6 1/2" HMA				
886.5	0.50						0.5			
886.3	0.75					3 1/2" Crushed Asphalt	0.8			
886.0	1.00					Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist	3.75	25.3		
885.8	1.25									
885.5	1.50									
885.3	1.75									
885.0	2.00									
884.8	2.25									
884.5	2.50									
884.3	2.75									
884.0	3.00				CL					
883.8	3.25									
883.5	3.50									
883.3	3.75									
883.0	4.00									
882.8	4.25									
882.5	4.50									
882.3	4.75									
882.0	5.00				5.0					

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-046

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 886 ft      **Datum:** Washtenaw County GIS

**Notes:** Walnut Street: 13'S of 521 Walnut St driveway centerline, 1'W of east curb on Walnut St

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/26/2024

**Date End:** 12/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
885.8	0.25	A-1				9" HMA	0.8	15.8		A-1: Clay sample crumbled under QP testing, no result obtained
885.5	0.50									
885.3	0.75									
885.0	1.00									
884.8	1.25	A-2			CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace fine gravel, moist	3.5	10.9		
884.5	1.50									
884.3	1.75									
884.0	2.00									
883.8	2.25									
883.5	2.50									
883.3	2.75									
883.0	3.00									
882.8	3.25									
882.5	3.50									
882.3	3.75									
882.0	4.00									
881.8	4.25									
881.5	4.50									
881.3	4.75									
881.0	5.00									
						End of Boring	5.0			

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-047

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 931 ft      **Datum:** Washtenaw County GIS

**Notes:** Seneca Avenue: 13'W of 519 Oswego St driveway centerline,  
11'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 10/02/2024

**Date End:** 10/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
930.8	0.25	A-1				4 1/2" HMA	0.4				
930.5	0.50					3" Gravel Base	0.6				
930.3	0.75					Brown clayey SAND; mostly medium to fine sand, some clayey fines, moist					
930.0	1.00										
929.8	1.25										
929.5	1.50										
929.3	1.75										
929.0	2.00										
928.8	2.25	A-2							30.4		
928.5	2.50										
928.3	2.75										
928.0	3.00										
927.8	3.25										
927.5	3.50										
927.3	3.75										
927.0	4.00										
926.8	4.25										
926.5	4.50										
926.3	4.75	A-3									
926.0	5.00										

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-048  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      Rev. By: RS  
**Coordinates:**  
**Elevation:** 929 ft      **Datum:** Washtenaw County GIS  
**Notes:** Seneca Avenue: 40'E of 2025 Seneca Ave driveway centerline,  
 3.1'N of south curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 09/25/2024      **Date End:** 09/25/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
928.8	0.25	A-1				8" HMA				
928.5	0.50									
928.3	0.75						0.7			
928.0	1.00						3.5	13.8		
927.8	1.25									
927.5	1.50									
927.3	1.75									
927.0	2.00									
926.8	2.25									
926.5	2.50									
926.3	2.75									
926.0	3.00					CL				
925.8	3.25									
925.5	3.50									
925.3	3.75									
925.0	4.00									
924.8	4.25									
924.5	4.50									
924.3	4.75									
924.0	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-049

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV

**Rev. By:** RS

**Coordinates:**

**Elevation:** 932 ft **Datum:** Washtenaw County GIS

**Notes:** Oswego Street: 19'N of 520 Oswego Str driveway centerline, 11'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 10/02/2024

**Date End:** 10/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
931.8	0.25	A-1				3" HMA	0.3			Fill: 0' to 1.3'
931.5	0.50					3 1/2" Concrete	0.5			
931.3	0.75					Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, little coarse to fine gravel, few silty fines, moist, Fill				
931.0	1.00			SP-SM	1.3					
930.8	1.25	A-2			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, moist	3.5	7.9		
930.5	1.50									
930.3	1.75									
930.0	2.00									
929.8	2.25									
929.5	2.50									
929.3	2.75									
929.0	3.00	A-3			CL	Gray brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, moist	3.0	12.1		
928.8	3.25									
928.5	3.50									
928.3	3.75									
928.0	4.00									
927.8	4.25									
927.5	4.50									
927.3	4.75									
927.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

Project No.: 241598

Boring No.: SB2026-050

Sheet: 1 of 1

Project: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor

Location: Ann Arbor, Michigan

Drill Type: Hand Auger

Crew Chief: Field Eng.: JV Rev. By: RS

Coordinates:

Elevation: 938 ft Datum: Washtenaw County GIS

Notes: Oswego Street: 12'W of 513 Oswego St driveway centerline, 5'E of west curb

Plugging Record: Backfilled borehole with compacted cuttings, patched pavement with cold patch.

Date Begin: 10/02/2024

Date End: 10/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 1.3 ft.

Component Percentages: Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

QP = Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
937.8	0.25	A-1				5" HMA				Fill: 0' to 1.3'
937.5	0.50					3" Gravel Base	0.4			
937.3	0.75					2 3/4" Concrete	0.7			
937.0	1.00					0.9				
936.8	1.25	A-2			SP-SM	Brown poorly graded SAND with silt and gravel; mostly coarse to fine sand, little coarse to fine gravel, few silty fines, moist, Fill	1.3			Hand auger refusal at 1.3' due to possible coarse gravel / COBBLE
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-051

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JV      **Rev. By:** RS

**Coordinates:**

**Elevation:** 921 ft      **Datum:** Washtenaw County GIS

**Notes:** Oswego Street: 12'S of 612 Oswego St driveway centerline, 5'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 10/02/2024

**Date End:** 10/02/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
920.8	0.25	A-1				4" HMA	0.3			Fill: 0' to 1.7'
920.5	0.50					7 1/2" Concrete				
920.3	0.75									
920.0	1.00						1.0			
919.8	1.25									
919.5	1.50	A-2			SP-SM	Brown poorly graded SAND with silt; mostly coarse to fine sand, few coarse to fine gravel, few silty fines, moist, Fill				
919.3	1.75						1.7			
919.0	2.00					CL	Brown lean CLAY; mostly clayey fines, few coarse to fine sand, moist	3.0	15.3	
918.8	2.25									
918.5	2.50									
918.3	2.75									
918.0	3.00									
917.8	3.25									
917.5	3.50									
917.3	3.75									
917.0	4.00									
916.8	4.25									
916.5	4.50									
916.3	4.75									
916.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-052  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: IB      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 928 ft      **Datum:** Washtenaw County GIS  
**Notes:** Onondaga Street: 50'N of 608 Onondaga St driveway centerline, 5'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/23/2024      **Date End:** 12/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
927.8	0.25	A-1				5 1/4" HMA	0.4	23.8		
927.5	0.50					6 3/4" Gravel Base				
927.3	0.75									
927.0	1.00									
926.8	1.25					Gray lean CLAY; mostly clayey fines, trace medium to fine sand, moist	3.5			
926.5	1.50									
926.3	1.75									
926.0	2.00									
925.8	2.25									
925.5	2.50									
925.3	2.75									
925.0	3.00									
924.8	3.25									
924.5	3.50									
924.3	3.75									
924.0	4.00									
923.8	4.25									
923.5	4.50									
923.3	4.75									
923.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-053

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 925 ft      **Datum:** Washtenaw County GIS

**Notes:** Onondaga Street: 35'N of 2024 Geddes Ave driveway centerline, 10'E of west curb on Onondaga St

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/26/2024

**Date End:** 12/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
924.8	0.25	A-1				5" HMA	0.4				
924.5	0.50					11" Gravel Base					
924.3	0.75										
924.0	1.00										
923.8	1.25							1.2			
923.5	1.50	A-2				Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace fine gravel, moist	19.9				
923.3	1.75				SC						
923.0	2.00										
922.8	2.25										
922.5	2.50						2.5				
922.3	2.75						Gray lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace fine gravel, moist	3.0	16.3		
922.0	3.00										
921.8	3.25										
921.5	3.50										
921.3	3.75										
921.0	4.00										
920.8	4.25										
920.5	4.50										
920.3	4.75										
920.0	5.00					5.0					

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-054

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 927 ft      **Datum:** Washtenaw County GIS

**Notes:** Onondaga Street: 80'S of 2101 Hill St driveway centerline, 1'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/23/2024

**Date End:** 12/23/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
926.8	0.25					5 1/4" HMA	0.4			
926.5	0.50					6 3/4" Gravel Base				
926.3	0.75	A-1								
926.0	1.00									
925.8	1.25	A-1			SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, few coarse to fine gravel, moist	1.5			
925.5	1.50									
925.3	1.75	A-1			CL	Brown sandy CLAY; mostly clayey fines, some coarse to fine sand, trace coarse to fine gravel, moist	5.0	12.9		A-2: Clay sample crumbled under QP testing, no result obtained
925.0	2.00									
924.8	2.25									
924.5	2.50									
924.3	2.75									
924.0	3.00									
923.8	3.25									
923.5	3.50									
923.3	3.75									
923.0	4.00									
922.8	4.25									
922.5	4.50									
922.3	4.75									
922.0	5.00					End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-055

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 905 ft      **Datum:** Washtenaw County GIS

**Notes:** Highland Drive: 55'S of 505 Highland Dr driveway centerline,  
20'W of east curb on Highland Dr

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/26/2024

**Date End:** 12/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
904.8	0.25	A-1				6 1/2" HMA	3.0	15.6		
904.5	0.50									
904.3	0.75					5 1/2" Gravel Base				
904.0	1.00									
903.8	1.25	A-2			SM	Brown silty SAND with gravel; mostly coarse to fine sand, little coarse to fine gravel, little silty fines, moist	3.0	15.6		
903.5	1.50									
903.3	1.75									
903.0	2.00					2.0				
902.8	2.25	A-3			CL	Gray lean CLAY; mostly clayey fines, few coarse to fine sand, few fine gravel, moist	3.0	15.6		
902.5	2.50									
902.3	2.75									
902.0	3.00									
901.8	3.25	A-3			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, moist	3.5			
901.5	3.50									
901.3	3.75									
901.0	4.00									
900.8	4.25									
900.5	4.50									
900.3	4.75									
900.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-056

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 914 ft **Datum:** Washtenaw County GIS

**Notes:** Highland Drive: 60'N of 505 Highland Dr driveway centerline, 2.5' W of east curb on Highland Dr

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/26/2024

**Date End:** 12/26/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
913.8	0.25					4 3/4" HMA	0.4			
913.5	0.50					7 1/4" Gravel Base				
913.3	0.75	A-1			CL	Gray lean CLAY; mostly clayey fines, few coarse to fine sand, trace fine gravel, moist	2.0	23.6		
913.0	1.00									
912.8	1.25	A-2			SC	Gray clayey SAND; mostly coarse to fine sand, some clayey fines, trace fine gravel, moist	2.5	12.4		
912.5	1.50									
912.3	1.75	A-3			SC	Brown clayey SAND; mostly coarse to fine sand, some clayey fines, trace fine gravel, moist				
912.0	2.00									
911.8	2.25									
911.5	2.50									
911.3	2.75									
911.0	3.00									
910.8	3.25									
910.5	3.50									
910.3	3.75									
910.0	4.00									
909.8	4.25									
909.5	4.50									
909.3	4.75									
909.0	5.00									
End of Boring							5.0			

--

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-057  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 885 ft      **Datum:** Washtenaw County GIS  
**Notes:** Lenawee Drive: 44'S of 401 Lenawee Dr driveway centerline, 4'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024      **Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
884.8	0.25	A-1				6" HMA				
884.5	0.50						0.5			
884.3	0.75									
884.0	1.00									
883.8	1.25									
883.5	1.50									
883.3	1.75									
883.0	2.00									
882.8	2.25									
882.5	2.50									
882.3	2.75									
882.0	3.00									
881.8	3.25									
881.5	3.50									
881.3	3.75									
881.0	4.00									
880.8	4.25									
880.5	4.50									
880.3	4.75									
880.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-058

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 914 ft      **Datum:** Washtenaw County GIS

**Notes:** Concord Road: 5'S of 2126 Highland Rd driveway centerline,  
10'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
913.8	0.25	A-1				5" HMA	0.4	21.7		
913.5	0.50					10" Gravel Base				
913.3	0.75									
913.0	1.00									
912.8	1.25						1.3			
912.5	1.50	A-2				Gray lean CLAY; mostly clayey fines, trace coarse to fine gravel, moist		21.7		A-1, A-2: Clay samples crumbled under QP testing, no result obtained
912.3	1.75									
912.0	2.00									
911.8	2.25				CL					
911.5	2.50									
911.3	2.75									
911.0	3.00						3.0			
910.8	3.25									
910.5	3.50									
910.3	3.75									
910.0	4.00									
909.8	4.25									
909.5	4.50									
909.3	4.75									
909.0	5.00									
						End of Boring				

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-059  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: IB      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 918 ft      **Datum:** Washtenaw County GIS  
**Notes:** Concord Road: 52'S of 428 Concord Rd driveway centerline,  
 15'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 12/20/2024      **Date End:** 12/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 1.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
917.8	0.25					4 1/2" HMA				
917.5	0.50					7 1/2" Gravel Base	0.4			
917.3	0.75									
917.0	1.00						1.0			
						End of Boring				Hand auger refusal at 1.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-060

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 904 ft **Datum:** Washtenaw County GIS

**Notes:** Regent Drive: 28'S of 7 Regent Dr driveway centerline, 25'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
903.8	0.25	A-1				4 3/4" HMA	0.4	10.3		
903.5	0.50					10" Gravel Base				
903.3	0.75									
903.0	1.00									
902.8	1.25									
902.5	1.50					Brown lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist	3.0			
902.3	1.75									
902.0	2.00									
901.8	2.25									
901.5	2.50									
901.3	2.75									
901.0	3.00									
900.8	3.25									
900.5	3.50									
900.3	3.75									
900.0	4.00									
899.8	4.25									
899.5	4.50									
899.3	4.75									
899.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-061  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: IB      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 903 ft      **Datum:** Washtenaw County GIS  
**Notes:** Regent Drive: 18'S of 1 Regent Dr driveway centerline, 12'W of east curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024      **Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
902.8	0.25					4" HMA	0.3			
902.5	0.50					8" Gravel Base	1.0			
902.3	0.75									
902.0	1.00	A-1				Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, few coarse to fine gravel, moist		13.1	A-1, A-2: Clay samples crumbled under QP testing, no result obtained	
901.8	1.25									
901.5	1.50									
901.3	1.75									
901.0	2.00									
900.8	2.25									
900.5	2.50									
900.3	2.75									
900.0	3.00									
899.8	3.25									A-2
899.5	3.50									
899.3	3.75									
899.0	4.00									
898.8	4.25									
898.5	4.50									
898.3	4.75									
898.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-062

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 890 ft      **Datum:** Washtenaw County GIS

**Notes:** Regent Drive: 25'S of 15 Regent Dr driveway centerline, 4'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS			
889.8	0.25	A-1				4 3/4" HMA	0.4						
889.5	0.50					11" Gravel Base							
889.3	0.75												
889.0	1.00												
888.8	1.25						1.3						
888.5	1.50	A-2			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace coarse to fine gravel, moist	2.25	9.8					
888.3	1.75												
888.0	2.00												
887.8	2.25												
887.5	2.50												
887.3	2.75												
887.0	3.00												
886.8	3.25												
886.5	3.50												
886.3	3.75										3.5		
886.0	4.00	A-2			CL	Gray lean CLAY; mostly clayey fines, trace coarse to fine gravel, moist	4.0	10.0					
885.8	4.25												
885.5	4.50												
885.3	4.75												
885.0	5.00										5.0		

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-063

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 909 ft      **Datum:** Washtenaw County GIS

**Notes:** Regent Court: 0'E/W of 4 Regent Ct walkway centerline, 4'N of south curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 4.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
908.8	0.25					4 1/2" HMA	0.4	15.1		
908.5	0.50					5 1/2" Sandy Gravel Base				
908.3	0.75									
908.0	1.00	A-1			CL	Brown lean CLAY; mostly clayey fines, trace coarse to fine gravel, moist	2.8			
907.8	1.25									
907.5	1.50	A-2			CL	Gray lean CLAY with sand; mostly clayey fines, little coarse to fine sand, few coarse to fine gravel, moist	4.0			
907.3	1.75									
907.0	2.00	A-3			CL					
906.8	2.25									
906.5	2.50									
906.3	2.75									
906.0	3.00									
905.8	3.25									
905.5	3.50									
905.3	3.75									
905.0	4.00									
						End of Boring				Hand auger refusal at 4.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-064

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 853 ft      **Datum:** Washtenaw County GIS

**Notes:** Awixa Road: 25'S of 406 Awixa Rd driveway centerline, 3'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
852.8	0.25	A-1				5" HMA	0.4	15.6		
852.5	0.50					7" Gravel Base				
852.3	0.75									
852.0	1.00									
851.8	1.25					Gray clayey SAND; mostly coarse to fine sand, little clayey fines, trace coarse to fine gravel, moist				
851.5	1.50									
851.3	1.75									
851.0	2.00									
850.8	2.25					Grades brown at 2.1'				
850.5	2.50									
850.3	2.75									
850.0	3.00									
849.8	3.25									
849.5	3.50									
849.3	3.75									
849.0	4.00									
848.8	4.25									
848.5	4.50									
848.3	4.75									
848.0	5.00									
						5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-065

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 845 ft      **Datum:** Washtenaw County GIS

**Notes:** Awixa Road: 53.1'N of 402 Awixa Rd driveway centerline, 3.5'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
844.8	0.25	A-1				4" HMA	0.3				
844.5	0.50					7" Gravel Base					
844.3	0.75										
844.0	1.00						0.9				
843.8	1.25					SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, few clayey fines, trace coarse to fine gravel, moist				
843.5	1.50										
843.3	1.75										
843.0	2.00										
842.8	2.25										
842.5	2.50										
842.3	2.75										
842.0	3.00										
841.8	3.25										
841.5	3.50										
841.3	3.75	A-2									
841.0	4.00										
840.8	4.25										
840.5	4.50						4.5				
840.3	4.75				SP-SM	Brown poorly graded SAND with silt; mostly medium to fine sand, few silty fines, moist					
840.0	5.00							5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-066

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 916 ft      **Datum:** Washtenaw County GIS

**Notes:** Highland Road: 25'N of Highland Rd driveway centerline, 3'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/20/2024

**Date End:** 12/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	2.5
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS		
915.8	0.25	A-1				8" HMA						
915.5	0.50											
915.3	0.75						0.7					
915.0	1.00	A-2			SP-SC	Brown poorly graded SAND with clay; mostly coarse to fine sand, little coarse to fine gravel, few clayey fines, moist						
914.8	1.25											
914.5	1.50											
914.3	1.75											
914.0	2.00											
913.8	2.25											
913.5	2.50											
913.3	2.75								Grades wet at 2.5'			
913.0	3.00											
912.8	3.25											
912.5	3.50											
912.3	3.75											
912.0	4.00											
911.8	4.25											
911.5	4.50											
911.3	4.75											
911.0	5.00						5.0					

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-067

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 891 ft      **Datum:** Washtenaw County GIS

**Notes:** Highland Road: 20'S of 2117 Highland Rd driveway centerline, 5'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/20/2024

**Date End:** 12/20/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
890.8	0.25	A-1				7" HMA				
890.5	0.50									
890.3	0.75						0.6			
890.0	1.00									
889.8	1.25							3.0	18.1	
889.5	1.50									
889.3	1.75					CL				
889.0	2.00									
888.8	2.25									
888.5	2.50									
888.3	2.75	A-2					2.5			
888.0	3.00									
887.8	3.25									
887.5	3.50									
887.3	3.75									
887.0	4.00					CL				
886.8	4.25									
886.5	4.50									
886.3	4.75									
886.0	5.00									

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-068

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: IB

**Rev. By:** RS

**Coordinates:**

**Elevation:** 908 ft      **Datum:** Washtenaw County GIS

**Notes:** Highland Road: 30'W of 2205 Highland Rd driveway centerline, 20'S of north curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
907.8	0.25	A-1				6 3/4" HMA				
907.5	0.50						0.6			
907.3	0.75					5 1/2" Gravel Base				
907.0	1.00						1.0			
906.8	1.25	A-2				Brown poorly graded SAND; mostly coarse to medium sand, few fine gravel, moist				
906.5	1.50									
906.3	1.75									
906.0	2.00									
905.8	2.25									
905.5	2.50					2.5				
905.3	2.75	A-3				Gray lean CLAY; mostly clayey fines, few coarse to fine sand, trace coarse to fine gravel, moist				
905.0	3.00									
904.8	3.25									
904.5	3.50									
904.3	3.75						3.7			
904.0	4.00					Brown sandy lean CLAY; mostly clayey fines, some coarse to fine sand, trace coarse to fine gravel, moist				A-2, A-3: Clay samples crumbled under QP testing, no result obtained
903.8	4.25									
903.5	4.50									
903.3	4.75									
903.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-069

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG      **Rev. By:** RS

**Coordinates:**

**Elevation:** 876 ft      **Datum:** Washtenaw County GIS

**Notes:** Highland Road: 131.5'S of 2303 Highland Rd driveway centerline, 6.4'W of east curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/16/2024

**Date End:** 12/16/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 3.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
875.8	0.25	A-1				4 1/4" HMA	0.3			
875.5	0.50					Gray sandy lean CLAY; mostly clayey fines, some coarse to fine sand, few coarse to fine gravel, moist		14.7		
875.3	0.75									
875.0	1.00									
874.8	1.25									
874.5	1.50									
874.3	1.75									
874.0	2.00									
873.8	2.25									
873.5	2.50									
873.3	2.75									
873.0	3.00									
						End of Boring				Hand auger refusal at 3.0' due to possible coarse gravel / COBBLE

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-070

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: BG

**Rev. By:** RS

**Coordinates:**

**Elevation:** 931 ft      **Datum:** Washtenaw County GIS

**Notes:** Ridgeway Street: 2'W of East curb; 20.6'S of 1923 Geddes Ave driveway centerline

**Plugging Record:** Backfilled borehole with compacted cuttings.

**Date Begin:** 12/13/2024

**Date End:** 12/13/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
930.8	0.25	A-1				4 3/4" HMA	0.4			
930.5	0.50					12" Gravel Base				
930.3	0.75									
930.0	1.00									
929.8	1.25									
929.5	1.50						1.4			
929.3	1.75					SC	Brown clayey SAND; mostly coarse to fine sand, little clayey fines, few coarse to fine gravel, moist	16.3		
929.0	2.00									
928.8	2.25									
928.5	2.50									
928.3	2.75									
928.0	3.00	A-2				3.0	2.5	13.3		
927.8	3.25				CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, trace coarse to fine gravel, moist				
927.5	3.50									
927.3	3.75									
927.0	4.00									
926.8	4.25									
926.5	4.50									
926.3	4.75									
926.0	5.00					5.0				

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-071  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: BG      **Rev. By:** RS  
**Coordinates:**  
**Elevation:** 890 ft      **Datum:** Washtenaw County GIS  
**Notes:** Ridgeway Street: 76'N of 12 Ridgeway St driveway centerline,  
 4.6'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched  
 pavement with cold patch.

**Date Begin:** 12/10/2024      **Date End:** 12/10/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
889.8	0.25	A-1				5 1/2" HMA				
889.5	0.50						0.5			
889.3	0.75					4" Gravel Base	0.8			
889.0	1.00	A-2			CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, few coarse to fine gravel, moist		16.5		
888.8	1.25									
888.5	1.50									
888.3	1.75									
888.0	2.00									
887.8	2.25									
887.5	2.50									
887.3	2.75									
887.0	3.00									
886.8	3.25		A-2							
886.5	3.50									
886.3	3.75									
886.0	4.00									
885.8	4.25									
885.5	4.50									
885.3	4.75									
885.0	5.00						5.0			

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598  
**Boring No.:** SB2026-072  
**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring  
**Client:** City of Ann Arbor  
**Location:** Ann Arbor, Michigan  
**Drill Type:** Hand Auger  
**Crew Chief:** Field Eng.: JL      Rev. By: RS  
**Coordinates:**  
**Elevation:** 907 ft      **Datum:** Washtenaw County GIS  
**Notes:** Ridgeway Street: 21.5'S of 21 Ridgeway St driveway centerline, 3'E of west curb  
**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/09/2024      **Date End:** 12/09/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

Depth Drilled: 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%      **QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS	
906.8	0.25	A-1				7 3/4" HMA		18.1			
906.5	0.50						0.6				
906.3	0.75					1 1/4" Crushed HMA Base	0.8				
906.0	1.00	A-2			CL	Brown lean CLAY; mostly clayey fines, few coarse to fine gravel, trace coarse to fine sand, moist		18.1			
905.8	1.25										
905.5	1.50										
905.3	1.75										
905.0	2.00										
904.8	2.25						2.2				
904.5	2.50					CL	Brown lean CLAY with sand; mostly clayey fines, little coarse to fine sand, few coarse to fine gravel, moist				
904.3	2.75										
904.0	3.00										
903.8	3.25										
903.5	3.50										
903.3	3.75										
903.0	4.00										
902.8	4.25										
902.5	4.50										
902.3	4.75										
902.0	5.00					5.0					

End of Boring

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.



# LOG OF BORING

**Project No.:** 241598

**Boring No.:** SB2026-073

**Sheet:** 1 of 1

**Project:** 2026 Street Resurfacing Pavement Coring

**Client:** City of Ann Arbor

**Location:** Ann Arbor, Michigan

**Drill Type:** Hand Auger

**Crew Chief:** Field Eng.: JL

**Rev. By:** RS

**Coordinates:**

**Elevation:** 933 ft      **Datum:** Washtenaw County GIS

**Notes:** Ridgeway Street: 22'S of 1941 Geddes Ave driveway centerline, 6'E of west curb

**Plugging Record:** Backfilled borehole with compacted cuttings, patched pavement with cold patch.

**Date Begin:** 12/09/2024

**Date End:** 12/09/2024

Tooling	Type	Dia.	Groundwater, ft.	
Casing			During	None
Sampler	Hand Auger	3 1/4"	End	NA
Core			Seepage	
Tube			Date	Depth, ft.
SPT Hammer				

**Depth Drilled:** 5.0 ft.

**Component Percentages:** Trace < 5%, Few 5-10%, Little 15-25%, Some 30-45%, Mostly 50-100%

**QP =** Calibrated Penetrometer (tons/sq. ft.)

Elev. FT.	Depth FT.	Sample Number	Recov. FT.	Dyn. Cone Eq. "N": ASTM STP 399	*USCS Group Symbol	*DESCRIPTION	QP tsf	MST %	DD pcf	REMARKS
932.8	0.25	A-1				8 3/4" HMA				
932.5	0.50									
932.3	0.75						0.7			
932.0	1.00									
931.8	1.25									
931.5	1.50									
931.3	1.75						1.3			
931.0	2.00									
930.8	2.25									
930.5	2.50									
930.3	2.75									
930.0	3.00									
929.8	3.25					CL				
929.5	3.50									
929.3	3.75									
929.0	4.00									
928.8	4.25									
928.5	4.50									
928.3	4.75									
928.0	5.00									
						End of Boring	5.0			

\* Visual estimate following ASTM D 2488 unless laboratory testing has been performed. Stratification changes are approximated between samples.





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-001



SB2026-002



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-003



SB2026-004





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-005



SB2026-006



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-007



SB2026-008





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-009



SB2026-010



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-011



SB2026-012





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-013



SB2026-014





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-015



SB2026-016



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-017



SB2026-018





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-019



SB2026-020



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-021



SB2026-022





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-023



SB2026-024



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-025



SB2026-026





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-027



SB2026-028





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-029



SB2026-030



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-031



SB2026-032





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-033



SB2026-034



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-035



SB2026-036





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-037



SB2026-038



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-039



SB2026-040





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-041



SB2026-041 - Concrete





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-042



SB2026-042 - Concrete



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor

Project No.: 241598

Recorded By: RS

Date: 1/3/2025



SB2026-043



SB2026-044





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-045



SB2026-046



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-047



SB2026-048





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-049



SB2026-050





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-051



SB2026-052



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-053



SB2026-054





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-055



SB2026-056



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-057



SB2026-058





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-059



SB2026-060



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-061



SB2026-062





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-063



SB2026-064



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-065



SB2026-066





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-067



SB2026-068



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-069



SB2026-070





**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor Project No.: 241598

Recorded By: RS Date: 1/3/2025



SB2026-071



SB2026-072



**MATERIALS TESTING CONSULTANTS**

Project Name: 2026 Street Resurfacing Pavement Coring

Client: City of Ann Arbor

Project No.: 241598

Recorded By: RS

Date: 1/3/2025



SB2026-073



"General Decision Number: MI20250001 01/03/2025

Superseded General Decision Number: MI20240001

State: Michigan

Construction Types: Highway (Highway, Airport & Bridge xxxxx and Sewer/Incid. to Hwy.)

Counties: Michigan Statewide.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> <li>. Executive Order 14026 generally applies to the contract.</li> <li>. The contractor must pay all covered workers at least \$17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.</li> </ul>
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> <li>. Executive Order 13658 generally applies to the contract.</li> <li>. The contractor must pay all covered workers at least \$13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.</li> </ul>

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number      Publication Date  
 0                              01/03/2025

CARP0004-004 06/01/2019

REMAINDER OF STATE

	Rates	Fringes
CARPENTER ( Piledriver).....	\$ 27.62	20.59
-----		
CARP0004-005 06/01/2018		

LIVINGSTON (Townships of Brighton, Deerfield, Genoa, Hartland, Oceola & Tyrone), MACOMB, MONROE, OAKLAND, SANILAC, ST. CLAIR AND WAYNE COUNTIES

	Rates	Fringes
CARPENTER (Piledriver).....	\$ 30.50	27.28
-----		
ELEC0017-005 06/01/2024		

STATEWIDE

	Rates	Fringes
Line Construction		
Groundman/Driver.....	\$ 32.00	33%+7.31
Journeyman Signal Tech, Communications Tech, Tower		
Tech & Fiber Optic Splicers..	\$ 47.35	33%+7.31
Journeyman Specialist.....	\$ 54.45	33%+7.31
Operator A.....	\$ 40.09	33%+7.31
Operator B.....	\$ 37.46	33%+7.31

Classifications

Journeyman Specialist: Refers to a crew of only one person working alone.

Operator A: Shall be proficient in operating all power equipment including: Backhoe, Excavator, Directional Bore and Boom/Digger truck.

Operator B: Shall be proficient in operating any 2 of the above mentioned pieces of equipment listed under Operator A.

-----  
ENGI0324-003 06/01/2024

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LENAWEE, LIVINGSTON, MACOMB, MIDLAND, MONROE, MONTMORENCY, OAKLAND, OGEMAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLAIR, SANILAC, SHIAWASSEE, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
GROUP 1.....	\$ 55.42	25.25
GROUP 2.....	\$ 56.42	25.25
GROUP 3.....	\$ 53.92	25.25
GROUP 4.....	\$ 54.92	25.25
GROUP 5.....	\$ 52.42	25.25
GROUP 6.....	\$ 53.42	25.25

GROUP 7.....	\$ 52.15	25.25
GROUP 8.....	\$ 53.15	25.25
GROUP 9.....	\$ 51.70	25.25
GROUP 10.....	\$ 52.70	25.25
GROUP 11.....	\$ 50.97	25.25
GROUP 12.....	\$ 51.97	25.25
GROUP 13.....	\$ 50.61	25.25
GROUP 14.....	\$ 51.61	25.25
GROUP 15.....	\$ 49.97	25.25
GROUP 16.....	\$ 46.77	25.25
GROUP 17.....	\$ 32.29	12.40
GROUP 18.....	\$ 35.78	25.25

## FOOTNOTE:

Paid Holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

## POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Engineer when operating combination of boom and jib 400' or longer

GROUP 2: Engineer when operating combination of boom and jib 400' or longer on a crane that requires an oiler

GROUP 3: Engineer when operating combination of boom and jib 300' or longer

GROUP 4: Engineer when operating combination of boom and jib 300' or longer on a crane that requires an oiler

GROUP 5: Engineer when operating combination of boom and jib 220' or longer

GROUP 6: Engineer when operating combination of boom and jib 220' or longer on a crane that requires an oiler

GROUP 7: Engineer when operating combination of boom and jib 140' or longer

GROUP 8: Engineer when operating combination of boom and jib 140' or longer on a crane that requires an oiler

GROUP 9: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level)

GROUP 10: Tower crane & derrick operator (where operator's work station is 50 ft. or more above first sub-level) on a crane that requires an oiler

GROUP 11: Engineer when operating combination of boom and jib 120' or longer

GROUP 12: Engineer when operating combination of boom and jib 120' or longer on a crane that requires an oiler

GROUP 13: Crane operator; job mechanic and 3 drum hoist and excavator

GROUP 14: Crane operator on a crane that requires an oiler

GROUP 15: Hoisting operator; 2 drum hoist and rubber tired backhoe

GROUP 16: Forklift and 1 drum hoist

GROUP 17: Compressor or welder operator

GROUP 18: Oiler

-----  
ENGI0324-004 06/01/2024

AREA 1: ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, EATON, HILLSDALE, IONIA, KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN

AREA 2: ANTRIM, BENZIE, CHARLEVOIX, EMMET, GRAND TRAVERSE, KALKASKA, LEELANAU, MISSAUKEE AND WEXFORD COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment (Steel Erection)		
AREA 1		
GROUP 1.....	\$ 55.02	25.25
GROUP 2.....	\$ 52.15	25.25
GROUP 3.....	\$ 50.61	25.25
GROUP 4.....	\$ 46.77	25.25
GROUP 5.....	\$ 32.29	12.40
GROUP 6.....	\$ 35.78	25.25
AREA 2		
GROUP 1.....	\$ 55.02	25.25
GROUP 2.....	\$ 52.15	24.25
GROUP 3.....	\$ 50.61	25.25
GROUP 4.....	\$ 46.77	25.25
GROUP 5.....	\$ 32.29	12.40
GROUP 6.....	\$ 35.78	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50 additional to the group 1 rate. Crane operator with main boom and jib 400' or longer: \$3.00 additional to the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Crane Operator with main boom & jib 400', 300', or 220' or longer.

GROUP 2: Crane Operator with main boom & jib 140' or longer, Tower Crane; Gantry Crane; Whirley Derrick.

GROUP 3: Regular Equipment Operator, Crane, Dozer, Loader, Hoist, Straddle Wagon, Mechanic, Grader and Hydro Excavator.

GROUP 4: Air Tugger (single drum), Material Hoist Pump 6" or over, Elevators, Brokk Concrete Breaker.

GROUP 5: Air Compressor, Welder, Generators, Conveyors

GROUP 6: Oiler and fire tender  
-----

ENGI0324-005 09/01/2024

AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALCONA, ALLEGAN, ALGER, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KWEENAW, LAKE, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

Rates Fringes

OPERATOR: Power Equipment  
(Underground construction  
(including sewer))

AREA 1:

GROUP 1.....	\$ 43.48	25.25
GROUP 2.....	\$ 38.75	25.25
GROUP 3.....	\$ 38.02	25.25
GROUP 4.....	\$ 37.45	25.25
GROUP 5.....	\$ 27.85	12.10

AREA 2:

GROUP 1.....	\$ 43.48	25.25
GROUP 2.....	\$ 38.75	25.25
GROUP 3.....	\$ 38.02	25.25
GROUP 4.....	\$ 37.45	25.25
GROUP 5.....	\$ 27.85	12.10

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backfiller tamper; Backhoe; Batch plant operator (concrete); Clamshell; Concrete paver (2 drums or larger); Conveyor loader (Euclid type); Crane (crawler, truck type or pile driving); Dozer; Dragline; Elevating grader; Endloader; Gradall (and similar type machine); Grader; Mechanic; Power shovel; Roller (asphalt); Scraper (self-propelled or tractor drawn); Side boom tractor (type D-4 or equivalent and larger); Slip form paver; Slope paver; Trencher (over 8 ft. digging capacity); Well drilling rig; Concrete pump with boom operator; Hydro Excavator

GROUP 2: Boom truck (power swing type boom); Crusher; Hoist; Pump (1 or more - 6-in. discharge or larger - gas or diesel- powered or powered by generator of 300 amperes or more - inclusive of generator); Side boom tractor (smaller than type D-4 or equivalent); Tractor (pneu-tired, other than backhoe or front end loader); Trencher (8-ft. digging capacity and smaller); Vac Truck and End dump operator;

GROUP 3: Air compressors (600 cfm or larger); Air compressors (2 or more-less than 600 cfm); Boom truck (non-swinging, non- powered type boom); Concrete breaker (self-propelled or truck mounted - includes compressor); Concrete paver (1 drum-1/2 yd. or larger); Elevator (other than passenger); Maintenance person; Pump (2 or more-4-in. up to 6-in.

discharge-gas or diesel powered - excluding submersible pumps); Pumpcrete machine (and similar equipment); Wagon drill (multiple); Welding machine or generator (2 or more-300 amp. or larger - gas or diesel powered)

GROUP 4: Boiler; Concrete saw (40 hp or over); Curing machine (self-propelled); Farm tractor (with attachment); Finishing machine (concrete); Hydraulic pipe pushing machine; Mulching equipment; Pumps (2 or more up to 4-in. discharge, if used 3 hours or more a day, gas or diesel powered - excluding submersible pumps); Roller (other than asphalt); Stump remover; Trencher (service); Vibrating compaction equipment, self-propelled (6 ft. wide or over); Sweeper (Wayne type); Water wagon and Extend-a boom forklift

Group 5: Fire Person, Oiler

-----  
ENGI0324-006 06/01/2024

GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW, WAYNE, ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

Rates Fringes

Power equipment operators:  
(AIRPORT, BRIDGE & HIGHWAY  
CONSTRUCTION)

GROUP 1.....	\$ 43.71	25.25
GROUP 2.....	\$ 42.56	25.25
GROUP 3.....	\$ 35.83	25.25
GROUP 4.....	\$ 35.27	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Paver Operator (5 bags or more); Slip Form Paver; Asphalt Paver (self propelled); Shovel (Excavator) installing utilities over 20 feet in depth.

Group 2: Asphalt plant operator; crane operator (does not include work on bridge construction projects when the crane operator is erecting structural components); Dragline operator; Shovel (Excavator) operator; Locomotive operator; Elevating grader operator; Pile driving operator; Roller operator (asphalt); Blade grader operator; Trenching machine operator (ladder or wheel type); Auto-grader; Self-propelled or tractor-drawn scraper; Conveyor loader operator (Euclid type); Bulldozer; Hoisting engineer; Tractor operator; Finishing machine operator (asphalt); Mechanic; Pump operator (6-in. discharge or over, gas, diesel powered or generator of 300 amp. or larger); Shouldering or gravel distributing machine operator (self-propelled); Backhoe (with over 3/8 yd. bucket); Side boom



tractor (type D-4 or equivalent or larger); Tube finisher (slip form paving); Gradall (and similar type machine); Asphalt planner (self-propelled); Batch plant (concrete-central mix); Slurry machine (asphalt); Concrete pump (3 in. and over); Roto-mill; Swinging boom truck (over 12 ton capacity); Hydro demolisher (water blaster); Farm-type tractor with attached pan; Vacuum truck operator; Batch Plant (concrete dry batch); Concrete Saw Operator (40h.p. or over; Tractor Operator (farm type); Finishing Machine Operator (concrete); Grader Operator (self-propelled fine grade or form (concrete); tractor operator (farm type with attachment); Wagon Drill operator; Boom or winch hoist truck operator.

GROUP 3: Screening plant operator; Washing plant operator; Crusher operator; Backhoe (with 3/8 yd. bucket or less); Side boom tractor (smaller than D-4 type or equivalent); Sweeper (Wayne type and similar equipment); Greese Truck; Air Compressor Operator (600 cu.ft. per min or more); Air Compressor Operator (two or more, less than 600 cfm); End Loader operator (1 yard Capacity and over); Side boom tractor (type D or equivalent or larger; Endloader operator \*under 1 yard capacity; Trencher (service).

GROUP 4: Boiler fire tender; Concrete Breaker; Oiler; Fire tender; Trencher (service); Flexplane operator; Cleftplane operator; Roller operator (other than asphalt); Curing equipment operator (self-propelled); Power bin operator; Plant drier operator (asphalt); Vibratory compaction equipment operator (6 ft. wide or over); Guard post driver operator (power driven); All mulching equipment; Stump remover; Concrete pump (under 3-in.); Mesh installer (self-propelled); End dump;Skid steer.

-----  
 ENGI0324-007 05/01/2024

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
OPERATOR: Power Equipment		
(Steel Erection)		
Compressor, welder and forklift.....	\$ 40.90	25.00
Crane operator, main boom & jib 120' or longer.....	\$ 47.37	25.00
Crane operator, main boom & jib 140' or longer.....	\$ 47.37	24.60
Crane operator, main boom & jib 220' or longer.....	\$ 48.26	25.00
Mechanic with truck and tools.....	\$ 46.50	25.00
Oiler and fireman.....	\$ 39.96	25.00
Regular operator.....	\$ 44.72	25.00

-----  
 ENGI0324-008 10/01/2023

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND

TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE, MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

Rates Fringes

OPERATOR: Power Equipment (Sewer Relining)

GROUP 1.....	\$ 37.37	15.44
GROUP 2.....	\$ 35.33	15.44

SEWER RELINING CLASSIFICATIONS

GROUP 1: Operation of audio-visual closed circuit TV system, including remote in-ground cutter and other equipment used in connection with the CCTV system

GROUP 2: Operation of hot water heaters and circulation systems, water jettors and vacuum and mechanical debris removal systems

-----  
ENGI0325-012 05/01/2024

Rates Fringes

Power equipment operators - gas distribution and duct installation work:

GROUP 1.....	\$ 37.98	25.25
GROUP 2.....	\$ 34.75	25.25

SCOPE OF WORK: The construction, installation, treating and reconditioning of pipelines transporting gas vapors within cities, towns, subdivisions, suburban areas, or within private property boundaries, up to and including private meter settings of private industrial, governmental or other premises, more commonly referred to as ""distribution work,"" starting from the first metering station, connection, similar or related facility, of the main or cross country pipeline and including duct installation.

Group 1: Backhoe, crane, grader, mechanic, dozer (D-6 equivalent or larger), side boom (D-4 equivalent or larger), trencher(except service), endloader (2 yd. capacity or greater).

GROUP 2: Dozer (less than D-6 equivalent), endloader (under 2 yd. capacity), side boom (under D-4 capacity), backfiller, pumps (1 or 2 of 6-inch discharge or greater), boom truck (with powered boom), tractor (wheel type other than backhoe or front endloader). Tamper (self-propelled), boom truck (with non-powered boom), concrete saw (20 hp or larger), pumps (2 to 4 under 6-inch discharge), compressor (2 or more or when one is used continuously into the second day) and trencher(service). Oiler, hydraulic pipe pushing machine, grease person and hydrostatic testing operator.

-----  
 IRON0008-007 06/01/2024

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector.....	\$ 23.70	6.95
IRONWORKER		
General contracts		
\$10,000,000 or greater.....	\$ 39.91	32.32
General contracts less than \$10,000,000.....	\$ 39.91	32.32

Paid Holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day & Christmas Day.

-----  
 IRON0025-002 06/01/2024

ALCONA, ALPENA, ARENAC, BAY, CHEBOYGAN, CLARE, CLINTON, CRAWFORD, GENESEE, GLADWIN, GRATIOT, HURON, INGHAM, IOSCO, ISABELLA, JACKSON, LAPEER, LIVINGSTON, MACOMB, MIDLAND, MONTMORENCY, OAKLAND, OGEAW, OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, TUSCOLA, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
Ironworker - pre-engineered metal building erector		
ALLEGAN, ANTRIM, BARRY, BENZIE, BRANCH, CALHOUN, CHARLEVOIX, EATON, EMMET, GRAND TRAVERSE, HILLSDALE, IONIA, KALAMAZOO, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH, VAN BUREN AND WEXFORD COUNTIES:..	\$ 35.55	33.14
Bay, Genesee, Lapeer, Livingston (east of Burkhardt Road), Macomb, Midland, Oakland, Saginaw, St. Clair, The University of Michigan, Washtenaw (east of U.S. 23) & Wayne...	\$ 25.81	26.43
IRONWORKER		
Ornamental and Structural...	\$ 34.50	38.44
Reinforcing.....	\$ 33.43	37.15

-----  
 IRON0055-005 07/01/2022

LENAWEE AND MONROE COUNTIES:

Rates	Fringes
-------	---------

IRONWORKER

Pre-engineered metal buildings.....	\$ 23.59	19.35
All other work.....	\$ 33.00	27.20

-----  
IRON0292-003 06/01/2020

BERRIEN AND CASS COUNTIES:

	Rates	Fringes
IRONWORKER (Including pre-engineered metal building erector).....	\$ 31.75	22.84

-----  
LAB00005-006 10/01/2022

	Rates	Fringes
Laborers - hazardous waste abatement: (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE AND WEXFORD COUNTIES - Zone 10)		
Levels A, B or C.....	\$ 17.45 **	12.75
class b.....	\$ 18.64	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 16.45 **	12.75
class a.....	\$ 17.64 **	12.90

Zone 10

Laborers - hazardous waste abatement: (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - Zone 11)		
Levels A, B or C.....	\$ 25.18	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 22.58	12.90

Laborers - hazardous waste abatement: (ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, IONIA COUNTY (except the city of Portland); KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH AND VAN BUREN COUNTIES - Zone 9)

Levels A, B or C.....\$ 21.88	13.26
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 20.80	12.90
Laborers - hazardous waste abatement: (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - Zone 8)	
Levels A, B or C.....\$ 23.74	12.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 20.80	12.90
Laborers - hazardous waste abatement: (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); LIVINGSTON COUNTY (west of Oak Grove Rd., including the City of Howell) - Zone 6)	
Levels A, B or C.....\$ 26.33	12.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 24.64	12.90
Laborers - hazardous waste abatement: (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - Zone 7)	
Levels A, B or C.....\$ 24.20	13.80
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 23.20	13.80
Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEE COUNTIES - Zone 4)	
Levels A, B or C.....\$ 27.13	14.95
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 24.17	12.90
Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)	
Levels A, B or C.....\$ 29.93	14.20
Work performed in conjunction with site	

preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 28.93	14.20
Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)	
Levels A, B or C.....\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 28.93	16.90
Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)	
Levels A, B or C.....\$ 31.75	14.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 31.75	14.90
Laborers - hazardous waste abatement: (OAKLAND COUNTY and the Northeast portion of LIVINGSTON COUNTY bordered by Oak Grove Road on the West and M-59 on the South - Zone 2)	
Level A, B, C.....\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 28.93	16.90
Laborers - hazardous waste abatement: (SANILAC AND ST. CLAIR COUNTIES - Zone 5)	
Levels A, B or C.....\$ 26.21	16.62
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 24.75	16.35

-----  
LAB00259-001 09/01/2024

AREA 1: MACOMB, OAKLAND AND WAYNE COUNTIES  
 AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA,  
 BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX,  
 CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA,  
 DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND  
 TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA,  
 IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT,  
 KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE,  
 MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE,  
 MIDLAND, MISSAUKEE, MONROE, MONTCALM, MONTMORENCY, MUSKEGON,  
 NEWAYGO, OCEANA, OGEAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO,  
 OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST.  
 JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN,  
 WASHTENAW AND WEXFORD COUNTIES



	Rates	Fringes
Laborers - tunnel, shaft and caisson:		
AREA 1		
GROUP 1.....	\$ 27.86	22.11
GROUP 2.....	\$ 29.86	22.11
GROUP 3.....	\$ 25.86	22.11
GROUP 4.....	\$ 23.97	16.93
GROUP 5.....	\$ 24.22	16.93
GROUP 6.....	\$ 24.55	16.93
GROUP 7.....	\$ 17.83	16.93
AREA 2		
GROUP 1.....	\$ 30.00	17.45
GROUP 2.....	\$ 32.00	17.45
GROUP 3.....	\$ 28.00	17.45
GROUP 4.....	\$ 29.57	16.93
GROUP 5.....	\$ 25.76	16.93
GROUP 6.....	\$ 26.07	16.93
GROUP 7.....	\$ 25.57	16.93

SCOPE OF WORK: Tunnel, shaft and caisson work of every type and description and all operations incidental thereto, including, but not limited to, shafts and tunnels for sewers, water, subways, transportation, diversion, sewerage, caverns, shelters, aquifers, reservoirs, missile silos and steel sheeting for underground construction.

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Tunnel, shaft and caisson laborer, dump, shanty, hog house tender, testing (on gas) and watchman

GROUP 2: Manhole, headwall, catch basin builder, bricklayer tender, mortar machine and material mixer

GROUP 3: Air tool operator (jackhammer, bush hammer and grinder), first bottom, second bottom, cage tender, car pusher, carrier, concrete, concrete form, concrete repair, cement invert laborer, cement finisher, concrete shoveler, conveyor, floor, gasoline and electric tool operator, gunite, grout operator, welder, heading dinky person, inside lock tender, pea gravel operator, pump, outside lock tender, scaffold, top signal person, switch person, track, tugger, utility person, vibrator, winch operator, pipe jacking, wagon drill and air track operator and concrete saw operator (under 40 h.p.)

GROUP 4: Tunnel, shaft and caisson mucker, bracer, liner plate, long haul dinky driver and well point

GROUP 5: Tunnel, shaft and caisson miner, drill runner, key board operator, power knife operator, reinforced steel or mesh (e.g. wire mesh, steel mats, dowel bars, etc.)

GROUP 6: Dynamite and powder

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

LAB00334-001 09/01/2024

Rates Fringes

Laborers - open cut:

ZONE 1 - MACOMB, OAKLAND  
AND WAYNE COUNTIES:

GROUP 1.....	\$ 27.71	22.11
GROUP 2.....	\$ 29.71	22.11
GROUP 3.....	\$ 25.87	22.11
GROUP 4.....	\$ 23.71	16.72
GROUP 5.....	\$ 24.17	16.72
GROUP 6.....	\$ 22.00	16.72
GROUP 7.....	\$ 17.84	16.72

ZONE 2 - LIVINGSTON COUNTY  
(east of M-151 (Oak Grove  
Rd.)); MONROE AND

WASHTENAW COUNTIES:

GROUP 1.....	\$ 29.65	17.45
GROUP 2.....	\$ 31.65	17.45
GROUP 3.....	\$ 27.65	17.45
GROUP 4.....	\$ 25.10	16.72
GROUP 5.....	\$ 25.25	16.72
GROUP 6.....	\$ 22.55	16.72
GROUP 7.....	\$ 22.11	16.72

ZONE 3 - CLINTON, EATON,  
GENESEE, HILLSDALE AND  
INGHAM COUNTIES; IONIA  
COUNTY (City of Portland);  
JACKSON, LAPEER AND  
LENAWEE COUNTIES;  
LIVINGSTON COUNTY (west of  
M-151 Oak Grove Rd.);  
SANILAC, ST. CLAIR AND  
SHIAWASSEE COUNTIES:

GROUP 1.....	\$ 27.84	17.45
GROUP 2.....	\$ 29.84	17.45
GROUP 3.....	\$ 25.84	17.45
GROUP 4.....	\$ 23.30	16.72
GROUP 5.....	\$ 23.44	16.72
GROUP 6.....	\$ 20.74	16.72
GROUP 7.....	\$ 22.23	16.72

ZONE 4 - ALCONA, ALLEGAN,  
ALPENA, ANTRIM, ARENAC,  
BARRY, BAY, BENZIE,  
BERRIEN, BRANCH,  
CALHOUN, CASS, CHARLEVOIX,  
CHEBOYGAN, CLARE,  
CRAWFORD, EMMET,  
GLADWIN, GRAND TRAVERSE,  
GRATIOT AND HURON  
COUNTIES; IONIA COUNTY  
(EXCEPT THE CITY OF  
PORTLAND); IOSCO,  
ISABELLA, KALAMAZOO,  
KALKASKA, KENT,  
LAKE, LEELANAU, MANISTEE,  
MASON, MECOSTA, MIDLAND,  
MISSAUKEE, MONTCALM,  
MONTMORENCY, MUSKEGON,  
NEWAYGO, OCEANA, OGEMAW,  
OSCEOLA, OSCODA, OTSEGO,  
OTTAWA, PRESQUE ISLE,  
ROSCOMMON, SAGINAW, ST.  
JOSEPH, TUSCOLA, VAN BUREN

AND WEXFORD COUNTIES:

GROUP 1.....	\$ 26.32	17.95
GROUP 2.....	\$ 28.32	17.95
GROUP 3.....	\$ 24.32	17.95
GROUP 4.....	\$ 22.33	16.72
GROUP 5.....	\$ 22.45	16.72
GROUP 6.....	\$ 19.67	16.72
GROUP 7.....	\$ 22.30	16.72

ZONE 5 - ALGER, BARAGA,  
CHIPPEWA, DELTA,  
DICKINSON, GOGEBIC,  
HOUGHTON, IRON,  
KEWEENAW, LUCE, MACKINAC,  
MARQUETTE, MENOMINEE,  
ONTONAGON AND SCHOOLCRAFT  
COUNTIES:

GROUP 1.....	\$ 26.09	18.45
GROUP 2.....	\$ 28.09	18.45
GROUP 3.....	\$ 24.09	18.45
GROUP 4.....	\$ 22.56	16.72
GROUP 5.....	\$ 22.64	16.72
GROUP 6.....	\$ 19.99	16.72
GROUP 7.....	\$ 22.45	16.72

SCOPE OF WORK:

Open cut construction work shall be construed to mean work which requires the excavation of earth including industrial, commercial and residential building site excavation and preparation, land balancing, demolition and removal of concrete and underground appurtenances, grading, paving, sewers, utilities and improvements; retention, oxidation, flocculation and irrigation facilities, and also including but not limited to underground piping, conduits, steel sheeting for underground construction, and all work incidental thereto, and general excavation. For all areas except the Upper Peninsula, open cut construction work shall also be construed to mean waterfront work, piers, docks, seawalls, breakwalls, marinas and all incidental work. Open cut construction work shall not include any structural modifications, alterations, additions and repairs to buildings, or highway work, including roads, streets, bridge construction and parking lots or steel erection work and excavation for the building itself and back filling inside of and within 5 ft. of the building and foundations, footings and piers for the building. Open cut construction work shall not include any work covered under Tunnel, Shaft and Caisson work.

OPEN CUT LABORER CLASSIFICATIONS

GROUP 1: Construction laborer

GROUP 2: Mortar and material mixer, concrete form person, signal person, well point person, manhole, headwall and catch basin builder, headwall, seawall, breakwall and dock builder

GROUP 3: Air, gasoline and electric tool operator, vibrator operator, driller, pump person, tar kettle operator, bracer, rodder, reinforced steel or mesh person (e.g., wire mesh, steel mats, dowel bars, etc.), welder, pipe jacking and boring person, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger person and directional boring person

GROUP 4: Trench or excavating grade person

GROUP 5: Pipe layer (including crock, metal pipe, multi-plate or other conduits)

GROUP 6: Grouting man, audio-visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances

GROUP 7: Restoration laborer, seeding, sodding, planting, cutting, mulching and top soil grading; and the restoration of property such as replacing mailboxes, wood chips, planter boxes, flagstones, etc.

-----  
LAB00465-001 06/01/2024

LABORER: Highway, Bridge and Airport Construction

AREA 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALLEGAN, BARRY, BAY, BERRIEN, BRANCH, CALHOUN, CASS, CLINTON, EATON, GRATIOT, HILLSDALE, HURON, INGHAM, JACKSON, KALAMAZOO, LAPEER, LENAWEE, LIVINGSTON, MIDLAND, MUSKEGON, SAGINAW, SANILAC, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA AND VAN BUREN COUNTIES

AREA 3: ALCONA, ALPENA, ANTRIM, ARENAC, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, IONIA, IOSCO, ISABELLA, KALKASKA, KENT, LAKE, LEELANAU, MANISTEE, MASON, MECOSTA, MISSAUKEE, MONTCALM, MONTMORENCY, NEWAYGO, OCEANA, OGEMAW, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON AND WEXFORD COUNTIES

AREA 4: ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES

	Rates	Fringes
LABORER (AREA 1)		
GROUP 1.....	\$ 34.01	14.45
GROUP 2.....	\$ 34.14	14.45
GROUP 3.....	\$ 34.32	14.45
GROUP 4.....	\$ 34.40	14.45
GROUP 5.....	\$ 34.61	14.45
GROUP 6.....	\$ 34.91	14.45
LABORER (AREA 2)		
GROUP 1.....	\$ 31.87	14.45
GROUP 2.....	\$ 32.07	14.45
GROUP 3.....	\$ 32.31	14.45
GROUP 4.....	\$ 32.66	14.45
GROUP 5.....	\$ 32.53	14.45
GROUP 6.....	\$ 32.87	14.45
LABORER (AREA 3)		
GROUP 1.....	\$ 31.12	14.45
GROUP 2.....	\$ 31.33	14.45
GROUP 3.....	\$ 31.62	14.45
GROUP 4.....	\$ 32.06	14.45
GROUP 5.....	\$ 31.68	14.45

GROUP 6.....	\$ 32.11	14.45
LABORER (AREA 4)		
GROUP 1.....	\$ 32.02	14.45
GROUP 2.....	\$ 31.73	14.45
GROUP 3.....	\$ 32.52	14.45
GROUP 4.....	\$ 32.96	14.45
GROUP 5.....	\$ 32.58	14.45
GROUP 6.....	\$ 33.01	14.45

LABORER CLASSIFICATIONS

GROUP 1: Asphalt shoveler or loader; asphalt plant misc.; burlap person; yard person; dumper (wagon, truck, etc.); joint filling laborer; miscellaneous laborer; unskilled laborer; sprinkler laborer; form setting laborer; form stripper; pavement reinforcing; handling and placing (e.g., wire mesh, steel mats, dowel bars); mason's tender or bricklayer's tender on manholes; manhole builder; headwalls, etc.; waterproofing,(other than buildings) seal coating and slurry mix, shoring, underpinning; pressure grouting; bridge pin and hanger removal; material recycling laborer; horizontal paver laborer (brick, concrete, clay, stone and asphalt); ground stabilization and modification laborer; grouting; waterblasting; top person; railroad track and trestle laborer; carpenters' tender; guard rail builders' tender; earth retention barrier and wall and M.S.E. wall installer's tender; highway and median installer's tender(including sound, retaining, and crash barriers); fence erector's tender; asphalt raker tender; sign installer; remote control operated equipment.

GROUP 2: Mixer operator (less than 5 sacks); air or electric tool operator (jackhammer, etc.); spreader; boxperson (asphalt, stone, gravel); concrete paddler; power chain saw operator; paving batch truck dumper; tunnel mucker (highway work only); concrete saw (under 40 h.p.) and dry pack machine; roto-mill grounds person.

GROUP 3: Tunnel miner (highway work only); finishers tenders; guard rail builders; highway and median barrier installer; earth retention barrier and wall and M.S.E. wall installer's (including sound, retaining and crash barriers); fence erector; bottom person; powder person; wagon drill and air track operator; diamond and core drills; grade checker; certified welders; curb and side rail setter's tender.

GROUP 4: Asphalt raker

GROUP 5: Pipe layers, oxy-gun

GROUP 6: Line-form setter for curb or pavement; asphalt screed checker/screw man on asphalt paving machines.

-----  
 LAB01076-005 04/01/2024

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1.....	\$ 27.16	13.45
Zone 2.....	\$ 25.42	13.45
Zone 3.....	\$ 23.55	13.45

Zone 4.....	\$ 22.92	13.45
Zone 5.....	\$ 22.95	13.45

DISTRIBUTION WORK - The construction, installation, treating and reconditioning of distribution pipelines transporting coal, oil, gas or other similar materials, vapors or liquids, including pipelines within private property boundaries, up to and including the meter settings on residential, commercial, industrial, institutional, private and public structures. All work covering pumping stations and tank farms not covered by the Building Trades Agreement. Other distribution lines with the exception of sewer, water and cable television are included.

Underground Duct Layer Pay: \$.40 per hour above the base pay rate.

Zone 1 - Macomb, Oakland and Wayne

Zone 2 - Monroe and Washtenaw

Zone 3 - Bay, Genesee, Lapeer, Midland, Saginaw, Sanilac, Shiawassee and St. Clair

Zone 4 - Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft

Zone 5 - Remaining Counties in Michigan

-----  
PAIN0022-002 07/01/2008

HILLSDALE, JACKSON AND LENAWEE COUNTIES; LIVINGSTON COUNTY (east of the eastern city limits of Howell, not including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 25.06	14.75

FOOTNOTES: For all spray work and journeyman rigging for spray work, also blowing off, \$0.80 per hour additional (applies only to workers doing rigging for spray work on off the floor work. Does not include setting up or moving rigging on floor surfaces, nor does it apply to workers engaged in covering up or tending spray equipment. For all sandblasting and spray work performed on highway bridges, overpasses, tanks or steel, \$0.80 per hour additional. For all brushing, cleaning and other preparatory work (other than spraying or steeplejack work) at scaffold heights of fifty (50) feet from the ground or higher, \$0.50 per hour additional. For all preparatorial work and painting performed on open steel under forty (40) feet when no scaffolding is involved, \$0.50 per hour additional. For all swing stage work-window jacks and window belts-exterior and interior, \$0.50 per hour additional. For all spray work and sandblaster work to a scaffold height of forty (40) feet above the floor level, \$0.80 per hour additional. For all preparatorial work and painting on all highway bridges or overpasses up to forty (40) feet in height, \$0.50 per hour additional. For all steeplejack work performed where the elevation is forty (40) feet or more, \$1.25 per hour additional.



PAIN0312-001 06/01/2018

EXCLUDES: ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); INCLUDES: Barry, Berrien, Branch, Calhoun, Cass, Hillsdale, Kalamazoo, St. Joseph, Van Buren

Rates Fringes

PAINTER

Brush and roller.....	\$ 23.74	13.35
Spray, Sandblast, Sign		
Painting.....	\$ 24.94	13.35

PAIN0845-003 05/10/2018

CLINTON COUNTY; EATON COUNTY (does not include the townships of Bellevue and Olivet); INGHAM COUNTY; IONIA COUNTY (east of Hwy. M 66); LIVINGSTON COUNTY (west of the eastern city limits of Howell, including the city of Howell, north to the Genesee County line and south to the Washtenaw County line); AND SHIAWASSEE COUNTY (Townships of Bennington, Laingsbury and Perry):

Rates Fringes

PAINTER.....	\$ 25.49	13.74
--------------	----------	-------

PAIN0845-015 05/10/2018

MUSKEGON COUNTY; NEWAYGO COUNTY (except the Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OCEANA COUNTY; OTTAWA COUNTY (except the townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

Rates Fringes

PAINTER.....	\$ 25.49	13.74
--------------	----------	-------

PAIN0845-018 05/10/2018

ALLEGAN COUNTY (Townships of Dorr, Fillmore, Heath, Hopkins, Laketown, Leighton, Manlius, Monterey, Overisel, Salem, Saugatuck and Wayland); IONIA COUNTY (west of Hwy. M-66); KENT, MECOSTA AND MONTCALM COUNTIES; NEWAYGO COUNTY (Townships of Barton, Big Prairie, Brooks, Croton, Ensley, Everett, Goodwell, Grant, Home, Monroe, Norwich and Wilcox); OSCEOLA COUNTY (south of Hwy. #10); OTTAWA COUNTY (Townships of Allendale, Blendone, Chester, Georgetown, Holland, Jamestown, Olive, Park, Polkton, Port Sheldon, Tallmadge, Wright and Zeeland):

Rates Fringes

PAINTER.....	\$ 25.49	13.74
--------------	----------	-------

FOOTNOTES: Lead abatement work: \$1.00 per hour additional.

PAIN1011-003 06/02/2022

ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 24.66	14.99

FOOTNOTES: High pay (bridges, overpasses, watertower): 30 to 80 ft.: \$.65 per hour additional. 80 ft. and over: \$1.30 per hour additional.

-----  
PAIN1474-002 06/01/2010

HURON COUNTY; LAPEER COUNTY (east of Hwy. M-53); ST. CLAIR, SANILAC AND TUSCOLA COUNTIES:

	Rates	Fringes
PAINTER.....	\$ 23.79	12.02

FOOTNOTES: Lead abatement work: \$1.00 per hour additional. Work with any hazardous material: \$1.00 per hour additional. Sandblasting, steam cleaning and acid cleaning: \$1.00 per hour additional. Ladder work at or above 40 ft., scaffold work at or above 40 ft., swing stage, boatswain chair, window jacks and all work performed over a falling height of 40 ft.: \$1.00 per hour additional. Spray gun work, pick pullers and those handling needles, blowing off by air pressure, and any person rigging (setting up and moving off the ground): \$1.00 per hour additional. Steeplejack, tanks, gas holders, stacks, flag poles, radio towers and beacons, power line towers, bridges, etc.: \$1.00 per hour additional, paid from the ground up.

-----  
PAIN1803-003 06/01/2024

ALCONA, ALPENA, ANTRIM, ARENAC, BAY, BENZIE, CHARLEVOIX, CHEBOYGAN, CLARE, CRAWFORD, EMMET, GLADWIN, GRAND TRAVERSE, GRATIOT, IOSCO, ISABELLA, KALKASKA, LAKE, LEELANAU, MANISTEE, MASON, MIDLAND, MISSAUKEE, MONTMORENCY AND OGEMAW COUNTIES; OSCEOLA COUNTY (north of Hwy. #10); OSCODA, OTSEGO, PRESQUE ISLE, ROSCOMMON, SAGINAW AND WEXFORD COUNTIES:

	Rates	Fringes
PAINTER Work performed on water, bridges over water or moving traffic, radio and powerline towers, elevated tanks, steeples, smoke stacks over 40 ft. of falling heights, recovery of lead-based paints and any work associated with industrial plants, except maintenance of industrial plants.....	\$ 29.35	19.05

All other work, including maintenance of industrial plant.....	\$ 29.35	19.05
--	----------	-------

FOOTNOTES: Spray painting, sandblasting, blowdown associated with spraying and blasting, water blasting and work involving a swing stage, boatswain chair or spider: \$1.00 per hour additional. All work performed inside tanks, vessels, tank trailers, railroad cars, sewers, smoke stacks, boilers or other spaces having limited egress not including buildings, opentop tanks, pits, etc.: \$1.25 per hour additional.

-----  
PLAS0514-001 06/01/2023

ZONE 1: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, SAGINAW, WASHTENAW AND WAYNE COUNTIES

ZONE 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
ZONE 1.....	\$ 33.00	18.51
ZONE 2.....	\$ 31.50	18.51

-----  
PLUM0190-003 05/01/2015

ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GENESEE, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LIVINGSTON, LUCE, MACKINAC, MACOMB, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MONROE, MUSKEGON, NEWAYGO, OAKLAND, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, ST. CLARE, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE, TUSCOLA, VAN BUREN, WASHTENAW, WAYNE AND WEXFORD COUNTIES

	Rates	Fringes
Plumber/Pipefitter - gas distribution pipeline:		
Welding in conjunction with gas distribution pipeline work.....	\$ 33.03	20.19
All other work:.....	\$ 24.19	12.28

TEAM0007-004 06/01/2024

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SAGINAW, SANILAC, SCHOOLCRAFT, SHIAWASSEE, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER		
AREA 1		
Euclids, double bottoms and lowboys.....	\$ 32.55	.75 + a+b
Trucks under 8 cu. yds.....	\$ 32.30	.75 + a+b
Trucks, 8 cu. yds. and over.....	\$ 32.40	.75 + a+b
AREA 2		
Euclids, double bottoms and lowboys.....	\$ 32.65	.75 + a+b
Trucks under 8 cu. yds.....	\$ 32.40	.75 + a+b
Trucks, 8 cu. yds. and over.....	\$ 32.50	.75 + a+b

Footnote:

- a. \$470.70 per week
- b. \$68.70 daily

-----  
TEAM0247-004 04/01/2013

AREA 1: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW, LAKE, LAPEER, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE, MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM, MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON, OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON, SANILAC, SCHOOLCRAFT, SHIAWASSEE, SAGINAW, ST. CLAIR, ST. JOSEPH, TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

AREA 2: GENESEE, LIVINGSTON, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
Sign Installer		
AREA 1		
GROUP 1.....	\$ 21.78	11.83
GROUP 2.....	\$ 25.27	11.8375
AREA 2		

GROUP 1.....	\$ 22.03	11.83
GROUP 2.....	\$ 25.02	11.8375

FOOTNOTE:

a. \$132.70 per week, plus \$17.80 per day.

SIGN INSTALLER CLASSIFICATIONS:

GROUP 1: performs all necessary labor and uses all tools required to construct and set concrete forms required in the installation of highway and street signs

GROUP 2: performs all miscellaneous labor, uses all hand and power tools, and operates all other equipment, mobile or otherwise, required for the installation of highway and street signs

-----  
TEAM0247-010 04/01/2018

AREA 1: LAPEER AND SHIAWASSEE COUNTIES

AREA 2: GENESEE, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

	Rates	Fringes
TRUCK DRIVER (Underground construction)		
AREA 1		
GROUP 1.....	\$ 23.82	19.04
GROUP 2.....	\$ 23.91	19.04
GROUP 3.....	\$ 24.12	19.04
AREA 2		
GROUP 1.....	\$ 24.12	19.04
GROUP 2.....	\$ 24.26	19.04
GROUP 3.....	\$ 24.45	19.04

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

SCOPE OF WORK: Excavation, site preparation, land balancing, grading, sewers, utilities and improvements; also including but not limited to, tunnels, underground piping, retention, oxidation, flocculation facilities, conduits, general excavation and steel sheeting for underground construction. Underground construction work shall not include any structural modifications, alterations, additions and repairs to buildings or highway work, including roads, streets, bridge construction and parking lots or steel erection.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Truck driver on all trucks (EXCEPT dump trucks of 8 cubic yards capacity or over, pole trailers, semis, low boys, Euclid, double bottom and fuel trucks)

GROUP 2: Truck driver on dump trucks of 8 cubic yards capacity or over, pole trailers, semis and fuel trucks

GROUP 3: Truck driver on low boy, Euclid and double bottom

-----  
 SUMI2002-001 05/01/2002

	Rates	Fringes
FLAG PERSON.....	\$ 10.10 **	0.00
LINE PROTECTOR (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE)....	\$ 22.89	13.45
LINE PROTECTOR (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE).....	\$ 20.19	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1.....	\$ 30.52	13.45
Pavement Marking Machine (ZONE 1: GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2.....	\$ 27.47	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE COUNTIES) Group 1.....	\$ 26.92	13.45
Pavement Marking Machine (ZONE 2: STATEWIDE (EXCLUDING GENESEE, MACOMB, MONROE, OAKLAND, WASHTENAW AND WAYNE) Group 2.....	\$ 24.23	13.45

WORK CLASSIFICATIONS:

PAVEMENT MARKER GROUP 1: Drives or operates a truck mounted striper, grinder, blaster, groover, or thermoplastic melter for the placement or removal of temporary or permanent pavement markings or markers.

PAVEMENT MARKER GROUP 2: Performs all functions involved for the placement or removal of temporary or permanent pavement markings or markers not covered by the classification of Pavement Marker Group 1 or Line Protector.

LINE PROTECTOR: Performs all operations for the protection or removal of temporary or permanent pavement markings or markers in a moving convoy operation not performed by the classification of Pavement Marker Group 1. A moving convoy operation is comprised of only Pavement Markers Group 1 and Line Protectors.

-----  
 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.



=====  
 \*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

-----  
 The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates

in the collective bargaining agreement (CBA) governing the classification.

#### Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE:

UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

#### Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

#### State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

---

#### WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

- a) a survey underlying a wage determination
- b) an existing published wage determination

- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to [davisbaconinfo@dol.gov](mailto:davisbaconinfo@dol.gov) or by mail to:

Branch of Wage Surveys  
 Wage and Hour Division  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to [BCWD-Office@dol.gov](mailto:BCWD-Office@dol.gov) or by mail to:

Branch of Construction Wage Determinations  
 Wage and Hour Division  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to [dba.reconsideration@dol.gov](mailto:dba.reconsideration@dol.gov) or by mail to:

Wage and Hour Administrator  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210.

=====

END OF GENERAL DECISION"