Saginaw City Council
Regular Meeting Agenda

Andersen Enrichment Center
120 Ezra Rust Dr.
June 22, 2026
6:30 PM

Prayer and Pledge of Allegiance

Roll Call

Announcements

1. Proclamation recognizing the 250th Anniversary of America's Independence.

Public Hearings

Public Input
(A list will be provided following submittal deadline.)

Remarks of Council

Reports From Manager

1. Update on Friends of Hoyt Park Programming, Chico Ramos.
2. Energy 101, Michele Eaton, Principal External Engagement Manager, and Madison Jarmon, Senior Community Affairs Manager, Consumers Energy.

Consent Agenda

1. Approve the June 8, 2026 council meeting minutes.
2. Approve Petition 26-8 from Saginaw Art Initiative to erect a banner at Court Street from August 2 through August 10, 2026, to promote the Saginaw Art Fair.
3. Approve Petition 26-9 from Wolverine Fireworks Display, Inc. to display fireworks on Ojibway Island on July 4, 2026 at dusk.
4. Approve the insurance proposals with Saginaw Bay Underwriters under METIS (Obsidian Specialty Ins Co), Palomar Specialty Insurance Company, Houston Casualty Company, and Westchester Fire Insurance Company for a total of $923,924.88 for the FY 2026-2027 period. I, and/or my designee shall be authorized to execute any and all necessary insurance documents under the plans as necessary throughout the policy term, including, but not limited to, removing and/or adding automobiles as the City acquires and/or disposes of same.
5. Approve the purchase with Applied Capital for $8,628 in annual payments, for a total amount of $43,140, for five multi-function copiers for various departments,

6. Approve the purchase with Advanced Business Communications for $31,229 for the purchase and installation of emergency call boxes within the Ojibway Island park boundaries.

7. Approve the amendments to the FY 2026 Approved Budget to recognize changes that have occurred during the June period.

8. Approve the professional services agreement with Dickinson Wright, PLLC for $8,500 to act as bond counsel for the City in connection with the 2026 Installment Contract for the purchase of a Fire Truck.

9. Approve the purchase with Sutphen Corporation for $1,514,171 for a SL75 Fire Apparatus for the Fire Department.

10. Approve the annual purchase with Environmental Testing and Consulting for an amount not to exceed $10,000 for FY 2027 for lead inspection risk assessment services for the Community Services Division Rehabilitation Programs.

11. Ratification of a purchase with G.W. Heating & Air Conditioning Co., Inc. for $11,424 for the replacement of a commercial rooftop air conditioning unit at the Andersen Enrichment Center for the Public Service Department, Facilities Division.

12. Approve the purchase with Hamilton's Propane for an amount not to exceed $9,250 for the city-wide annual propane fuel delivery service.

13. Approve the purchase with Summit Fire Protection for an amount not to exceed $8,609 for approximately 110 city-wide fire extinguishers and service for all departments.

14. Approve the purchase with Hoffman's Power Equipment, Inc. for $11,850 for a Billy Goat 35HP Leaf Blower for the Public Services Department, Cemeteries Division.

15. Approve the blanket purchase orders with specified vendors not to exceed $30,000 for a variety of fluids for the Public Service Department, Motor Pool Division for FY 2027.

16. Approve the purchases with Valk Manufacturing, Co., Truck and Trailer Specialties, and Winter Equipment, Co. for a total amount of $103,694 for various snowplow blades, and guards for the Public Services Department, Motor Pool Operations Division.

17. Approve the purchase with First Class Tire Shredders for $6,800 for tire recycling services for the Public Services Department, Streets Division for FY 2027.

18. Approve the blanket purchase orders with United Rotary Brush Corp and MTECH Company for an amount not to exceed $43,000 for FY 2027; and pending budget approval, for an amount not to exceed $44,000 in FY 2028, for various sweeper brooms for inventory for the Public Service Department, Motor Pool Division.

19. Approve the blanket purchase orders with specified vendors for a total of $10,000 for preventative maintenance services for the Public Services Department, Maintenance and Service Division for FY 2027.

20. Approve the blanket purchase orders with specified vendors for a total of $24,000 for restoration supplies for the Public Services Department, Maintenance and Service Division for FY 2027.

21. Approve the purchase with Champagne & Marx Excavating Inc. for $38,120 for 6AA stone for the Public Services Department, Maintenance and Service Division for FY 2027.

22. Approve the purchase with D.H.T. Transport LLC. for $375,000 for Class II yellow backfill sand for the Public Services Department, Maintenance and Service Division for FY 2027.

23. Approve the purchase with Champagne & Marx Excavating, Inc. for $9,570 for mason sand for the Public Services Department, Maintenance and Service Division for FY 2027.

24. Approve the purchase with Champagne & Marx Excavating Inc. for $134,000 for 22A stonecrete for the Public Services Department, Maintenance and Service Division for FY 2027.

25. Approve the blanket purchase to specified vendors for a total amount of $15,000 for sewer jet/hydro excavation supplies for the Public Services Department, Maintenance and Service Division for FY 2027.

26. Approve the purchase with Standard Electric Company, a sole source, for $25,518 for Whatley Street light base covers for the Public Services Department, Traffic Engineering Division.

27. Approve the proposal from Fishbeck, for $246,500 for construction engineering and administration for the N. Mason Watermain & Dead-end Looping project for the Public Services Department, Engineering Division.

28. Approve the contract with C&M Asset Holdings LLC DBA Champagne & Marx Excavating for $1,553,583.25 for the Lee Street Rehab - S Niagara to Rust-Boat Launch & Hoyt Park Upper Drive Mill & Resurface (C-1727) Project for the Public Services Department, Engineering Division.

29. Approve the purchase with Fisher Contracting Co. for $144,468 for the Ojibway Island North Trail Extension for the Public Services Department, Engineering Division.

30. Approve the purchase with Waste Management of Michigan for $66,980 for FY 2027 and $70,148 for FY 2028, pending budget approval, for the hauling and disposal of grit and screenings for the Water and Wastewater Services Department, Treatment and Pumping Division.

31. Approve the purchase with Walker Process Equipment, a sole source, for $125,255 for replacement gears for the Walker sludge collection system for the Water and Wastewater Treatment Services Department, Water Treatment Division.

32. Approve the purchase with Xylem Vue, Inc. for $599,000 for FY 2027, and pending budget approval; $47,000 for FY 2028, and $48,400 for FY 2029, for professional services for the Water and Wastewater Treatment Services Department, Water Treatment Plant.

33. Approve the purchase with PVS Nolwood Chemicals, Inc. for $96,900 for 95 tons of Hydrofluorosilicic Acid for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

Board/Commission/Committee Reports

Appointment of Board/Commission/Committee Members

1. Approve the reappointment of James Graham to the Saginaw Economic Development Corporation with a term to expire June 30, 2029.

2. Approve the reappointment of Misty Moriarty to the Saginaw Economic Development Corporation with a term to expire June 30, 2029.

3. Approve the reappointment of Larry Hughes to the Saginaw Economic Development Corporation with a term to expire June 30, 2029.

4. Approve the appointment of Tobias Young to the Planning Commission with a term to expire when Council term is complete.

Ordinance Introduction

Ordinance Adoption

Resolutions

1. Authorizing an installment purchase contract for equipment.

2. Objecting to the transfer of tax reverted properties.

Unfinished Business

Miscellaneous Business

1. Consideration of a FOIA Appeal filed by Abdibasid Abukar.

Adjournment

Timothy Morales
City Manager

Accessibility Notice:
If you require accommodations to attend or participate in this meeting due to a disability, please contact the City Clerk's Office at (989) 759-1480 ext. 6 or visit in person at:

Saginaw City Hall
1315 S. Washington Ave.
Saginaw, MI 48601

Advance notice is appreciated to allow time to make arrangements.

To view tonight's presentations, scan the QR code or follow the link below.
saginaw-mi.com/presentations

CITY OF SAGINAW

PROCLAMATION

Recognizing the 250th Anniversary of America's Independence

WHEREAS, on July 4, 1776, the Second Continental Congress adopted the Declaration of Independence, affirming the fundamental principles of liberty, equality, self-government, and the unalienable rights of all people; and

WHEREAS, the year 2026 marks the 250th anniversary of the founding of the United States of America, a historic milestone that provides an opportunity to reflect upon our nation's history, celebrate its achievements, and honor the generations of Americans who have worked to preserve and strengthen our democracy; and

WHEREAS, throughout the past two and a half centuries, Americans have demonstrated resilience, courage, innovation, and a steadfast commitment to the ideals upon which our nation was founded; and

WHEREAS, this anniversary serves as an occasion to recognize the contributions of citizens, veterans, service members, first responders, educators, community leaders, and countless others whose dedication has helped shape and strengthen our communities and our nation; and

WHEREAS, the City of Saginaw is proud of its role in America's story and joins communities across the nation in commemorating this significant anniversary while inspiring future generations to embrace civic engagement, public service, and the responsibilities of citizenship; and

WHEREAS, the semi-quincentennial250th Anniversary celebration encourages all Americans to reflect on our shared history, honor our diverse heritage, and reaffirm our commitment to the principles of freedom, opportunity, and unity.

NOW, THEREFORE, I, Brenda F. Moore, Mayor of the City of Saginaw, do hereby proclaim July 4, 2026, as a day of recognition and celebration of the 250th Anniversary of America's Independence in the City of Saginaw and urge residents to participate in commemorative activities, learn about our nation's history, honor those who have served our country, and celebrate the enduring ideals of liberty and democracy that continue to unite us as Americans.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the City of Saginaw to be affixed this 22nd day of June in the year of our Lord two thousand twenty-six.

Brenda F. Moore, Mayor

Councilmembers
Priscilla Garcia, Mayor Pro Tem,
Michael D. Balls, Eric D. Braddock, Sr.,
Carly R. Hammond, Bill Ostash, Jacinta Seals,
Tobias Young and Heidi G. Wiggins,

Timothy Morales, City Manager

June 22, 2026

A Regular Meeting of the Council of the City of Saginaw, Michigan, was held Monday, June 8, 2026, at 6:30 p.m. at the Andersen Enrichment Center, 120 Ezra Rust Drive, Saginaw, Michigan.

Prayer and Pledge of Allegiance

Council Member Balls offered a prayer and Mayor Moore led the pledge of allegiance of the United States of America.

Roll Call

Mayor Moore called the meeting to order. Council Members present: Tobias Young, Jacinta Seals, Michael Balls, Priscilla Garcia, Bill Ostash, Eric Braddock Sr., Heidi Wiggins, Carly Hammond, Brenda Moore: 9. Council Members absent:0.

Announcements

City Clerk Kristine Bolzman announced that the City's Convenience Station will be open this Saturday from 8:00 a.m. to noon. City residents may utilize the station to drop off bulky or miscellaneous items that need to be disposed of.

Council Member Ostash read a proclamation declaring June as "Pride Month." Michele Boxey accepted the proclamation.

Public Input

Members of the public that addressed the Council: Pastor Herbert Morris Jr., Stacey Campbell, Gary Beckert, Alexis Thomas, John Milne, Charles Allen, Melanie Velasco.

Council Remarks

Remarks were heard from the following Council Members: Young, Seals, Balls, Ostash, Braddock, Wiggins, Hammond, Garcia, and Mayor Moore.

Reports from Manager

City Manager Tim Morales reported updates regarding various projects.

Council Member Balls left the meeting at 7:34 p.m. and returned at 7:38 p.m.

Consent Agenda:

Moved by Council Member Seals, seconded by Council Member Wiggins to approve the consent agenda, allowing room for exceptions. An exception was made to item 28. 9 ayes, 0 nays, 0 absent. Motion approved.

1. Approve the May 18, 2026 regular meeting minutes.

2. Approve Petition #26-06 from the Saginaw African Cultural Festival, Inc. to erect a banner in the 300 block of South Michigan and the 1000 block of East Genesee Avenue from July 17 to August 17, 2026, to promote "Saginaw African Cultural Festival."

3. Receive and file Petition 26-07 from Saginaw Community Food Club and Kitchen to be recognized as a nonprofit organization for purposes of obtaining a charitable gaming license.

4. Approve the amendments to the 2025/2026 Approved Budget for the listed funds. This adjustment is required to recognize any errors, omissions, or changes that have occurred within the month of May.

5. Approve the purchase with Yeo & Yeo Technology for $14,400 for professional services to migrate the City's virtual server environment from the VMware platform to Hyper-V for the Technical Services Department, Information Services Division.

6. Approve the annual purchase with Best Technology Systems, Inc. for $8,200 for FY 2027, and pending budget approval, $8,375 for FY 2028, and $8,550 for FY 2029 for indoor gun range cleaning services for the Police Department.

7. Approve the purchase with Municipal Emergency Services (MES), a sole source, for $24,800 for 20 Self-Contained Breathing Apparatus (SCBA) cylinders for the Fire Department.

8. Ratification of an emergency purchase with The W.W. Williams Company LLC for $5,676 for repair of the radiator on Rescue 1 for the Fire Department.

9. Approve the blanket purchase orders to specified vendors for $24,000 for various parts and supplies for the Public Services Department, Facilities Division for FY 2027.

10. Approve the purchase with Hoffman's Power Equipment, Inc. for $37,900 for two 72" mowers for the Public Services Department, Cemeteries Division, and one 60" mower for the Public Services Department, Facilities Division.

11. Approve the purchase with Republic Services for $157,315 for the hauling and disposal of street sweeping debris for the Public Services Department, Streets Division for FY 2027.

12. Approve a purchase with Source One Construction, LLC for $63,600 to furnish and install a new Duro-Last roof at the Public Works Building for the Public Services Department, Facilities Division.

13. Approve the purchase with Bit-Mat Products of Michigan for $22,500 for tack coat and emulsified asphalt for the Public Services Department, Streets Division for FY 2027.

14. Approve the purchase with Wirt Stone Dock for $6,300 for crushed stone for the Durapatch Machine for the Public Services Department, Streets Division for FY 2027.

15. Approve the purchase with GFL Environmental for $30,800 for trash containers and trash disposal at the City's Convenience Station for the Public Services Department, Streets Division for FY 2027.

16. Approve the blanket purchase with the specified vendors for $21,000 for miscellaneous parts and supplies for the Public Services Department, Maintenance and Service Division for FY 2027.

17. Approve the blanket purchase with the specified vendors for $455,000 for roadway restoration materials for the Public Services Department, Maintenance and Service Division for FY 2027.

18. Approve the blanket purchase with the specified vendors for $215,000 for water meter supplies for the Public Services Department, Maintenance and Service Division for FY 2027.

19. Approve the a purchase with Eggers Excavating LLC for $25,000 for receiving excavated spoils for the Public Services Department, Maintenance and Service Division for FY27.

20. Approve the purchase with Versalift for $8,178 for a rear outrigger cylinder assembly part for the Public Services Department, Motor Pool Division.

21. Approve the purchase with Champagne & Marx Excavating, Inc. for $13,835 for approximately 500 tons of 60/40 Gravel for the Public Services Department, Maintenance and Service Division for FY27.

22. Approve the purchase with Rapid Water Recovery Services, LLC (RWRS) for $27,860 for water meter testing services for the Public Services Department, Maintenance and Service Division for FY27.

23. Approve the purchase with Champagne & Marx Excavating, Inc., for $87,300 for screened topsoil for the Public Service Department, Maintenance and Service Division for FY 2027.

24. Approve the purchase with Champagne & Marx Excavating, Inc. for $16,409 for dozing and grading services for the Public Services Department, Maintenance and Service Division for FY27.

25. Approve the purchase with SMAC Testing, Inc. for a total amount not to exceed $375,000 for FY 2026 and FY 2027, and pending budget approval for FY 2028 for material testing services for the Public Services Department, Engineering Division.

26. Approve the the contract with Lois Kay Contracting Co. for $2,976,140 for the 2026 Local Road Millage Resurfacing and Water Main Replacement project for the Public Services Department, Engineering Division.

27. Approve the contract with Champagne & Marx Excavating, Inc. for $1,571,330 for the Hancock and Ames Reconstruction project from N. Michigan to N. Niagara for the Public Services Department, Engineering Division.

28. Approve the Metropolitan Extension Telecommunications Rights-of-Way Oversight (METRO) Act Bilateral Application and Permit with Peninsula Fiber Network for the Public Services Department, Right of Way Division.

29. Approve the purchase with the Saginaw-Midland Municipal Water Supply Corporation for $7,753 for one-third of the cost of a pre-engineering assessment of the raw water pipeline for the Water and Wastewater Treatment Services Department, Water Treatment Plant.

30. Ratification of an emergency purchase with Drew Wireless LLC for an amount not to exceed $3,500 for repairs to the radio system at the Kochville Station for the Water and Wastewater Treatment Services Department, Instrumentation and Process Controls Division.

31. Approve the purchase with Jade Scientific, Inc. for $7,697 for a Thermo Scientific Heratherm Microbiological Incubator for the Water and Wastewater Treatment Services Department, Water Treatment Division.

32. Approve the purchase with PVS Minibulk, Inc. for $92,250 for FY 2027 and FY 2028, pending budget approval, for Ferric Chloride for the Water and Wastewater Treatment Services Department, Wastewater Treatment and Pumping Division.

33. Approve the purchase with Jacobi Carbons, Inc. for $118,450 for 115,000 pounds of Powdered Activated Carbon for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

34. Approve the purchase with Polydyne Inc. for $28,350 for 27,000 pounds of Liquid PolyDADMAC for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

35. Approve the purchase with PVS Technologies, Inc. for $261,510 for 230 tons of Ferric Chloride for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

36. Approve the purchase with JCI Jones Chemical, Inc. for $225,700 for 132,000 gallons of Sodium Hypochlorite for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

37. Approve the purchase with JCI Jones Chemical, Inc. for $97,200 for FY 2027 for Liquid Chlorine for the Water and Wastewater Treatment Services Department, Treatment and Pumping Division.

38. Approve the purchase with JCI Jones Chemical, Inc. for $350,000 for FY 2027 for Liquid Sodium Hypochlorite for the Water and Wastewater Treatment Services Department, Treatment and Pumping Division.

39. Approve the purchase with Cygnet Enterprises for $8,460 for 6,000 pounds of Sodium Percarbonate for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

40. Approve the purchase with Graymont Western Lime, Inc. for $67,200 for 280 tons of Calcium Oxide for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

41. Approve the purchase with Jade Scientific, Inc., for $8,486 for two HACH TL2300 Turbidimeters and supplies for the Water and Wastewater Treatment Services Department, Water Treatment Division.

Moved by Council Member Wiggins, seconded by Council Member Hammond to approve item 28. 9 ayes, 0 nays, 0 absent. Motion approved.

Board/Commission/Committee Reports

Council Member Wiggins reported that the Youth Council met for the last time this year and plans to present at the June 22 Council meeting.

Manager Morales reported that the MBS International Airport Commission recently had a ribbon cutting ceremony for its solar project, which is the largest in Michigan.

Appointment of Board/Commission/Committee Members

Moved by Council Member Balls, seconded by Council Member Wiggins to approve the following:

1. Approve the reappointment of Lee Amo to the Historic District Commission with a term to expire July 31, 2029.
2. Approve the reappointment of Kevin Jones to the Historic District Commission with a term to expire July 31, 2029.
3. Approve the reappointment of Mark Greskowiak to the Historic District Commission with a term to expire July 31, 2029.
4. Approve the reappointment of Trisha Baker to the Public Libraries of Saginaw Board with a term to expire June 30, 2030.
5. Approve the reappointment of Craig Bell to the Saginaw Arts & Enrichment Commission with a term to expire June 30, 2029.
6. Approve the reappointment of Theresa Lister to the Saginaw Arts & Enrichment Commission with a term to expire June 30, 2029.
7. Approve the reappointment of Andrew Naumann to the Historic District Commission with a term to expire July 31, 2029.
8. Approve the reappointment of John Jatczak to the Saginaw Economic Development Corporation with a term to expire June 30, 2029.
9. Approve the reappointment of Steve Hensley to the Saginaw Economic Development Corporation with a term to expire June 30, 2029.

9 ayes, 0 nays, 0 absent. Motion approved.

Ordinance Adoption

Moved by Council Member Seals seconded by Mayor Pro Tem Garcia to adopt an ordinance to amend §99.10 “Use of City-Owned Regional Parks, Community Parks and Neighborhood Parks” of Chapter 99, “Special Events Regulations,” of Title IX, “General Regulations,” of the City of Saginaw Code of Ordinances, O-204 and the official city map by renaming Weadock Park to Weadock-Rooker Park from WEADOCK PARK, BLK. 43, GLASBY, GALLAGHER AND LITTLES ADDITION. 9 ayes, 0 nays, 0 absent. Motion approved.

Resolutions

Moved by Mayor Pro Tem Garcia, seconded by Council Member Seals to adopt a resolution recognizing the Saginaw Community Food Club and Kitchen as a non-profit organization for the purpose of obtaining a charitable gaming license. 9 ayes, 0 nays, 0 absent. Motion approved.

Moved by Council Member Balls, seconded by Council Member Wiggins to adopt a resolution approving the appointment of the Trustee and Alternate Trustee to the Mid-Michigan Waste Authority Board. 9 ayes, 0 nays, 0 absent. Motion approved.

Moved by Council Member Seals, seconded by Council Member Wiggins to adopt a resolution approving ballot language for proposed City Charter Amendment to Section 45. 9 ayes, 0 nays, 0 absent. Motion approved.

Miscellaneous Business

Moved by Mayor Pro Tem Garcia, seconded by Council Member Balls to direct staff to prepare and bring forward materials for approval at the next meeting to proceed with the north loop trail and emergency call boxes on Ojibway Island. 9 ayes, 0 nays, 0 absent. Motion approved.

Moved by Council Member Hammond, seconded by Council Member Wiggins to adopt the City Manager's recommendation for Ojibway Island Park Access presented on June 8th for a period of 2 months following the opening of the park, to review accessibility options and solicit public opinion, after which Council will determine an access plan. Discussion was held.

Mayor Moore asked Clerk Bolzman to conduct a roll call vote on the motion to adopt the City Manager's recommendation for a period of 2 months.
Ayes: Young, Balls, Wiggins, Hammond
Nays: Seals, Garcia, Ostash, Braddock, Moore
Absent:
Motion denied.

Moved by Council Member Ostash, seconded by Council Member Young to direct staff to create a nuisance gathering ordinance for introduction at the next council meeting to give the police department the tools needed for large gatherings on premises in the city that are unsafe, causing a danger to those who are present, and are a civil disturbance and public nuisance. Discussion was held.

Mayor Pro Tem Garcia left the meeting at 8:26 p.m. and returned at 8:28 p.m.

Moved by Council Member Ostash, seconded by Council Member Seals to amend the motion to state that the ordinance draft would be placed under Reports from the Manager for review. 9 ayes, 0 nays, 0 absent. Motion approved.

Mayor Moore conducted the vote on the motion to direct staff to draft a nuisance gathering ordinance, as amended. 9 ayes, 0 nays, 0 absent. Motion approved.

Adjournment

Moved by Council Member Seals, seconded by Council Member Wiggins to adjourn the meeting at 8:35 p.m. 9 ayes, 0 nays, 0 absent. Motion approved.

Submitted by,

Kristine Bolzman, MiPMC/CMC
City Clerk

Petition: 26-08

Petition for Banner

PETITION CAN NOT BE ACCEPTED SIX (6) MONTHS PRIOR TO EVENT

We, the undersigned, do hereby petition the Honorable City Council to give favorable consideration to erect a banner at **one or two** locations marked below. We understand that the **$150.00 banner fee per location** must be paid to prior to display at either the Engineering Department or the Treasurer's Office. Banners must be made to City specifications. Display start and end dates cannot be on a weekend and cannot exceed a 30-day span.

- ☒ 500 Block of Court Street
- ☐ 300 Block of South Michigan
- ☐ 200 Block of West Genesee
- ☐ 1000 Block of East Genesee Avenue

Saginaw Art Initiative
Organization Name

Advertise for the Saginaw Art Fair
Purpose of Banner

BANNER MESSAGE: Saginaw Art Fair August 7-8, Fri & Sat, Ojibway Island

DISPLAY: ~~July 13~~ Aug 2 to August 10
Deliver to Engineering Dept. within 2 weeks of this date — Pick-up within 10 days after this date or they will be disposed of

PETITIONER/S:

1 Lauren Collison 2 _____

CONTACT:

NAME Lauren Collison PHONE 989-295-3010

ADDRESS 1375 Glendale Ave

EMAIL saginawartfair@gmail.com

Please email completed form to: clerk@saginaw-mi.com

---------- **CLERK'S OFFICE USE ONLY** ----------

RECEIVED BY: _____ DATE: _____

COUNCIL APPROVED: _____

_____
Kristine Bolzman, CMC
CITY CLERK

CITY CLERK'S OFFICE
JUN 08 2026
RECEIVED
SAGINAW, MI

Ord §96.023 01/2025

#24-09

2026 Permit for Fireworks Other than Consumer or Low Impact

Authority: 2011 PA 256	The **LEGISLATIVE BODY OF CITY, VILLAGE OR TOWNSHIP BOARD** will not discriminate against any individual or group because of race, sex, religion, age, nationality, color, marital status, disability, or political beliefs. If you need assistance with reading, writing, hearing, etc., under the Americans with Disabilities Act you may make your needs known to this Legislative Body of City, Village or Township Board.

This permit is not transferable. Possession of this permit authorizes the herein named person to possess, transport and display fireworks in the amounts, for the purpose of and at the place listed below only through permit expiration date.

TYPE OF PERMIT(S) (Select all applicable boxes)

☐ Agricultural or Wildlife Fireworks ☐ Articles Pyrotechnic ☑ Display Fireworks

☐ Public Display ☐ Private Display

☐ Special Effects Manufactured for Outdoor Pest Control or Agricultural Purposes

FOR USE BY LEGISLATIVE BODY OF CITY, VILLAGE OR TOWNSHIP BOARD ONLY.

PERMIT(S) EXPIRATION DATE
(ENTER DATE OF EXPIRATION)

NAME OF PERSON PERMIT ISSUED TO
Wolverine Fireworks Display, Inc.

AGE (18 YEARS OR OLDER) ☑ YES ☐ NO

ADDRESS OF PERSON PERMIT ISSUED TO
205 W. Seidlers Rd., Kawkawlin, MI 48631

NAME OF ORGANIZATION, GROUP, FIRM OR CORPORATION
Saginaw Area Fireworks, Inc.

ADDRESS
PO Box 1923, Saginaw, MI 48605

NUMBER AND TYPES OF FIREWORKS (Please attach additional pages if necessary)

See Proposal

CITY CLERK'S OFFICE
JUN 15 2026
RECEIVED
SAGINAW, MI

EXACT LOCATION OF DISPLAY OR USE
Ojibway Island and Holland Ave. Bridge, Saginaw, MI

CITY, VILLAGE, TOWNSHIP	DATE	TIME
Saginaw	July 4, 2026 RD July 5, 2026	Dusk

BOND OR INSURANCE FILED	AMOUNT
☑ YES ☐ NO	$10,000,000.00

Issued by action of the Legislative Body of a

☐ City ☐ Village ☐ Township of _____ on the _____ day of

_____
(Signature and Title of Legislative Body Representative)

THIS FORM IS VALID UNTIL THE DATE OF EXPIRATION OF PERMIT

BFS-416 (Rev 01/23)

Sales Order

Wolverine Fireworks Display Inc
205 West Seidlers Road
(989) 662-0121

Order Number: 0028217
Order Date: 1/15/2026

Salesperson: 0007
Customer Number: 01-0001352

Sold To:
Saginaw Area Fireworks, Inc.
P.O. Box 1923
Saginaw, MI 48605

Confirm To:
Tom Roy

Ship To:
Ojibway Island
Holland Ave.
Saginaw, MI 48605

Customer P.O.	Ship VIA	F.O.B.	Terms
7/4/26	W.F.D.		Net 10 Days After Show

Item Code	Unit	Ordered	Shipped	Back Order	Price	Amount
/SHOW		Fireworks Display				
MJG-J-TEK12		Match-Electric 12 ft Cs:30/25				
Whse: MI1	BX25	120.00	0.00	0.00	0.00	0.00
LID-LDA277		48 Shot Water Cake, Green Carp				
Whse: MI1	EACH	12.00	0.00	0.00	0.00	0.00
LID-LDA299		48 Shot Blue Flames on Water/B				
Whse: MI1	EACH	4.00	0.00	0.00	0.00	0.00
LID-LDA215-FLAM		48 Shot Red Flames on Water/Re				
Whse: MI1	EACH	4.00	0.00	0.00	0.00	0.00
LID-LDA281G		48 Shot Water Cake, Golden Cra				
Whse: MI1	EACH	4.00	0.00	0.00	0.00	0.00
LID-LDA290-PRPL		48 Shot Water Carpet Cake Purp				
Whse: MI1	EACH	12.00	0.00	0.00	0.00	0.00
LID-LDA513		48 Shot Water Cake, New Color				
Whse: MI1	EACH	4.00	0.00	0.00	0.00	0.00
MJG-J-TEK20QP		Electric Match 20FT w/QuickPlu				
Whse: MI1	BX15	30.00	0.00	0.00	0.00	0.00
VUL-6-VS6-AST		6"Vulcan Assorted Shells 9/1				
Whse: MI1	EACH	108.00	0.00	0.00	0.00	0.00
VUL-6-VS6P-AST		6"Vulcan Premium Assorted Shel				
Whse: MI1	EACH	108.00	0.00	0.00	0.00	0.00
VUL-6-VS6-C-5100E		6"Vulcan Pixie Dust Willow				
Whse: MI1	EACH	6.00	0.00	0.00	0.00	0.00
SUN-6-16AS106B		6"Sunny Assort (B) w/Tails 9/1				
Whse: MI1	EACH	81.00	0.00	0.00	0.00	0.00
SUN-6-16AS106RWB		6"Sunny RWB Assort w/Tails 9/1				
Whse: MI1	EACH	81.00	0.00	0.00	0.00	0.00
VUL-5-VS5-AST		5"Vulcan Assorted Shells 18/1				
Whse: MI1	EACH	108.00	0.00	0.00	0.00	0.00
VUL-5-M5-AST1		5"Assorted Mines 9/2				
Whse: MI1	EACH	90.00	0.00	0.00	0.00	0.00

Continued

Sales Order

Wolverine Fireworks Display Inc
205 West Seidlers Road
(989) 662-0121

Order Number: 0028217
Order Date: 1/15/2026

Salesperson: 0007
Customer Number: 01-0001352

Sold To:
Saginaw Area Fireworks, Inc.
P.O. Box 1923
Saginaw, MI 48605
Confirm To:
Tom Roy

Ship To:
Ojibway Island
Holland Ave.
Saginaw, MI 48605

Customer P.O.	Ship VIA	F.O.B.	Terms
7/4/26	W.F.D.		Net 10 Days After Show

Item Code	Unit	Ordered	Shipped	Back Order	Price	Amount
SUN-5-16AS105F		5"Sunny Assort (F) w/Tails 9/2				
Whse: MI1	EACH	108.00	0.00	0.00	0.00	0.00
SUN-5-16AS105I		5"Sunny Assort (I) w/Tails 9/2				
Whse: MI1	EACH	108.00	0.00	0.00	0.00	0.00
PAN-5-PAS09		5" Panda Asst Case (B) (9/2)				
Whse: MI1	EACH	54.00	0.00	0.00	0.00	0.00
VUL-5-VS5-C-5100E		5"Pixie Dust Willow				
Whse: MI1	EACH	18.00	0.00	0.00	0.00	0.00
VUL-4-VS4-AST		4"Vulcan Assorted Color Shells				
Whse: MI1	EACH	180.00	0.00	0.00	0.00	0.00
VUL-4-VCS4-ASTS		4"Vulcan Assorted Cylindrical				
Whse: MI1	EACH	150.00	0.00	0.00	0.00	0.00
VUL-4-VS4-C-5100E		4"Pixie Dust Willow				
Whse: MI1	EACH	36.00	0.00	0.00	0.00	0.00
HUS-4-9252		4"Octopus Chrysanthemum.w/Blue				
Whse: MI1	EACH	13.00	0.00	0.00	0.00	0.00
HUS-4-9288		4"Red Feather Shell				
Whse: MI1	EACH	17.00	0.00	0.00	0.00	0.00
VUL-3-VS3-AST		3" Vulcan Assorted Shells 72/1				
Whse: MI1	EACH	360.00	0.00	0.00	0.00	0.00
VUL-3-VS3-C5100E		3"Pixie Dust Willow				
Whse: MI1	EACH	72.00	0.00	0.00	0.00	0.00
LID-3-S10-RWB-CS6		3"Finale, Red,White,Blue Peony				
Whse: MI1	SET	20.00	0.00	0.00	0.00	0.00
LID-3-LD6007N		3"Finale Gold Brocade 12/1				
Whse: MI1	SET	20.00	0.00	0.00	0.00	0.00
HEK-3-HK-3FTS		3"Finale Titanium Salute 6/12				
Whse: MI1	SET	8.00	0.00	0.00	0.00	0.00
LID-4-LD6007NCS5		4"Finale Gold Brocade 6/1				
Whse: MI1	SET	18.00	0.00	0.00	0.00	0.00
LID-4-RWBCS5		4"Finale, Red,White,Blue 6/1				
Whse: MI1	SET	18.00	0.00	0.00	0.00	0.00

Continued

Sales Order

Wolverine Fireworks Display Inc
205 West Seidlers Road
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Order Number: 0028217
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Salesperson: 0007
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Customer P.O.	Ship VIA	F.O.B.	Terms
7/4/26	W.F.D.		Net 10 Days After Show

Item Code	Unit	Ordered	Shipped	Back Order	Price	Amount
PAN-PC24		300s Red,White,Blue Moving Sta				
Whse: MI1	CASE	5.00	0.00	0.00	0.00	0.00
LSF-SM002		100s Brocade Crown				
Whse: MI1	CASE	5.00	0.00	0.00	0.00	0.00
HEK-HK13024		100s Green Strobe Willow				
Whse: MI1	CASE	5.00	0.00	0.00	0.00	0.00
LID-LDC322-150		150s New Color Tail Stars				
Whse: MI1	CASE	5.00	0.00	0.00	0.00	0.00
LID-LDA195		280s Fan Shaped 3-Times Whistl				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
LID-LDD306-16		16s 3" Assorted Color Fanned				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
HUS-FK665C		665s Crackling Coconut				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
HUS-FK1000B		1000s Whistling Dragon				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
HUS-FK300		300s Whistle to Color Strobe M				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
HUS-FK500		500s Gold Double Z Fan 1/1				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
HUS-FK120A		120s Gold Waterfall (Fan)				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
HUS-FK300WGR		300s White Glittering Blue Min				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
GAL-GC335F		130s Silver Strobe Mines+				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
GAL-GC337F		120s Silver Strobe Willow to R				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
GAL-GC310F		100s Fan-Shape Whistle				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
GAL-GC348F		100s Golden Curtain (Fan-Shape				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00

Continued

Sales Order

Wolverine Fireworks Display Inc
205 West Seidlers Road
(989) 662-0121

Order Number: 0028217
Order Date: 1/15/2026

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Customer P.O.	Ship VIA	F.O.B.	Terms
7/4/26	W.F.D.		Net 10 Days After Show

Item Code	Unit	Ordered	Shipped	Back Order	Price	Amount
GAL-GC324		49s Red, Blue Mine w/Ti Salute				
Whse: MI1	EACH	18.00	0.00	0.00	0.00	0.00
LLF-GG1-9945		100s Magnificent View				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
SUN-B253694		36s Super Kamuro 2.5				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
SUN-B24903		49s Color Spider RGBP 2"				
Whse: MI1	CASE	3.00	0.00	0.00	0.00	0.00
LID-2.5-LD3001		2.5"Red Comet w/E-connector				
Whse: MI1	EACH	24.00	0.00	0.00	0.00	0.00
LID-2.5-LD3005		2.5"White Comet w/E-connector				
Whse: MI1	EACH	24.00	0.00	0.00	0.00	0.00
LID-2.5-LD3003		2.5"Blue Comet w/E-connector				
Whse: MI1	EACH	24.00	0.00	0.00	0.00	0.00

Council Communication

Item Number: 4.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Insurance Policy Renewal

Prepared By: Kristine Bolzman, City Clerk

Manager's Recommendation:

Approve the insurance proposals with Saginaw Bay Underwriters under METIS (Obsidian Specialty Ins Co), Palomar Specialty Insurance Company, Houston Casualty Company, and Westchester Fire Insurance Company for a total of $923,924.88 for the FY 2026-2027 period. I, and/or my designee shall be authorized to execute any and all necessary insurance documents under the plans as necessary throughout the policy term, including, but not limited to, removing and/or adding automobiles as the City acquires and/or disposes of same.

Justification:

Saginaw Bay Underwriters obtained quotes from the City's current insurance providers for the City's policies expiring on July 2, 2026. Saginaw Bay Underwriters seeks quotes from multiple companies every two to three years. After review and consideration, this year I am recommending the following carriers and policies with coverage, premiums, and deductibles:

METIS (Obsidian Specialty Ins Co): premium is $727,750 that includes a charge of $4,066 for the assessment from the Michigan Catastrophic Claims Association (MCCA). The coverage is for General Liability, Law Enforcement Liability, Employment Practices Liability, Public Officials Liability, Automobile Liability, Auto Physical Damage and will have a limit of $10,000,000 with a $500,000 self-insured retention and a $25,000 deductible for Automobile Physical Damage. The policy includes sexual abuse and molestation. This policy also provides $1,000,000 excess limit over the Employer's Liability Limit.

Palomar Specialty Insurance Company: This is for the Excess Liability Coverage, providing an additional $5,000,000 in liability coverage for General Liability, Law Enforcement Liability, Employment Practices Liability, Public Officials Liability, Employee Benefits Liability, and Auto Liability. The total premium quoted is $154,826.88.

Houston Casualty Company: This is the Cyber and Privacy Liability coverage protecting the City from cyber theft of personally identifiable information of City residents and employees and ransomware coverage. This has a $50,000 deductible. The premium

quoted is $39,395.

Westchester Fire Insurance Company: This is Lawyers Professional Liability coverage providing $1,000,000 in professional liability coverage for Lawyers employed by the City. This policy has a $25,000 deductible. The premium quoted is $1,953.

Comparison between last year's premium and the renewal premium for FY2026-2027 is as follows:

Description of Coverage	2025 Premium	2026 Premium	Difference
Liability Coverages	$717,500.00	$727,750.00	$10,250.00
Commercial Automobile	Included Above	Included Above	
MCCA Assessment	*Included Above $5,092.00*	*Included Above $4,066*	*Included Above ($1,026)*
Excess Liability	$149,625.00	$154,826.88	$5,201.88
Cyber Coverage	$39,395.00	$39,395.00	No Change
Employed Lawyers Professional	$1,953.00	$1,953.00	No Change
Total Estimated Premium	**$908,473.00**	**$923,924.88**	**$15,451.88**

The City will see an overall increase of $15,451.88 in insurance cost for FY2026-2027 as compared to FY2025-2026. The increase is a reflection of the insurance marketplace which continues to see price increases on auto & excess liability policies. This is caused by a number of factors including Social Inflation (increased jury verdicts towards plaintiffs), increased cost of physical damage on vehicles, and inflation. Quotes received were comparable to those of the industry standards and insurance carriers have superior or excellent ratings according to the AM Best Guide, which determines the financial stability of insurance companies.

As in the past, the City has opted to exclude coverage for terrorism losses under the Terrorism Risk Insurance Act of 2002 with the exception of METIS (Obsidian Specialty Ins Co) as this is included in the premium. This election was made due to the fact that the "act of terrorism" only covers an act that is certified by the Secretary of the Treasury in concurrence with the Secretary of State, and the Attorney General of the United States.

Funds are available in the Self-Insurance Fund Insurance Account No. 677-195.00-806.000. Funds for insurance premiums are budgeted and collected from all departmental budgets and deposited into the Self-Insurance Fund. General and excess liability policies are charged against the division and/or department's budget pursuant to its size. Auto physical damage is charged to each division and/or department based on the number of vehicles assigned.

Coverage documents, policy changes and contracts to implement the new insurance are subject to the City Manager’s approval as to substance and the City Attorney’s approval as to form.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 5.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Applied Capital Multi-Function Copy Machine Lease Renewals

Prepared By: Jeff Klopcic, Director of Technical Services

Manager's Recommendation:

Approve the purchase with Applied Capital for $8,628 in annual payments, for a total amount of $43,140, for five multi-function copiers for various departments,

Justification:

The Technical Services Department conducted a copy/print study in 2011. The study concluded the City would see a dramatic decrease in print related cost if it were to remove all personal desktop printers from employees' desks and replace them with multi-function copy machines that are shared by a group of employees.

The Wastewater Treatment Plant, Fire Department, Maintenance & Service Division, Water Treatment Plant and the City Clerk's Office will each be replacing end lease multi-function copy machines. Each lease will be responsible for monthly payments for the next five years.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted and available in the General Fund Offices of General Government, Office of the City Clerk, Operating Services Account No. 101-215.00-805.000 $1,889.46, Elections, Operating Services Account No. 101-262.00-805.000 $629.82, Community Public Safety - Fire, Fire Prevention Division, Operating Services Account No. 101-341.00-805.000 $1,129.08, Sewer Operations and Maintenance Fund, Maintenance and Service Division, Operating Services Account No. 590-541.02-805.000 $1,236.06, Treatment and Pumping Division, Operating Services Account No. 590-542.02-805.000 $1,096.08, Water Operations and Maintenance Fund, Maintenance and Service Division, Operating Services Account No. 591-541.01-805.000 $1,236.06,Treatment and Pumping Division Operating Services Account No 591-542.02-805.000 $1,411.44.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 6.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Ojibway Island Emergency Call Boxes Purchase and Installation

Prepared By: Jeff Klopcic, Director of Technical Services

Manager's Recommendation:

Approve the purchase with Advanced Business Communications for $31,229 for the purchase and installation of emergency call boxes within the Ojibway Island park boundaries.

Justification:

On June 9, 2026, the City received a quote from Advanced Business Communications for the purchase and installation of two (2) emergency call boxes for the Ojibway Island park renovation project. One of the recommendations identified in the City's online Ojibway Park survey was the installation of emergency call boxes within the park. Emergency call boxes provide a reliable means for park visitors to quickly contact emergency services during medical, safety, or security incidents. These devices can improve emergency response times by providing precise location information to dispatchers, enhance public confidence in park safety, and serve as an alternative communication method when cell phones are unavailable, have poor reception, or cannot be used during an emergency.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the American Rescue Plan Act Grant Fund, ARPA - Revenue Replacement Division, Professional Services Account No. 285-196.06-801.000- $28,229.00. Technical Services - Information Services Fund, Professional Services Account No. 658-228.00-801.000 $3,000.00

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 7.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: June Budget Adjustment

Prepared By: Yolanda Bland, Director of OMB

Manager's Recommendation:

Approve the amendments to the FY 2026 Approved Budget to recognize changes that have occurred during the June period.

Justification:

The 2025/2026 annual budget will be adjusted in accordance with Public Act 2 of 1968, Uniform Budgeting and Accounting Act, the City Charter; and the approved 2026 Budget Resolution, which states that the City Manager must provide budget adjustments to City Council quarterly and/or as needed. As a result of the City Manager's monthly analysis for June, the below-mentioned budget adjustments take into consideration any errors, omissions, or changes in the funding levels and expenditure approved by the City Council as prescribed by the City Charter.

In review of the General Fund, it is recommended that this fund be increased by $1,388,202 from $51,421,662 to $52,809,864 for the following reasons:

- A budget adjustment is required in the amount of $8,500 to cover the installment contract services cost with Dickinson Wright PLLC for the purchase of the 2026 fire apparatus. Expenditures will be realized in the General Fund, Community Public Safety – Fire, Fire Apparatus and Maintenance Division, Professional Services Account No. 101-347.01-801.000 $8,500. To offset the increase in expenditure, there will be an appropriation of fund equity.

- A budget adjustment is required to recognize an additional $19,411 received for Police Billable Overtime. Revenues will be realized in the General Fund Revenues, Police Billable Overtime – Patrol Account No. 101-000.00-607.016. To offset the increase in revenues, there will be the same increase to the Community Public Safety – Police, Police Patrol Division, Billable Overtime Account No. 101-302.00-704.001.

- In January 2025, City Council approved the Ojibway stage project. This budget adjustment is the carryforward of this project in the amount of $100,000. Expenditures will be recognized in the General Fund, Department of Public Services, Parks and Ground Maintenance Division, Construction Project Account No. 101-770.00-955.003.

To offset the increase in expenditure, a corresponding increase of $100,000 will be recognized in the appropriation of available fund equity.

• During the final review of the General Fund Revenues, the following revenue accounts will be decreased: Reimbursement/Medicare Account No. 101-000.00-503.003 $500,000, State Fire Protection Account No. 101-000.00-574.009 $161,024, Parking Violations Account No. 101-000.00-657.002 $150,000, Parking Violations – Delinquent Account No. 101-000.00-657.017 $68,000, and Public Act 425 Account No. 101-000.00-607.015 $50,000. To offset the General Fund Revenue reduction, there will be an increase to the ARPA Interest Account No. 101-000.00-665.012 $173,971, Radio Rental Account No. 101-000.00-667.008, Transfer from Other Funds Account No. 101-000.00-669.000 $21,192, Demolitions Account No. 101-000.00-675.005 $2,067, Material and Services – Cemeteries Account No. 101-000.00-629.005 $10,697, Civil Infractions Account No. 101-000.00-657.003 $34,200, Delinquent Income Taxes Account No. 101-000.00-438.001 $256,126, Building Permits Account No. 101-000.00-476.002 $40,477, Electrical Permits Account No. 101-000.00-476.003 $25,294, Non-Owner Occupied Past Due Fees Account No. 101-000.00-476.019 $35,347, Marihuana Application Fees Account No. 101-000.00-476.022 $12,000 and Use of Fund Equity Account No. 101-000.00-969.000 $316,053.

• A budget adjustment is required to recognize $150,000 for the rehabilitation of Hoyt Park Upper Drive mill and resurfacing project. This project will include the removal of pavement, concrete work, earthwork, subbase, aggregate base, miscellaneous curb and gutter, sidewalks, ADA sidewalk ramps, storm sewer, structure adjustments, and other restorations. Expenditures will be realized in the General Fund, Department of Public Services, Park and Grounds Maintenance Division, Construction Project Account No. 101-770.00-955.003. To offset the increase in expenditure, a corresponding increase of $150,000 will be recognized in the appropriation of fund equity.

• A budget adjustment is required to recognize the unanticipated and higher than budgeted cost of retiree health in the General Fund, totaling $1,110,291. Expenditures will be realized in the Community Public Safety – Police Patrol Division, Retiree Healthcare Account No. 101-302.00-715.007 of $428,295, in the Community Public Safety – Fire, Fire Operations Division, Retiree Healthcare Account No. 101-344.01-715.007 of $302,167, and Retiree Dental Account No. 101-344.01-715.008 of $15,149 and in the Other General Fund Expenditures, Retiree Health Division, Retiree Healthcare Account No. 101-236.00-715.007 of $364,680. An appropriation of available fund balance will offset this increase.

In review of the Local Streets Fund (203), it is recommended that the budget is adjusted to increase $814,354, from $3,874,117 to $4,688,471. This increase is to reflect the additional funds received for the Saginaw County Road Millage. Revenues are realized in this fund's Saginaw County Road Millage Account No. 203-000.00-452.000 of $814,354. To offset the increase revenues, there will be the same increase to this fund's Streets Projects – Saginaw County Road Millage Division, Construction Project Account No. 203-451.01-955.003.

In review of the Saginaw Arts and Enrichment Commission Fund (237) budget should be increased by $36,661, from $144,431 to $181,092. This adjustment recognizes unanticipated grant funds received in the current year. Expenditures associated with this adjustment will be recognized in this fund's Office Supplies Account No. 237-755.00-740.000 of $10,451 and Subgrantees Account No. 237-755.00-965.010 of $26,210. To offset the increase in expenditure, a corresponding increase of $36,661 will be recognized in this fund's Donations - Grants Account No. 237-000.00-560.003.

The Saginaw TAPS Grant Fund (253) budget should be increased by $21,156, from $15,817 to $36,973. This adjustment recognizes grant funds received in the previous fiscal year that are required to be expended in the current year, as the grant project has been completed. Expenditures associated with this adjustment will be recognized in this fund's Transfer Out – Other Funds Account No. 253-308.00-995.000 of $21,156.

In review of the Police Justice Grant Fund (257), there will be an increase of $36, from $0 to $36. This increase is to recognize the remaining funds of the Police Justice Tech Grant and to transfer them to the General Fund. Expenditures associated with this adjustment will be recognized in this fund's Transfers Out – Other Funds Account No. 257-307.19-995.000 of $36.

The Drug Forfeiture Fund (262) will increase $77, from $49,057 to $49,955. This increase is to recognize $77 of funds from the sale of sheet iron materials. Revenues will be recognized in this fund's Sale of Property Items Account No. 262-000.00-693.003 of $77. To offset the increased revenues, there will be the same increase to this fund's Parts and Supplies Account No. 262-312.01-742.000.

The CDBG Residential Loan Fund (276) should be increased by $110,000 from $650,790 to $760,790. This increase is to recognize the carryforward of prior year grant funds for the Basic Needs program. Revenues will be realized in this fund's Single Family Account No. 276-000.00-502.047 of $110,000. To offset the increase in revenues, a corresponding increase of $110,000 will be recognized in this fund's Single-Family Division, Loan Disbursement Account No. 276-694.06-965.003 of $110,000.

In review of the Saginaw Economic Development Corporation Fund (280), it is recommended that the budget is decreased $336,990, from $576,990 to $240,000.This reduction is to reflect the decrease in the block grant entitlement funds for FY 2026. This reduction will be realized in this fund's Block Grant Entitlement Account No. 280-000.00-502.009 of $336,990. To offset the reduction in revenues, there will be the same decrease in this fund's Loan Disbursement Account No. 280-729.03-995.012.

The Boat Launch Fund (594) should be increased from $25,000 to $61,653, which is a $36,653 increase. This increase is to assist with the rehabilitation of Rust Boat Launch on Lee Street. Expenditures will be realized in this fund's Construction Project Account No. 594-597.00-955.003. To offset the increase in expenditures, a corresponding increase of $36,653 will be recognized in the appropriation of retained earnings.

The Technical Services - Information Service Fund (658) should be increased from $2,219,845 to $2,419,845. This amendment reflects an increase of $200,000. The increase is necessary to recognize the PTO Payout for an employee who retired in April, as well as additional funding required to complete the fiber optic project approve by Council during FY 2025. Expenditures will be recognized in the following accounts: PTO Payout Account No. 658-228.00-711.003 in the amount of $69,748; and Operating Services Account No. 658-228.00-805.000 in the amount of $130,252. To offset the increase in expenditure, a corresponding increase of $200,000 will be recognized in the Use of Fund Equity Account No. 658-000.00-969.000.

The OPEB Trust Fund (737) should be increased from $695,034 to $873,034, which is a $178,000 increase. This adjustment is required to recognize the OPEB benefit payment. Revenues will be realized in this fund's Contributions Account No. 737-000.00-674.000 in the amount of $178,000. To offset the revenue increase, there will be the same expenditure increase to this fund's Service Fees Account No. 737-236.00-824.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 8.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Dickinson Wright, PLLC Agreement

Prepared By: Yolanda Bland, Director of OMB

Manager's Recommendation:

Approve the professional services agreement with Dickinson Wright, PLLC for $8,500 to act as bond counsel for the City in connection with the 2026 Installment Contract for the purchase of a Fire Truck.

Justification:

Community Public Safety – Fire will be purchasing a Fire Apparatus through Sutpen Corporation through an installment contract in the amount of $1,514,170.30 to replace a 2002 Ladder truck. In connection with the installment contract financing, bond counsel is required to prepare the necessary legal documentation and provide all required approving opinions related to the overall financing packages. This agreement establishes the associated fee structure and secures the professional services of bond counsel for the transaction.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds for this service are budgeted in the General Fund, Community Public Safety – Fire, Fire Apparatus Operations and Maintenance Division, Professional Services Account No. 101-347.01-801.000 of $8,500.

I have approved this agreement as to substance and the City Attorney as to form.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

1. Dickinson Wright

DICKINSON WRIGHT PLLC

2600 WEST BIG BEAVER ROAD, SUITE 300
TROY, MI 48084-3312
TELEPHONE: 248-433-7200
FACSIMILE: 844-670-6009
http://www.dickinsonwright.com

June 11, 2026

City Council
City of Saginaw, Michigan

Ladies and Gentlemen:

We appreciate the opportunity to serve as bond counsel in connection with the financing of certain vehicles and equipment for use by the City of Saginaw (the "City") pursuant to an installment purchase contract (the "Contract") with the sellers thereof and Huntington Public Capital Corporation in the aggregate principal amount of not to exceed $1,514,170.30. The installment purchase contract will be issued pursuant to Act 99, Public Acts of Michigan, 1933, as amended.

In connection with our services as bond counsel, we would propose to meet and/or confer with representatives of the City as necessary; to provide legal advice as to the best method for authorizing, issuing and delivering the Contract; to analyze the Contract for compliance with the applicable requirements of Michigan law and the Internal Revenue Code; to prepare such resolutions, notices, certificates and other documents as may be necessary for the authorization and issuance of the Contract; to attend such meetings as may be required; to prepare closing documents and transcripts in connection with the Contract; and to deliver our final approving opinion with respect to the Contract.

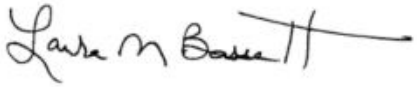
Our fee for performing such services shall be $8,500.00. Such fee does not include extraordinary services such as the handling of litigation that may arise with respect to the Contract, arbitrage rebate calculation services and other services that we may agree in advance are of an extraordinary nature. We propose that such work, if requested, be charged at hourly rates to be agreed upon by the City and the Firm.

During the term of this Agreement, the Firm shall, at its own expense, procure, pay the premium on, keep, and maintain a professional liability/malpractice insurance policy in amounts standard to the industry. The Firm shall, at its own expense, protect, defend, indemnify and save harmless the City, its elected and appointed officers, employees, servants, and agents, from any and all liability resulting from the willful misconduct or negligence of the Firm, or its employees or agents, arising in connection with the services to be performed under this Agreement.

If our employment on this basis is agreeable to you, please endorse your acceptance hereof on this letter which will constitute our contract of employment.

Very truly yours,

DICKINSON WRIGHT PLLC

By: 
Laura M. Bassett

Accepted: _____, 2026

CITY OF SAGINAW

By: _____
Timothy Morales, City Manager

4924-9176-3891 v1 [9052-120]

Council Communication

Item Number: 9.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Purchase of Fire Apparatus

Prepared By: Brandon Hausbeck, Fire Chief

Manager's Recommendation:

Approve the purchase with Sutphen Corporation for $1,514,171 for a SL75 Fire Apparatus for the Fire Department.

Justification:

Since 2013, due to staffing reductions and vehicle design limitations, the fire department has been unable to staff a ladder truck with dedicated personnel. Ladder trucks are important as they have a hydraulic ladder that can reach the upper floors of buildings to facilitate victim rescue. Currently, fire personnel cross-staff an Engine and Ladder Truck at Fire Station 1, meaning personnel must be in quarters when an incident requiring the ladder truck is dispatched. With the replacement of a 2002 ladder truck being necessary, this SL75 apparatus was chosen as it will be versatile and capable of serving as both an engine and ladder truck, meaning the City will have a staffed ladder truck 24/7. This purchase will be utilizing Source Well Contract #113021-SUT.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are available in the General Fund, Community Public Safety - Fire, Fire Apparatus Operations and Maintenance Division, Vehicles Account No. 101-347.01-982.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

1. Saginaw Michigan SL75 6-15-26

PURCHASE AGREEMENT

FOR SUTPHEN FIRE APPARATUS

THIS AGREEMENT made and entered into this 23rd day of June 20 26 by and between THE SUTPHEN CORPORATION, an Ohio Corporation, of Dublin, Ohio, hereinafter called "SUTPHEN" and City of Saginaw of Saginaw Michigan 48607, hereinafter called "PURCHASER", sets forth the terms whereby Purchaser agrees to purchase a fire apparatus from Sutphen pursuant to the terms contained herein.

1. **PURCHASE**: Purchaser hereby agrees to buy and Sutphen hereby agrees to sell and furnish to Purchaser the apparatus and equipment according to the Sutphen Proposal dated 5-28-2026 and made a part hereof, and the Proposal Price Page with the Sutphen Terms and Conditions also made part of this Agreement as attached hereto ("Proposal").

2. **PURCHASE PRICE**: Purchaser agrees to pay for said apparatus and equipment the total Purchase Price One Million Five Hundred Fourteen Thousand One Hundred Seventy Dollars and Thirty Cents ($ 1,514,170.30) based on 100% payment made within 30 days of contract signing.

   Evolving industry conditions and market volatility may materially impact the cost to manufacture fire apparatus. As such, Sutphen reserves the right to impose a price adjustment. The price adjustment will be determined using the Producer Price Index (PPI) – specifically, WPU141106843 the Commodity Data for Heavy Duty Truck Manufacturing: Buses, including military and firefighting vehicles with chassis of own manufacture. The calculation will be based on the PPI value the month of contract execution, compared to the PPI value 12 months prior to the originally slotted production completion date.

   If the PPI reflects an increase exceeding 5% over this period, the Purchaser will be subject to a price adjustment equal to the percentage increase in excess of 5%. Sutphen will provide written notice to the Purchaser as soon as it reasonably anticipates the need to apply such adjustment. Upon receipt of such notice, the Purchaser may request to terminate the Agreement; however, acceptance of such termination shall be at Sutphen's sole and absolute discretion. If the termination request is approved, a cancellation fee equal to 5% of the original contract purchase price will be applied.

3. **PAYMENT**: Final payment shall be made at the time of final inspection at the factory as per Sutphen Proposal Terms and Conditions. Should payment be delayed, Sutphen reserves the right to charge interest at the rate of one and one-half percent (1.5%) per month, beginning on the day after payment is due.

4. **FINAL COMPLETION**: The apparatus and equipment being purchased hereunder shall be completed within approximately 23-25 months after the receipt and acceptance of this agreement at Sutphen's office as per Sutphen Proposal, provided that such delivery date shall be automatically extended for delays beyond Sutphen's control, including, without limitation, strikes, labor disputes, riots, civil unrest, pandemics, war or other military actions, sabotage, government regulations or controls, fire or other casualty, or inability to obtain materials or services. If such delay occurs, Sutphen shall give notice of delay to Purchaser. Purchaser shall not be entitled to any discount or reduction in price for such delay and Sutphen shall not be liable for any damages (compensatory, incidental, consequential or otherwise) related to such delay.

5. **MANUFACTURER'S CERTIFICATE OF ORIGIN**: Delivery, payment, and transfer of the Manufacturer's Certificate of Origin (MCO) shall take place at Sutphen during final inspection, and upon payment in full in accordance with the terms of this Agreement. Sutphen reserves the right to withhold delivery of the MCO until payment in full is received. If Purchaser requires any third-party equipment mounting, the apparatus shall be moved to the third-party facility by the dealer or Purchaser for such mounting. Such third-party work shall not delay or offset payment to Sutphen.

6. **SUTPHEN WARRANTIES**: Sutphen warrants to Purchaser that all goods and services furnished hereunder will conform in all respects to the terms of this order, including any applicable change orders, drawings, specifications, or standards incorporated herein, and/or shall be free of defects in materials, workmanship, and free from such defects in design. In addition, Sutphen warrants that the goods and services are suitable for and will perform in accordance with the purposes for which they were intended, for a period of one year from the Warranty Registration Date, unless an extended warranty is purchased.

7. **SHORTAGES AND OMISSIONS**: The apparatus shall be tested per NFPA #1900 at Sutphen's manufacturing facility. Purchaser agrees that the apparatus and equipment being purchased hereunder shall not be driven or used in any manner until it is paid for in full. In the event there are any shortages or omissions with the apparatus at time of completion, Purchaser may withhold a sum equivalent to the price of any such shortages as determined by Sutphen.

8. **DEFAULT**: In the case of any default in payment hereunder or in the payment on any notes, negotiable paper, obligations or other instruments issued by Purchaser, Sutphen may take full possession of the apparatus and equipment or of the piece or pieces upon which default has been made, and any payments that have been made theretofore shall be applied as rent in full for the use of the apparatus and equipment up to the date of taking possession by Sutphen.

9. **PURCHASER GUARANTEES**: With the signing of this agreement, Purchaser attests that it has the full power and legal authority to enter into this agreement and guarantees that funds for its purchase are available or in the process of collection.

10. **ACCEPTANCE**: This agreement shall not be binding until it is signed and approved by an officer of the Sutphen Corporation.

11. **TAXES, ETC.:** The purchase price provided for herein does not include any federal, state or local sales tax, duties, imposts, revenues, excise or other taxes which may hereafter be imposed by governmental authority or otherwise and which are made applicable to the apparatus or equipment covered by the agreement. In the event that any such taxes are subsequently imposed and become applicable, the purchase price herein shall be increased by the amount of such taxes and such sum shall be immediately paid by Purchaser to Sutphen. To the extent applicable, the prices and deliveries set forth herein are subject to the Defense Production Act.

12. **INSURANCE**: Sutphen shall provide insurance insuring the apparatus and equipment against loss by fire, theft, or collision and insuring against property damage and personal injury through the completion of the apparatus and transfer of the Manufacturer's Certificate of Origin.

13. **TERMINATION**: After execution of this Agreement, Purchaser shall have no right to terminate this Agreement except in the event of a breach of this Agreement by Sutphen, that remains uncured for thirty (30) days after Purchaser provides Sutphen with written notice of such breach. In all other instances, Sutphen may, in its absolute and sole discretion, accept Purchaser's request to terminate the Agreement. In the event Sutphen accepts Purchaser's request to terminate the Agreement, Sutphen may charge a cancellation fee. The following charge schedule based on costs incurred may be applied, at Sutphen's sole discretion:(a) 10% after order is accepted by Sutphen; (b) 30% of the Purchase Price after production has commenced. The cancellation fee may increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing.

14. **GENERAL**: This agreement and the Sutphen Proposal provided herein take precedence over all previous negotiations, oral or written, and no representations or warranties are applicable except as specifically contained in this agreement or in the Sutphen Proposal. No alteration, modification, amendment or change of this Agreement shall be binding unless executed in writing by the parties. No waiver of any of the provisions of this Agreement shall be deemed a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver. If a Purchase Order is also issued, this Agreement and the Sutphen Proposal Terms and Conditions shall supersede the terms in the Purchase Order where terms may be inconsistent. This Agreement may be signed in counterparts by the parties, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same Agreement. A signed copy of this Agreement delivered by facsimile, e-mail, or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement. This Agreement may only be amended, modified or supplemented by an agreement in writing signed by each party hereto.

15. **GOVERNS**: This Agreement shall be governed and controlled as to interpretation, enforcement, validity, construction, effect and in all other respects by the laws, statutes and decisions of the State of Michigan. Exclusive jurisdiction and venue for any litigation at all related to this in the Saginaw County Courts, Saginaw,Michigan and the parties hereto consent and submit to the general jurisdiction of this court. All of the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by Sutphen, Purchaser, their successors and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be duly executed and attested by its duly authorized representatives, effective as of the date below when accepted at Sutphen Corporations offices.

SALES REPRESENTATIVE OF THE SUTPHEN CORPORATION

By _____
Sales Representative

Accepted at offices of:
The Sutphen Corporation
6450 Eiterman Rd.
Dublin, Ohio 43016

By _____

Title _____

Date _____

PURCHASER

City Of Saginaw Michigan 48607

By _____

Title _____

Date _____

By _____

Title _____

Date _____

Council Communication

Item Number: 10.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Lead Inspection Risk Assessment Services

Prepared By: Leticia Trevino, Block Grant Specialist

Manager's Recommendation:

Approve the annual purchase with Environmental Testing and Consulting for an amount not to exceed $10,000 for FY 2027 for lead inspection risk assessment services for the Community Services Division Rehabilitation Programs.

Justification:

On August 5, 2025, the Community Services Division received bids for two years of Lead Inspection Services. The sole bid received from Environmental Testing & Consulting has been reviewed and accepted. This service will be used throughout the housing rehabilitation programs as required. This communication is exercising year two and increasing the amount from $7,000 to $10,000. The first year was approved by Council August 25, 2025.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the CDBG Residential Loans Fund, Residential Loans Division, Services Fees Account No. 276-694.05-824.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 11.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Ratification of Emergency Purchase – AEC 5ton AC Roof Unit

Prepared By: Jay Gustin, Facilities Administrator

Manager's Recommendation:

Ratification of a purchase with G.W. Heating & Air Conditioning Co., Inc. for $11,424 for the replacement of a commercial rooftop air conditioning unit at the Andersen Enrichment Center for the Public Service Department, Facilities Division.

Justification:

On June 12, 2026, a quote was received from G.W. Heating & Air Conditioning Co., Inc. to replace a commercial roof top air conditioning unit at the Andersen Enrichment Center. On June 11, 2026, staff was notified that one of the three air conditioning units serving the AEC building had failed. Upon inspection and evaluation, it was determined that the unit's main compressor had failed and that replacement of the entire unit was necessary.

Due to the urgent need to restore cooling capacity to the building and prevent potential disruption to operations, GW Heating was contacted to assess the issue and provide a replacement estimate. They previously worked on the heating and cooling system at the Andersen Enrichment Center in 2021 and has historically responded in a shorter timeframe compared to other local vendors.

Given the emergency nature of the failure, the replacement was completed immediately. The work included removal of the existing rooftop unit, delivery and installation of the new unit, and use of a crane to safely remove and place the equipment. All necessary labor, equipment, and materials were provided to complete the installation and restore service.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the General Fund, Department of Public Services, Facilities Division, Repairs & Replacement Account No. 101-265.00-974.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 12.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: City-Wide Propane Fuel & Tanks

Prepared By: Jay Gustin, Facilities Administrator

Manager's Recommendation:

Approve the purchase with Hamilton’s Propane for an amount not to exceed $9,250 for the city-wide annual propane fuel delivery service.

Justification:

On May 12, 2026, the City received one bid for city-wide annual propane supply with tank replacement. This service requires the vendor to provide propane throughout the heating season each year. The estimated amount of propane required each season is 3,000 gallons at Green Point Nature Center, 1,000 gallons each at Oakwood and Forest Lawn Cemeteries, and 950 gallons at the Fire Training Facility. Hamilton’s Propane provided a bid cost of $1.549/gallon.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing,” of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the General Fund, Department of Public Services, Cemeteries Division, Operating Services Account No. 101-567.00-805.000 $3,100, Parks Grounds Maintenance Division, Operating Services Account No. 101-770.00-805.000 $4,650.00, General Fund, Community Public Safety – Fire, Fire Building Management Division, Operating Services Account No. 101-344.01-805.000 $1,500.00.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 13.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: City Wide Fire Extinguishers and Service

Prepared By: Jay Gustin, Facilities Administrator

Manager's Recommendation:

Approve the purchase with Summit Fire Protection for an amount not to exceed $8,609 for approximately 110 city-wide fire extinguishers and service for all departments.

Justification:

On July 22, 2024, Summit Fire was awarded the contract for city-wide fire extinguisher and service. The services specified in the original bid package were itemized and priced by each unit's recharge and replacement cost. On March 16, 2026, Summit Fire Protection agreed to extend their FY 2025 pricing for FY 2027. Summit Fire Protection will perform condition assessments of each fire extinguisher looking at overall condition and for structural damage, age of the assembly, recharging if necessary and certifying that the fire extinguisher meets the industry standard as required.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the General Fund, Department of Public Services, Facilities Division, Operating Services Account No. 101-265.00-805.000 $190, Cemeteries Division, Operating Services Account No. 101-567.00-805.000 $70, Celebration Park Division Operating Services Account No. 101-756.00-805.000 $63, Parks and Grounds Maintenance Division Operating Services Account No. 101-770.00-805.000 $66, General Fund, Community Public Safety – Police, Police Building Management Division, Operating Services Account No. 101-303.00-805.000 $137, General Fund, Community Public Safety – Fire, Fire Operations Division, Operating Services Account No. 101-344.01-805.000 $1,900, Public Works Building Fund, Operating Services Account No. 601-441.00-805.000 $325, the Local Streets Fund, Traffic Engineering Division, Operating Services Account No. 203-447.03-805.000 $113, Andersen Center Operation Fund, Andersen Enrichment Center Division Operating Services Account No. 236-754.00-805.000 $45, Sewer Operations and Maintenance Fund, Treatment and Pumping Division, Operating Services Account No. 590-542.02-805.000 $500, Remote Facilities Division, Operating Services Account No. 590-548.00-805.000 $500, Maintenance and Service Division, Operating Services Account No. 590-541.02-805.000 $1,100, Water Operations and Maintenance Fund, Treatment and Pumping

Division, Operating Services Account No. 591-542.01-805.000 $2,500, and Maintenance and Service Division, Operating Services Account No. 591-541.01-805.000 $1,100.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 14.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Billy Goat 35HP Leaf Blower – Cemeteries Division

Prepared By: Jay Gustin, Facilities Administrator

Manager's Recommendation:

Approve the purchase with Hoffman's Power Equipment, Inc. for $11,850 for a Billy Goat 35HP Leaf Blower for the Public Services Department, Cemeteries Division.

Justification:

On February 4, 2026, a quote was received for a Billy Goat 35HP Leaf Blower. This equipment will be used in daily public operations to maintain City cemeteries. The leaf blower will assist with seasonal leaf removal, debris management, and general grounds maintenance to help ensure our cemeteries remain safe, clean, and presentable.

Hoffman's Power Equipment has been a reliable and valued vendor for the City of Saginaw. They consistently assist with equipment purchases and provide dependable service and support. The Sourcewell contract price for this leaf blower is $11,880.00. Hoffman's has agreed to competitively beat the contract pricing, offering a total purchase price of $11,850.00.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204

Funds are budgeted in the General Fund, Department of Public Services, Cemeteries Operation Division, Maintenance Equipment Account No. 101-567.00-978.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 15.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: FY27 Motor Vehicle Fluids

Prepared By: Alex Niedecken, Motor Pool Administrator

Manager's Recommendation:

Approve the blanket purchase orders with specified vendors not to exceed $30,000 for a variety of fluids for the Public Service Department, Motor Pool Division for FY 2027.

Justification:

The City's Municipal Motor Pool operation requires a variety of fluids to maintain its fleet of more than 420 vehicles and pieces of equipment, including engine oil, hydraulic fluid, diesel exhaust fluid (DEF), gear lubricant, and other related products. Due to fluctuating market conditions, suppliers are often unable to guarantee pricing throughout the fiscal year without incorporating anticipated increases into their bids. Therefore, it is in the City's best interest to obtain competitive quotes from qualified vendors and award purchases to the lowest responsive and responsible bidder at the time the products are needed, ensuring both fiscal responsibility and operational efficiency. The following vendors serve as the City's primary fluid suppliers:

Super-Flite Oil Saginaw, MI (out-city)	Not to exceed $20,000.00 for FY 2027
Rowley's Wholesale Bay City, MI	Not to exceed $5,000.00 for FY 2027
Safety Kleen Systems Saginaw, MI (out-city)	Not to exceed $2,500.00 for FY 2027
GFL Environmental Services Comstock Park, MI	Not to exceed $2,500.00 for FY 2027

These vendors meet all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Motor Pool Operation Fund, Garage, Operations Division Motor Vehicle, Supplies Account No. 661-272.03-737.000, $30,000.00 and will be accounted for in the Motor Pool Operation Fund, Garage Operations Division, Inventory

Account No. 661-000.00-110.001.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 16.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: FY27 Snow Plow Blades & Guards

Prepared By: Alex Niedecken, Motor Pool Administrator

Manager's Recommendation:

Approve the purchases with Valk Manufacturing, Co., Truck and Trailer Specialties, and Winter Equipment, Co. for a total amount of $103,694 for various snowplow blades, and guards for the Public Services Department, Motor Pool Operations Division.

Justification:

On May 19th, 2026, bids were received for the annual supply of 180 various snowplow blades and guards. The City's Municipal Motor Pool Operation requires various plow operations wear items to maintain its fleet. It is in the best interest of the City to distribute the purchases among the three bidders listed with their low respective pricing. The following is a listing of the purchase orders (PO) requested:

Vendor	PO Amount
Winter Equipment, Co. Willoughby, OH	$98,134.44
Truck and Trailer Specialties Howell, MI	$3,351.80
Valk Manufacturing, Co. New Kingston, PA	$2,207.36

These vendors meet all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Motor Pool Operation Fund, Garage Operations Division, Motor Vehicle Supplies Account No. 661-272.03-737.000, $103,693.60 and will be accounted for in the Motor Pool Operation Fund, Garage Operations Division, Inventory Account No. 661-000.00-110.001.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 17.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Purchase for Tire Recycling Services

Prepared By: Brett Reid, Chief Foreman, Streets Division

Manager's Recommendation:

Approve the purchase with First Class Tire Shredders for $6,800 for tire recycling services for the Public Services Department, Streets Division for FY 2027.

Justification:

To provide the best price possible, Streets personnel solicited quotes from a variety of proven vendors with First Class Tire Shredders being the only vendor to respond. On May 27, 2026, First Class Tire Shredders provided a quote for a 40-foot trailer used for the collection and disposal of discarded tires. First Class Tire Shredders quoted a cost of $1,700.00 for each time the trailer requires emptying. It is estimated that the trailer will need to be emptied four times in FY 2027. The recycled tires include tires collected at the City's Convenience Station and tires discarded by the City's Municipal Garage, located at 1435 S. Washington Avenue.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Rubbish Collection Fund, Sanitary Landfill Division, Operating Services Account No. 226-528.00-805.000 $5,440.00 and the Motor Pool Operation Fund, Garage Operations Division, Operating Services Account No. 661-272.03-805.000 $1,360.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 18.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: FY27 Annual Supply of Sweeper Brooms

Prepared By: Alex Niedecken, Motor Pool Administrator

Manager's Recommendation:

Approve the blanket purchase orders with United Rotary Brush Corp and MTECH Company for an amount not to exceed $43,000 for FY 2027; and pending budget approval, for an amount not to exceed $44,000 in FY 2028, for various sweeper brooms for inventory for the Public Service Department, Motor Pool Division.

Justification:

On May 19, 2026, bids were received for replacement gutter and main brooms that will be used on the City's sweeper fleet to maintain City streets. Brooms will be purchased from the vendor with the lowest bid. These brooms are being purchased for inventory as replacements when needed. It is in the best interest of the City to distribute the bids between the two bidders listed, utilizing each vendor's lowest respective pricing through as-needed inventory purchases. Total value may fluctuate due to unpredictable freight costs for deliveries; therefore, a not-to-exceed amount is required.The following is a listing of the purchase orders requested:

Vendor	Blanket PO Amount FY 2027	Blanket PO Amount FY 2028
United Rotary Brush Corp. Lenexa, KS	Not to exceed $35,000	Not to Exceed $36,000
MTECH Company Cleveland OH	Not to exceed $8,000	Not to exceed $8,000

These vendors meet all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Motor Pool Operation Fund, Garage Operations Division, Motor Vehicle Supplies Account No. 661-272.03-737.000, and will be accounted for in the Motor Pool Operation Fund, Garage Parts Inventory Account No. 661-0000-110.001 $43,000 for FY 2027. Funds will be budgeted in the same accounts in the amount of $44,000 pending approval of FY 2028 budget.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 19.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Blanket Purchase Order for Preventative Maintenance Services

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the blanket purchase orders with specified vendors for a total of $10,000 for preventative maintenance services for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

The Maintenance and Service Division is responsible for the operation and upkeep of twenty-one overhead doors and openers, and five horizontal boring tools, which are critical to our daily functionality. These items require routine preventative maintenance, as well as occasional unscheduled repairs due to equipment failure over the course of the fiscal year. To ensure efficient maintenance of this equipment, we are requesting the establishment of blanket purchase orders. This will allow the Maintenance and Service Division to promptly schedule both routine services and unforeseen repairs without creating individual purchase orders for each service request, while maintaining safety and security by minimizing equipment downtime within the division.

Vendor	Amount
T.T. Technology, Inc.	$6,000.00
Dover and Company	$4,000.00

These vendors meet all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operations and Maintenance Fund, Lead & Copper Service Line Maintenance Division, General Repairs Account No. 591-543.00-930.000 $4,000.00, Professional Services Account No. 591-543.00-801.000 $2,000.00, Sewer Operation and Maintenance Fund, Maintenance and Service Division, General Repairs Account No. 590-541.02-930.000 $2,000.00 and the Water Operation and Maintenance Fund, Maintenance and Service Division, General Repairs Account No. 591-541.01-930.000 $2,000.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 20.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Blanket Purchase Order for Restoration Supplies

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the blanket purchase orders with specified vendors for a total of $24,000 for restoration supplies for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

The Maintenance and Service Division utilizes approximately 1.5 tons of grass seed annually for turf restoration associated with water and sewer system maintenance. In addition, the Division purchases concrete finishing tools and other restoration materials, including but not limited to steel and poly flex forms, pins and stakes required for repairs and restoration within the City's right-of-way.

Establishing blanket orders allows the Maintenance and Service Division to purchase items efficiently by allowing staff to obtain necessary materials without creating a purchase order for each transaction. Begick Nursery and Garden Center, Inc. are the sole source provider of "B" mix grass seed specified by the Maintenance and Service Division. Hymmco is an approved local supplier of concrete restoration supplies and is able to provide most products on the same day reducing the need for excess inventory items.

Vendor	Amount
Begick Nursery and Garden Center, Inc.	$ 12,000.00
Hymmco, LLC	$ 12,000.00

These vendors meet all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operation and Maintenance Fund, Lead & Copper Service Line Maintenance Division, Parts and Supplies Account No. 591-543.00-742.000 $12,000.00, Sewer Operation and Maintenance Fund, Maintenance and Service Division, Parts and Supplies Account No. 590-541.02-742.000 $6,000.00 and the Water Operation and Maintenance Fund, Maintenance & Service Division, Parts and

Supplies Account No. 591-541.01-742.000 $6,000.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 21.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Annual Supply of 6AA Stone

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the purchase with Champagne & Marx Excavating Inc. for $38,120 for 6AA stone for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

On June 2, 2026, the City received bids for 1,000 tons of 6AA stone. The Maintenance and Service Division uses different types of aggregate materials daily in the maintenance and repair of the City's water distribution and sewer collection systems. The following is a tabulation of the bids received:

Vendor	Cost
Champagne & Marx Excavating, Inc. Saginaw, MI (out of City)	$38.12/ton
Stoneco of Michigan Canton, MI	$38.75/ton
D.H.T. Transport Reese, MI	$39.97/ton

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operations and Maintenance Fund, Lead & Copper Service Line Maintenance Division, Street and Road Materials Account No. 591-543.00-743.000, $19,060.00, Sewer Operations and Maintenance Fund, Maintenance and Service Division, Street and Road Materials Account No. 590-541.02-743.000, $9,530.00 and Water Operations and Maintenance Fund, Maintenance and Service Division, Street and Road Materials Account No. 591-541.01-743.000, $9,530.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 22.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Annual Supply of Class II Yellow Backfill Sand

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the purchase with D.H.T. Transport LLC. for $375,000 for Class II yellow backfill sand for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

On June 2, 2026, the Maintenance and Service Division received a sole bid for 25,000 tons of Class II yellow backfill sand. The Maintenance and Service Division uses Class II yellow sand as backfill for excavations made in the City's Right of Way from repairs to the City's water distribution and sewer collection systems.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operation and Maintenance Fund, Lead & Copper Service Line Maintenance Division, Parts and Supplies Account No. 591-543.00-742.000 $187,500.00, Sewer Operation and Maintenance Fund, Maintenance and Service Division, Parts and Supplies Account No. 590-541.02-742.000 $93,750.00 and Water Operations and Maintenance Fund, Maintenance and Service Division, Parts and Supplies Account No. 591-541.01-742.000 $93,750.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 23.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Annual Supply of Mason Sand

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the purchase with Champagne & Marx Excavating, Inc. for $9,570 for mason sand for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

On June 2, 2026, the City received two bids for 600 tons of mason sand. The Maintenance and Service Division uses different types of aggregate materials daily in the maintenance and repair of the City's water distribution and sewer collection systems. The following is a tabulation of the bids received:

Vendor	Cost
Champagne & Marx Excavating, Inc. Saginaw, MI (Out of City)	$15.95/ton
D.H.T. Transport LLC Reese, MI	$21.90/ton

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Sewer Operations and Maintenance Fund, Maintenance and Service Division, Parts and Supplies Account No. 590-541.02-742.000, $4,785.00 and Water Operations and Maintenance Fund, Maintenance and Service Division, Parts and Supplies Account No. 591-541.01-742.000, $4,785.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 24.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Annual Supply of 22A Stonecrete

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the purchase with Champagne & Marx Excavating Inc. for $134,000 for 22A stonecrete for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

On June 2, 2026, two bids were received for 4,000 tons of 22A stonecrete. The Maintenance and Service Division uses different types of aggregate materials daily in the maintenance and repair of the City's water distribution and sewer collection systems. The following is a tabulation of the bids received:

Vendor	Cost
Champagne & Marx Excavating, Inc. Saginaw, MI (out of City)	$33.50/ton
D.H.T. Transport Reese, MI	$34.72/ton

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operations and Maintenance Fund, Lead & Copper Service Line Maintenance Division, Street and Road Materials Account No. 591-543.00-743.000, $67,000.00, Sewer Operations and Maintenance Fund, Maintenance and Service Division, Street and Road Materials Account No. 590-541.02-743.000, $33,500.00 and Water Operations and Maintenance Fund, Maintenance and Service Division, Street and Road Materials Account No. 591-541.01-743.000, $33,500.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 25.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Blanket Purchases for Sewer jet/Hydro Excavation Supplies

Prepared By: Wayne Tornberg, Assistant Superintendent of Maintenance & Service

Manager's Recommendation:

Approve the blanket purchase to specified vendors for a total amount of $15,000 for sewer jet/hydro excavation supplies for the Public Services Department, Maintenance and Service Division for FY 2027.

Justification:

The Maintenance and Service Division has three sewer jet/hydro excavation units in its fleet that require miscellaneous parts and supplies throughout the fiscal year. Establishing a blanket purchase order allows the Maintenance and Service Division to purchase wear items and other supplies required to complete maintenance work on the water distribution and sewer collection systems without having to establish a purchase order for each transaction. MacQueen Equipment is a sole-source Vactor vendor in the State of Michigan. While Jack Doheny Company provides a less expensive option to purchase aftermarket parts and supplies for this equipment.

Vendor	Amount
Jack Doheny Supplies, Inc.	$ 10,000.00
MacQueen Equipment	$ 5,000.00

These vendors meet all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Sewer Operation and Maintenance Fund, Maintenance and Service Division, Motor Vehicle Supplies Account No. 590-541.02-737.000 $7,500.00 and Water Operations and Maintenance Fund, Maintenance and Service Division, Motor Vehicle Supplies Account No. 591-541.01-737.000 $7,500.00 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 26.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Purchase of Whatley Street Light Base Covers

Prepared By: Joseph (Joe) Nugent, Traffic and Electrical Administrator

Manager's Recommendation:

Approve the purchase with Standard Electric Company, a sole source, for $25,518 for Whatley Street light base covers for the Public Services Department, Traffic Engineering Division.

Justification:

On June 11, 2026, a quote was received from Standard Electric Company for 12 Whatley base covers to replace damaged light fixtures found throughout the City. This will maintain a consistent decorative streetscape. Standard Electric is a sole source provider for this equipment.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the General Fund, Department of Public Services, Street Lighting Division, Parts and Supplies Account No. 101-448.00-742.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 27.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: N. Mason Watermain & Dead-end Looping – Construction Administration

Prepared By: Ronald (Ron) Rangel-Reyes, Assisstant City Engineer

Manager's Recommendation:

Approve the proposal from Fishbeck, for $246,500 for construction engineering and administration for the N. Mason Watermain & Dead-end Looping project for the Public Services Department, Engineering Division.

Justification:

On June 17, 2024, City Council approved professional engineering services agreements with 11 firms, including Fishbeck. The proposal will be treated as an exhibit to Fishbeck's engineering agreement, but the cost will be separate from the approved total amount of $1,250,000.

In October 2025, the City was awarded a $6,845,000 loan for watermain replacement on Perkins Street from Genesee to 17th, North Mason Street from Houghton to State (M-58), and installation of new watermain along the railroad tracks from A Street to Maple Street for dead-end watermain elimination. Of the $6,845,000 loan, $1,574,350 was awarded as a Principal Forgiveness Grant. On November 17, 2025, City Council approved the proposal with Fishbeck, Inc. to complete full design of this project. The project was then approved by EGLE and bid out in Spring 2026 and was officially awarded to L D' Agostini & Sons Inc. on May 18, 2026, by City Council.

On June 9, 2026, the City received the proposal for construction administration services for the N. Mason Watermain & Dead-end Looping project. The services of Fishbeck are to include construction engineering, construction inspection, construction survey staking, and contract closeout assistance. The connection of the dead-end looping will allow us to improve the quality of the water that we serve to the citizens. The service offered has a major impact on the management of the workload this construction season, where we have a significant number of projects of considerable size. Fishbeck has extensive experience designing, inspecting, and overseeing these types of projects. Fishbeck's cost proposal has been thoroughly reviewed and is in line with what would be expected for these types of services.

Funds are budgeted in the FY 2027 Major Street Fund, Streets Projects Division, Professional Services Account No. 202-451.00-801.000 $13,000 and the Water

Operations and Maintenance Fund, Surplus Division, Professional Services Account No. 591-546.01-801.000 $233,500.

I have approved the proposal as to substance and the City Attorney as to form.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

1. Proposal_Exhibit A- N. Mason and Looping CA and Inspection

City of Saginaw – Exhibit A

TO AGREEMENT BETWEEN OWNER AND
ENGINEER FOR PROFESSIONAL SERVICES

ATTACHMENT NO. 2026-06

PROJECT TITLE: 2026 DWSRF – Watermain Replacement Construction Administration and Inspection

Company Tracking Number:

Description of work:

1. This is an exhibit attached to, make a part of, and incorporated by reference into the Agreement made June 17, 2024, between the City of Saginaw, Saginaw County, Michigan (Owner) and Fishbeck (Engineer) providing for professional engineering services. The Basic Services of Professional as described in Article 1 of the Agreement are amended or supplemented as indicated below and the time periods for the performance of certain services as indicated in Article 3 of the Agreement are stipulated as indicated in the attached Proposal for Professional Services.
2. During the Study and Report Phase ENGINEER shall:
   - Not applicable
3. During the Preliminary Design Phase ENGINEER shall:
   - Not applicable
4. During the Final Design Phase ENGINEER shall:
   - Not applicable
5. During the Construction Phase ENGINEER shall:
   - Attend and participate in the preconstruction meeting, including preparation and distribution of meeting minutes.
   - Provide full-time construction inspection (anticipated at 55 hours/week), including QA/QC inspection to confirm compliance with approved plans and specifications.
     - North Mason anticipated at 15 weeks of full-time inspection.
     - Looping anticipated at 8 weeks of full-time inspection.
   - Provide ongoing coordination and communication with the City, contractor, utilities, regulatory agencies, and stakeholders.
   - Maintain comprehensive project documentation and records in accordance with City and EGLE requirements, including use of Appia or equivalent software.
   - Prepare Daily Work Reports (DWRs) documenting work progress, manpower, equipment, and site conditions.
   - Measure, compute, and document installed quantities; coordinate with the contractor to verify quantities and prepare biweekly pay estimates.
   - Monitor project progress, track quantities, and notify the City of potential overruns, issues, or required contract modifications; assist with change orders.

- Review and respond to shop drawings, submittals, and Requests for Information (RFIs) in a timely manner.
- Observe and document pressure testing, chlorination, and bacteriological sampling; transport samples to designated testing facility.
- Provide construction staking as needed for duration of the project.
- Coordinate and schedule testing services with Smac (all laboratory testing performed by Smac under separate contract directly with the City).
- Provide EGLE SESC-certified inspection and stormwater compliance support, including required reporting.
- Conduct regular progress meetings, provide construction updates, and prepare/distribute meeting minutes.
- Provide construction accounting support, including cost tracking and allocation in accordance with City and EGLE funding requirements.
- Maintain field markups and record drawings reflecting as-constructed conditions.
- Coordinate final inspections and punch list completion.
- Assist with final negotiations, project closeout documentation, and compilation of all project records for acceptance.
- Compile and submit BABA documentation to City and/or EGLE at end of project.

6. During the Operation Phase ENGINEER shall:
   - Not applicable.
7. Additional Services as detailed in the Professional Service Fees Section of the Proposal for Professional Services shall be furnished upon receipt of written approval of the Owner.

Payment for this work shall be based on the Standard Hourly Rates Methods of Payment as detailed in Exhibit B of the Agreement.

Fee Breakdown

North Mason Water Main Inspection (DWSRF Eligible)	$ 146,500
North Mason Road Inspection (DWSRF Ineligible)	$ 13,000
Looping Water Main Inspection (DWSRF Eligible)	$ 87,000
Total Fee	$ 246,500

Dated: June 5, 2026

Authorized by: CITY OF SAGINAW

Proposed by: FISHBECK

John Johnson
Vice President/Department Director

Council Communication

Item Number: 28.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Lee Street, Boat Launch & Hoyt Park Upper Drive Rehab (C-1727)

Prepared By: Ronald (Ron) Rangel-Reyes, Assisstant City Engineer

Manager's Recommendation:

Approve the contract with C&M Asset Holdings LLC DBA Champagne & Marx Excavating for $1,553,583.25 for the Lee Street Rehab - S Niagara to Rust-Boat Launch & Hoyt Park Upper Drive Mill & Resurface (C-1727) Project for the Public Services Department, Engineering Division.

Justification:

On June 2, 2026, the City received two qualified bids for the Lee Street Rehab - S Niagara to Rust-Boat Launch & Hoyt Park Upper Drive Mill & Resurface (C-1727) project. This contract includes the Rehabilitation of Lee Street from S. Niagara to the Rust Boat Launch, the Rehabilitation of the Rust Boat Launch, and Resurfacing of Hoyt Park Upper Drive with pavement removal, concrete work, earthwork, subbase, aggregate base, miscellaneous curb and gutter, sidewalks, ADA sidewalk ramps, storm sewer, structure adjustments, water main, and restoration.

Vendor	Cost
Champagne & Marx Excavating, Inc. Saginaw, MI (Out-City)	$1,553,583.25
Rohde Bros. Excavating, Inc. Saginaw, MI (Out-City)	$1,583,310.00

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the General Fund, Department of Public Services, Park and Grounds Maintenance Division, Construction Project Account No. 101-770.00-955.003 $150,000.00, American Rescue Plan Act Grant Fund, Revenue Replacement Division, Professional Services Account No. 285-198.06-801.000 $816,375.45, and funds are budgeted in the FY 2027, Local Streets Fund, Streets Projects Division, Construction Projects Account No. 203-451.00-955.003 $282,867.11, the Sewer Operations and Maintenance Fund, Surplus Division, Construction Projects Account No. 590-546.02-955.003 $28,320.00, the Water Operations and Maintenance Fund, Surplus Division,

Construction Projects Account No. 591-546.01-955.003 $239,368.00 and the Boat Launch Fund, Construction Project Account No. 594-597.00-955.003 $36,652.69.

I have approved the contract as to substance and the City Attorney as to form.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

1. C-1727 Lee Street Rehab - S Niagara to Rust - Boat Launch and Hoyt Park Upper Drive Mill and Resurface

CITY OF SAGINAW
1315 S WASHINGTON AVE
SAGINAW MICHIGAN 48601

C-1727

Lee Street Rehab - S Niagara to Rust_Boat Launch & Hoyt Park Upper Drive Mill & Resurface

BID OPENING TUESDAY, JUNE 2, 2026 @ 3:00 PM

Council Meeting June 22, 2026
Champagne & Marx Excavating
$1,553,583.25

TABLE OF CONTENTS

C-1727

Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface

CONTRACT ..... 3 pages
EXHIBIT A – Copy of bid ..... 6 pages
PERFORMANCE BOND ..... 4 pages
PAYMENT BOND ..... 4 pages
POWER OF ATTORNEY ..... 1 pages
INSURANCES ..... 9 pages
OCP'S ..... 3 pages
AS BID

SEALED BID INSTRUCTIONS 1
GENERAL INFORMATION 2
GENERAL INSTRUCTIONS TO BIDDERS 4
DIVISION 1: GENERAL CONDITIONS – CITY OF SAGINAW 11
NOTICE TO BIDDERS – CONSULTANTS/ INSURANCE/BONDS 32
NOTICE TO BIDDERS – IRAN SANCTIONS 36
NOTICE TO BIDDERS – PREFERENCE TO LOCAL BIDDERS 37
DAVIS BACON PREVAILING WAGE INFO 38
NOTICE INVITING SEALED BIDS 67
BID FORM 68
COPY OF CONTRACT 74
SCOPE OF WORK 77
PROGRESS CLAUSE 78
TECHNICAL SPECIFICATIONS 80
PRE-QUALIFICATION 81
SUBCONTRACTOR LIST 83
UTILITY COORDINATION 84
LIQUIDATED DAMAGES 85

SPECIAL PROVISIONS: 86-132
104 - MAINTAINING OF TRAFFIC 86
204 - PAVEMENT REMOVALS 88
204 - VERTICAL EXPLORATORY INVESTIGATION 90
205 - SUBGRADE UNDERCUTTING 92
205 - SIDEWALK GRADING, MODIFIED 93
302 - AGGREGATE BASE 94
403 - STRUCTURES ADJUSTMENTS 95
403 - SHUTOFF AND MONUMENT BOX ADJUST 97
501 - HMA APPLICATION RATE 98
501 - MDOT SPEC COLD MILLING CONCRETE PAVEMENT 99
802 - CONCRETE PAY ITEMS 100
802 - PAVEMENT & CURB DETAIL 101
803 - CONCRETE SIDEWALK 105

816 - TURF ESTABLISHMENT 107
823 - ALTERATIONS TO THE MUNICIPAL WATER SYSTEM..... 113

CONSULTANT SPECIFICATIONS:

SECTION 01 10 00 - SUMMARY 133
SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES..... 136
SECTION 01 22 20 - MEASUREMENT AND PAYMENT..... 140
SECTION 01 25 00 - SUBSTITUTION PROCEDURES 151
SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS..... 153
SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE..... 158
SECTION 01 33 00 - SUBMITTAL PROCEDURES 160
SECTION 01 40 00 - QUALITY REQUIREMENTS..... 167
SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS 171
SECTION 01 60 00 - PRODUCT REQUIREMENTS..... 178
SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS..... 180
SECTION 03 20 00 - CONCRETE REINFORCING 189
SECTION 03 30 00 - CAST-IN-PLACE CONCRETE 194
SECTION 03 60 00 - GROUTING 204
SECTION 31 05 13 - SOILS FOR EARTHWORK 209
SECTION 31 05 16 - AGGREGATES FOR EARTHWORK 212
SECTION 31 22 13 - ROUGH GRADING 215
SECTION 31 23 16 - EXCAVATION..... 220
SECTION 31 23 16.26 - ROCK REMOVAL..... 223
SECTION 31 23 17 - TRENCHING..... 225
SECTION 31 23 19 - DEWATERING..... 233
SECTION 31 23 23.33 - FLOWABLE FILL 238
SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROLS..... 244
SECTION 32 01 16.70 - COLD MILLING 252
SECTION 32 11 23 - AGGREGATE BASE COURSES..... 254
SECTION 32 12 16 - ASPHALT PAVING..... 258
SECTION 32 13 13 - CONCRETE PAVING..... 264
SECTION 32 15 41 - PULVERIZING 273
SECTION 32 91 13 - SOIL PREPARATION..... 275
SECTION 32 91 19 - LANDSCAPE GRADING 278
SECTION 32 92 19 - SEEDING..... 281
SECTION 33 05 13 - MANHOLES AND STRUCTURES..... 286
SECTION 33 05 13.16 - PUBLIC MANHOLES AND STRUCTURES 291
SECTION 33 05 23.13 - UTILITY HORIZONTAL DIRECTIONAL DRILLING..... 300
SECTION 33 12 16 - WATER UTILITY DISTRIBUTION VALVES..... 310
SECTION 33 12 19 - WATER UTILITY DISTRIBUTION FIRE HYDRANTS..... 315
SECTION 33 13 00 - DISINFECTING OF WATER UTILITY DISTRIBUTION..... 321
SECTION 33 14 13 - PUBLIC WATER UTILITY DISTRIBUTION PIPING 324
SECTION 33 41 13 - PUBLIC STORM UTILITY DRAINAGE PIPING 338

PROJECT DRAWINGS:

DRAWINGS (COVER SHEET) 345
DRAWINGS (NOTE SHEET) 346
DRAWINGS (REMOVAL AND CONSTRUCTION SHEET) 347
DRAWINGS (DEMOLITION SHEET) 348
DRAWINGS (SITE SHEET) 349
DRAWINGS (GRADING SHEET) 350
DRAWINGS (UTILITY SHEET) 351
DRAWINGS (TYPICAL CROSS SECTIONS) 352

DRAWINGS (WATERMAIN PLAN AND PROFILE) 353
DRAWINGS (REMOVAL AND CONSTRUCTION SHEET) 354
DRAWINGS (PROFILE SHEET) 355
DRAWINGS (DETAILS SHEET) 356

CONTRACT

CITY OF SAGINAW, MICHIGAN

This Contract is entered into on this 22 day of June, 2026, between C&M Asset Holdings LLC DBA Champagne & Marx Excavating of 1445 Liberty Rd, Saginaw, MI 48604 (hereinafter "Contractor"), and the City of Saginaw, 1315 S. Washington Avenue, Saginaw, Michigan 48601 (hereinafter "City"), for **Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727).**

WHEREAS, Contractor, at a regular meeting of the Council of the City of Saginaw, held on June 22 2026, was awarded the contract for furnishing the necessary labor, equipment, materials, and construction for the completion of **Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727).**

Contractor, in consideration of the Agreement herein made by the City, agrees with the City as follows:

Article 1. SUBJECT MATTER. Contractor shall furnish all the materials, except those specified to be furnished by the City, and perform all the work for **Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727),** as listed on the Table of Contents, and as shown on the drawings prepared by the Department of Public Services, Engineering Division, and described in the specifications, and in accordance with the general conditions, the general instructions to bidders, the notice inviting sealed proposals and the proposal, all of which are hereby made a part of this Contract by reference as though fully set forth herein. The Contractor acknowledges Contractor has received a copy of all such documents.

Article 2. COMMENCEMENT OF WORK. The Contractor shall start work as specified in the Progress Clause, or as directed by the City Engineer and the work shall be carried on with due diligence, at such points and at such times and seasons, and with such force and in such manner as to secure the completion in accordance with the Progress Clause, the time of beginning, rate of progress and the time of completion being essential conditions of this Contract.

Article 3. PAYMENT. It is hereby mutually agreed that the City shall pay, and the Contractor receive, the sum of **$1,553,583.25,** same being the amount named in the Contractor's proposal or bid as full compensation for labor and materials required in executing all the work contemplated in this Contract, subject to additions and deductions, as provided in the specifications.

Article 4. ESTIMATES. The City hereby agrees to make payment under the restrictions and limitations herein contained, from time to time, on account of performance of this contract, by orders drawn upon the proper fund of the City, paying NINETY PERCENT (90%) thereof on the basis of estimates made by the Department of Public Services & Engineering semi-monthly as the work progresses, and approved by the City Engineer. Said estimates shall be made in writing and shall only include work done and material in place and shall not include completed work which,

in the opinion of the City Engineer, is not advisable, for the protection of the City, at that time to make payment on, and such estimates may be altogether withheld when, in the opinion of the City Engineer, work does not progress in accordance with the provisions of this Contract; and the making and furnishing of such estimates shall not be deemed or construed as an acceptance of any part of the work under this Contract. The City Engineer may authorize the reduction of the amount so withheld so that total payment equals NINETY-FIVE PERCENT (95%) of the estimate where the City Engineer shall find that the retention of FIVE PERCENT (5%) of the estimate is sufficient to protect the City, but the total amount so retained shall not in any event be reduced to less than FIVE PERCENT (5%) of the contract price above stated.

Article 5. RETENTION OF MONEYS. In addition to the TEN PERCENT (10%) of contract price above retained, to insure the completion of the work, the City reserves the right to retain at all times from the estimates, an amount sufficient to pay and discharge all debts incurred by Contractor, or subcontractor, for labor performed in the progress of the work, and for material purchased and used, and, at its discretion, to pay the same to the parties entitled thereto, and charge the same against the contract price.

Article 6. SEPARATE CONTRACTS. Where two or more separate proposals are grouped together herein, it is expressly agreed that each of said proposals shall constitute a separate contract and that all of the terms, conditions, and provisions of this Contract shall apply to each of said proposals to the same extent and in the same manner as though each of said proposals had been the subject of a separate contract.

Article 7. PUBLIC ACT 524 of 1980. Notwithstanding any provision herein to the contrary, this agreement is subject to 1980 PA 524, which statute is incorporated herein and made a part hereof by reference. Contractor hereby agrees that the City may, at its option, submit the following matters to dispute resolution by an agent agreed to or selected in accordance with the procedures set forth in the statute:

A. At any time during the term of the contract, to determine whether there has been a delay for reasons that were within the control of the Contractor, and the period of time that delay has been caused, continued, or aggravated by actions of the Contractor.
B. At any time after ninety-four percent (94%) of work under the Contract is in place, whether there has been an unacceptable delay by the Contractor in performance of the remaining six percent (6%) of work under the Contract. The agent shall consider the terms in the Contract and procedures normally followed in the industry and shall determine whether the delay was for failure to follow reasonable improvement practices in the industry for completion of the project.

The agent shall have all the rights, powers and duties specified in the statute.

Article 8. ACCEPTANCE AND FINAL PAYMENT. The final payment, including any retainage previously withheld, shall be payable on the approval and acceptance of the work by the City Engineer.

The payment of the final amount due under this Contract, and the adjustment and payment of all bills rendered for the work done in accordance with any alterations of same, shall release the City from any and all claims or liability on account of work performed or materials furnished under the Contract, or any alterations thereof.

The City of Saginaw has an income tax. All successful bidders will be subject to income tax withholdings and compliance is mandatory.

As part of the consideration for this Contract, the undersigned does hereby agree to have withheld from any payments due them, any amounts for taxes, fees or other charges due the City of Saginaw.

By their signatures below, the parties certify the persons signing on behalf of their respective party has the authority to do so. The parties hereto have executed this Contract the day and year first above written.

C&M Asset Holdings LLC DBA
Champagne & Marx Excavating

By: Susan Markusic

Name: Susan Markusic

Title: Controller

CITY OF SAGINAW

By: _____

Timothy Morales
City Manager

CHAMPAGNE
MARK

CITY OF SAGINAW, MICHIGAN
BID FORM

C-1727 Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface

To the City of Saginaw Date: June 2, 2026

In response to your notice, the undersigned, hereinafter called the Contractor, hereby declares that the Contractor has read the "General Instruction to Bidders", "Sealed Bid Instructions" and "General Information", has examined the plans, specifications and the location of the work described herein, has reviewed the proposed Contract and its general conditions, and, is thus fully informed to the nature of the work and the conditions relating to its performance and further understands that the quantities shown hereon are approximate only and are subject to either increase or decrease.

The Contractor hereby proposes to furnish all the necessary equipment and tools, do all the work, furnish all the materials, except as otherwise specified and to complete the work herein described all in accordance with the Contract and its plans and specifications, of which this proposal is a part, for the unit prices named in the following itemized bid.

Prior to and contingent upon award of a contract of $50,000.00 or more, the undersigned further agrees to furnish a surety company performance bond in the sum of not less than 100 percent (100%) of the total amount of the contract company to secure the faithful performance of the Contract and, when required, a surety company labor and material bond in the sum of not less than 100 percent (100%) of the total amount of the Contract for the protection of subcontractors, labor and material suppliers, according to the laws of the State of Michigan at that time in effect. Said signed Contract, surety company bonds, and insurance shall be furnished within ten (10) days from date of notification by the Engineering Division of acceptance of the proposal submitted. The Contract cannot be fully awarded by City Council without the return of these executed documents.

In compliance with the requirements of said notice, this proposal is accompanied by an **original** bid bond, bank money order, certified check, or cashier's check in the sum of five percent (5%) of total bid to guarantee that a contract will be entered into if the above proposal is accepted, and the contract awarded to the undersigned.

52.222-21 Prohibition of Segregated Facilities.

As prescribed in 22.810(a)(1), insert the following clause:

Prohibition of *Segregated Facilities* (Apr 2015)

(a) *Definitions*. As used in this clause

Gender identity has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at http://www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

Segregated facilities, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, *sexual orientation*, *gender identity*, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

Sexual orientation has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at http://www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any *segregated facilities* at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where *segregated facilities* are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor *shall* include this clause in every subcontract and *purchase order* that is subject to the Equal Opportunity clause of this contract.

(End of clause)

Parent topic: 52.222 [Reserved]

HOYT PARK

	DESCRIPTION	APPX. QUANT.	UNIT	UNIT PRICE	BID AMOUNT
1	Cold Milling HMA Surface	6,980	Sq. Yd.	8.00	55,840.00
2	HMA, 4EL	655	Ton	82.00	53,710.00
3	HMA, 5EL	655	Ton	92.00	60,260.00
4	Concrete Curb and Gutter, Remove and Replace	400	Lin. Ft.	74.00	29,600.00
5	Limestone Retaining Wall	540	Sq. Ft.	125.00	67,500.00
6	Stone Retaining Wall	294	Lin. Ft.	30.00	8,820.00
7	Dr. Structure Cover Adj, Case 1	5	Each	2,250.00	11,250.00
8	Drainage Structure Casting and Cover	5	Each	1,000.00	5,000.00
9	Mobilization, Bonds, Insurance	1	Lump Sum	30,000.00	30,000.00
10	Traffic Control	1	Lump Sum	18,000.00	18,000.00
11	Soil Erosion & Sedimentation Control	1	Lump Sum	1,200.00,	1,200.00
12	Cleanup	1	Lump Sum	5,000.00	5,000.00

TOTAL BID $346,180.00

RUST BOAT LAUNCH

1	Cold Milling HMA Surface	21,617	Sq. Yd.	4.25	91,872.25
2	Reuse Millins as Aggregate Base	850	Ton	12.50	10,625.00
3	HMA, 4EL	2703	Ton	74.00	200,022.00
4	HMA, 5EL	2703	Ton	82.00	221,646.00
5	Subgrade Undercutting, Type II	100	Cu. Yd.	96.00	9,600.00
6	4' Dia Drainage Structure	6	Each	5,000.00	30,000.00
7	12" RCP Storm Sewer	741	Ft.	120.00	88,920.00
8	Dr. Structure Tap, 12 inch	1	Each	1,000.00	1,000.00
9	Mobilization, Bonds, Insurance	1	Lump Sum	70,000.00	70,000.00
10	Parking Lot Regrading	1	Lump Sum	17,000.00	17,000.00
11	Pavement Markings and Signing	1	Lump Sum	7,500.00	7,500.00
12	Soil Erosion & Sedimentation Control	1	Lump Sum	5,000.00	5,000.00
13	Cleanup	1	Lump Sum	5,000.00	5,000.00

TOTAL BID $758,185.25

	LEE STREET				
1	6" P.V.C. Water Main	922	Lin. Ft.	134.00	123,548.00
2	8"x6" Tapping Sleeve and Valve	1	Each	12,500.00	12,500.00
3	Water Service Reconnections	5	Each	8,000.00	40,000.00
4	1" Corp. and Saddle	3	Each	600.00	1,800.00
5	1" Curb Stop and Box	3	Each	700.00	2,100.00
6	1.5" Corp. and Saddle	1	Each	800.00	800.00
7	1.5" Curb Stop and Box	1	Each	1,000.00	1,000.00
8	2; Corp. and Saddle	1	Each	1,000.00	1,000.00
9	2" Curb Stop and Box	1	Each	1,200.00	1,200.00
10	1" Long Service	152	Lin. Ft.	110.00	16,720.00
11	1.5" Short Service	14	Lin. Ft.	300.00	4,200.00
12	6" Hydrant, Complete	3	Each	10,000.00	30,000.00
13	6" Watermain Cut and Cap	1	Each	3,000.00	3,000.00
14	Remove Existing Hydrant	1	Each	1,500.00	1,500.00
15	Ditching, Modified	885	Lin. Ft.	32.00	28,320.00
16	HMA Base Crushing and Shaping	3,060	Sq. Yd.	5.00	15,300.00
17	Shld, Cl II, 4 inch	400	Sq. Yd.	36.00	14,400.00
18	HMA, 4EL	370	Ton	75.00	27,750.00
19	HMA, 5EL	370	Ton	84.00	31,080.00
20	Subgrade Undercutting, Type II	100	Cu. Yd.	95.00	9,500.00
21	4" HMA Driveway, Remove and Replace	3	Each	3,500.00	10,500.00
22	6" Gravel Driveway, Remove and Replace	1	Each	2,000.00	2,000.00
23	Mobilization, Bonds, Insurance	1	Lump Sum	45,000.00	45,000.00
24	Traffic Control	1	Lump Sum	18,000.00	18,000.00
25	Soil Erosion & Sedimentation Control	1	Lump Sum	3,000.00	3,000.00
26	Cleanup	1	Lump Sum	5,000.00	5,000.00

TOTAL BID $449,218.00

OVERALL TOTAL BID $1,553,583.25

Please check the MDOT Work Pre-Qualification Classification that your company holds. Your company and all sub-

B. CONCRETE PAVING _____

Ba. CONCRETE PAVEMENT PATCHING AND WIDENING _____

J. MISCELLANEOUS CONCRETE ITEMS x

Cb. HOT MIX ASPHALT/BITUMINOUS PAVING x

K. SEWER AND WATER MAINS x

OTHER NOT LISTED x

In accordance with the provisions of "Public Act 524 of 1980".

I do hereby designate Susan Markusic (name of representative) to submit a written request for progress payment during the duration of this contract.

The Contractor shall start work as specified in the Progress Clause, or as directed by the City Engineer. In no case, shall any work commence prior to receipt of formal Notice to Proceed from the City.

The undersigned bidder does hereby declare that the bidder has the legal status checked below:

_____ Individual

_____ Partnership

X Corporation

Incorporated under the laws of the State of Michigan

_____ Limited Liability Company

Formed under the laws of the State of _____

The undersigned does hereby agree to honor this bid until November 27, 2026.

Michigan's Iran Economic Sanctions Act:
The signature below certifies your company is in compliance with the Michigan Iran Economic Sanctions Act as identified on page #39 of this document. Further information on this Act can be viewed at (http://www.state.gov/j/ct/list/c14151.htm and https://www.legislature.mi.gov/(S(qnwpjcm0uyo1f2fhz0w1mlyq))/mileg.aspx?page=GetObject&objectname=mcl-Act-517-of-2012)

Susan Markusic
(Signature)

Susan Markusic
(Printed name)

Controller
(Title)

This sheet must be included, or the bid will be disqualified.

By submitting a response to this request for proposal, the Contractor agrees to the terms and conditions set forth herein. Any changes made to such terms and conditions by Contractor in its response may result, at the City's sole discretion, in the Contractor's disqualification.

The successful Contractor will conform to all Contract specifications and requirements which are attached and incorporated as part of this bid. The City reserves the right to accept or reject any and all bids, or parts thereof, and to waive any irregularities in the bid except those specifically mentioned in the sealed bid instructions. Additionally, (if applicable) we reserve the right to add or delete any items(s) and/or service from this bid to the best benefit of The City of Saginaw.

By signature, the Contractor acknowledges that the signer below has complete authority to execute the bid on behalf of the Contractor and that the bid is genuine and not collusive in any manner; and that no other bidders were improperly induced to refrain from bidding or induced to submit a sham bid; and that the Contractor agrees to have withheld from any payment due them, any amounts owed for taxes or other charges due the City of Saginaw; and that successful bidders are subject to mandatory City of Saginaw income tax withholdings.

Signed	Susan Markusic	Address	1445 Liberty Rd
Name	Susan Markusic	City, State, Zip	Saginaw, MI 48604
Title	Controller	Telephone No:	(989) 755-8971
Company	Champagne & Marx Excavating	Fax No.	(989) 755-0033
E-mail	chris@champagnemarx.com	Date:	June 2, 2026

Check List

Iran Sanctions sheet Signed and included	(Yes)	No
Bid Form Signed and included	(Yes)	No
2nd Copy of Bid form included	(Yes)	No

Applies ONLY if an addendum(s) has been issued for this project N/A

Addendum(s) Cover Sheet

#1 – 1st page is signed and included	Yes	No
#2 – 1st page is signed and included	Yes	No
#3 – 1st page is signed and included	Yes	No

This sheet must be included, or the bid will be disqualified.

AIA® Document A312™ – 2010

Performance Bond

Bond No **2379747**

CONTRACTOR:
(Name, legal status and address)
C&M Asset Holdings LLC DBA
Champagne & Marx Excavating
1445 Liberty Rd
Saginaw, MI 48604

OWNER:
(Name, legal status and address)
City of Saginaw
1315 S. Washington Avenue
Saginaw , MI 48601

SURETY:
(Name, legal status and principal place of business)
Swiss Re Corporate Solutions America Insurance Corporation
1200 Main St, Suite 800
Kansas City, MO 64105-2478

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT
Date: **6/22/2026**

Amount: **One Million Five Hundred Fifty-three Thousand Five Hundred Eighty-three And 25/100 --- $1,553,583.25**

Description:
(Name and location)
Lee St. Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727)

BOND
Date: **6/22/2026**
(Not earlier than Construction Contract Date)

Amount: **One Million Five Hundred Fifty-three Thousand Five Hundred Eighty-three And 25/100 --- $1,553,583.25**

Modifications to this Bond: ☒ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*
C&M Asset Holdings LLC DBA
Champagne & Marx Excavating
Signature:
Name and Title: Susan MacKenzie Controller

SURETY
Company: *(Corporate Seal)*
Swiss Re Corporate Solutions America Insurance Corporation
Signature:
Name and Title: **Susan L Small**
Attorney-in-Fact

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or BROKER:

VTC Insurance Group
1175 West Long Lake Rd, Suite 200
Troy, MI 48098
(248)828-3377

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA® Document A312™ – 2010

Payment Bond

Bond No 2379747

CONTRACTOR:
(Name, legal status and address)
C&M Asset Holdings LLC DBA Champagne & Marx Excavating
1445 Liberty Rd
Saginaw, MI 48604

SURETY:
(Name, legal status and principal place of business)
Swiss Re Corporate Solutions America Insurance Corporation
1200 Main St, Suite 800
Kansas City, MO 64105-2478

OWNER:
(Name, legal status and address)
City of Saginaw
1315 S. Washington Avenue
Saginaw , MI 48601

CONSTRUCTION CONTRACT
Date: **6/22/2026**

Amount: **One Million Five Hundred Fifty-three Thousand Five Hundred Eighty-three And 25/100 --- $1,553,583.25**

Description:
(Name and location)
Lee St. Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

BOND
Date: **6/22/2026**
(Not earlier than Construction Contract Date)

Amount: **One Million Five Hundred Fifty-three Thousand Five Hundred Eighty-three And 25/100 --- $1,553,583.25**

Modifications to this Bond: ☐ None ☒ See Section 18

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*
C&M Asset Holdings LLC DBA Champagne & Marx Excavating
Signature:
Name and Title: Susan Marx Controller

SURETY
Company: *(Corporate Seal)*
Swiss Re Corporate Solutions America Insurance Corporation
Signature:
Name and Title: **Susan L Small, Attorney-in-Fact**

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or BROKER:
VTC Insurance Group
1175 W Long Lake Rd, Suite 200
Troy, MI 48098
(248)828-3377

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

.1 the name of the Claimant;
.2 the name of the person for whom the labor was done, or materials or equipment furnished;
.3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
.4 a brief description of the labor, materials or equipment furnished;
.5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
.6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
.7 the total amount of previous payments received by the Claimant; and
.8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

This bond is given in compliance with and subject to all of the provisions of Michigan Public Act No. 213 of the Public Acts of 1963, as amended. All time limitations, notice requirements and definitions and other terms of said Act are applicable here and in executing this Bond, Surety does not waive any of such provisions.

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

SWISS RE CORPORATE SOLUTIONS

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION ("SRCSAIC")
SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION ("SRCSPIC")
WESTPORT INSURANCE CORPORATION ("WIC")

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT SRCSAIC, a corporation duly organized and existing under laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, and SRCSPIC, a corporation organized and existing under the laws of the State of Missouri and having its principal office in the City of Kansas City, Missouri, and WIC, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make, constitute and appoint:

ROBERT TROBEC, IAN J. DONALD, JEFFREY A. CHANDLER, ALAN P. CHANDLER, SUSAN L. SMALL, T. J. GRIFFIN, JOHN L. BUDDE,

TERENCE J. GRIFFIN, TERRI L. YOUNG, PATRICK E. WILLIAMS, WENDY LEE HINGSON, BRYAN FORMSA, and KRISTA L. POCKET

JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

TWO HUNDRED MILLION ($200,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of both SRCSAIC and SRCSPIC at meetings duly called and held on the 18th of November 2021 and WIC by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Managing Director, any Senior Vice President, any Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is, authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Corporation bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Corporation; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Corporation may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

SWISS RE CORPORATE SOLUTIONS AMERICA INSURANCE CORPORATION CORPORATE SEAL 1973 MISSOURI

SWISS RE CORPORATE SOLUTIONS PREMIER INSURANCE CORPORATION CORPORATE SEAL MISSOURI

By _____
Erik Janssens, Senior Vice President of SRCSAIC & Senior Vice President of SRCSPIC & Senior Vice President of WIC

By _____
Gerald Jagrowski, Vice President of SRCSAIC & Vice President of SRCSPIC & Vice President of WIC

WESTPORT INSURANCE CORPORATION CORPORATE SEAL MISSOURI

IN WITNESS WHEREOF, SRCSAIC, SRCSPIC, and WIC have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers

this 10TH day of NOVEMBER 20 23

Swiss Re Corporate Solutions America Insurance Corporation
Swiss Re Corporate Solutions Premier Insurance Corporation
Westport Insurance Corporation

State of Illinois
County of Cook

On this 10TH day of NOVEMBER, 20 23, before me, a Notary Public personally appeared Erik Janssens, Senior Vice President of SRCSAIC and Senior Vice President of SRCSPIC and Senior Vice President of WIC and Gerald Jagrowski, Vice President of SRCSAIC and Vice President of SPCSPIC and Vice President of WIC, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

Karen M. Szweda, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of SRCSAIC and SRCSPIC and WIC, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said SRCSAIC and SRCSPIC and WIC, which is still in full force and effect.
IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 22nd day of June 2026

OFFICIAL SEAL
KAREN M SZWEDA
Notary Public, State of Illinois
Commission No. 978628
My Commission Expires September 26, 2027

Jeffrey Goldberg, Senior Vice President & Assistant Secretary of SRCSAIC and SRCSPIC and WIC

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/8/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Gayle Botner
VTC Insurance Group Troy Office 1175 W. Long Lake Ste. 200 Troy MI 48098-4960	PHONE (A/C, No, Ext): (248)828-3377 FAX (A/C, No): (248)828-3741 E-MAIL ADDRESS: gbotner@vtcins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Amerisure Insurance Company	19488
INSURER B : Amerisure Mutual Insurance Co.	23396
INSURER C : Westfield Specialty Ins. Co.	16992
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
C&M Asset Holdings LLC, DBA: Champagne & Marx Excavating
1445 Liberty Rd
Saginaw MI 48604

COVERAGES **CERTIFICATE NUMBER:** 25-26 Master **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	X	Y	CPP212831600-01	6/30/2025	6/30/2026	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	X	Y	CA400058400-01	6/30/2025	6/30/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			CU 212831900-02	6/30/2025	6/30/2026	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N: N / N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		Y	WC400058300-01	6/30/2025	6/30/2026	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Leased & Rented Equipment			CPP212831600-01	06/30/2025	06/30/2026	$360,000. Limit/$1,000 Ded	
C	Pollution/Professional			CPP 489187T-00	06/30/2025	06/30/2026	$2,000,000/$2,000,000	per claim/agg

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project: Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727). Where required by written contract, the City of Saginaw, its officers, employees, agents, or representatives are add'l insured for General Liability (GL) as respects ongoing & completed operations on a primary & non-contributory basis and add'l insured with respects to Automobile liability. GL, Auto & Workers Comp policies include waiver of subrogation on behalf of the additional insured as required by written contract and where allowed by law. Umbrella/Excess liability coverage follows form over GL, Auto & Employers Liability. Insurer will endeavor to mail 30 days written notice of cancellation to the

CERTIFICATE HOLDER

City of Saginaw
1315 S. Washington Ave
Saginaw, MI 48601

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Alan Chandler/SZEBRO

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COMMENTS/REMARKS

certificate holder for the additional insured, however, failure to do so will impose no liability of any kind upon the insurer or its agents or representatives.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CONTRACTOR'S BLANKET FLEX ADDITIONAL INSURED ENDORSEMENT – FORM A

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

Policy Number CPP21283160001	**Agency Number** 0125253	**Policy Effective Date** 06/30/2025
Policy Expiration Date 06/30/2026	**Date** 07/30/2025	**Account Number** 30015030
Named Insured C&M ASSET HOLDINGS LLC	**Agency** V T C INSURANCE GROUP	**Issuing Company** AMERISURE INSURANCE COMPANY

A. SECTION II – WHO IS AN INSURED is amended to add as an additional insured:

1. Any person or organization with whom you have agreed in a "written agreement" that such person or organization be added as an additional insured on this policy, and any other person or organization you are required to add as an additional insured under such "written agreement".

2. If "your work" began under a written letter of intent or written work order, any person or organization who issued the written letter of intent or written work order, but:

a. such coverage will apply only for 30 calendar days following the date the written letter of intent or written work order was issued; and

b. the person or organization is an additional insured only for, and to the extent of, liability arising out of "bodily injury", "property damage", or "personal and advertising injury" caused, in whole or in part, by your negligent acts or omissions, or the negligent acts or omissions of others working on your behalf, in the performance of your work as specified in the written letter of intent or written work order. This coverage does not apply to liability arising out of the independent acts or omissions of the additional insured.

For the purposes of the coverage provided by this endorsement, a "written agreement" means a written contract or written agreement that:

1. requires you to include a person or organization as an additional insured for a period of time during the policy period; and

2. is executed prior to the occurrence of "bodily injury", "property damage", or "personal and advertising injury" that forms the basis for a claim under this policy.

The insurance provided by this endorsement does not apply to any person or organization that is specifically listed as an additional insured on another endorsement attached to this policy.

B. The coverage provided to any person or organization added as an additional insured pursuant to Paragraph **A.1** is limited as follows:

1. If the "written agreement" specifically and exclusively requires you to name the person or organization as an additional insured using the ISO CG 20 10 endorsement with edition dates of 11 85 or 10 01, or the ISO CG 20 37 10 01 endorsement, that person or organization is an additional insured, but only with respect to liability for "bodily injury", "property damage", or "personal and advertising injury" arising out of "your work" for that insured by or for you.

2. If the "written agreement" requires you to name the person or organization as an additional insured using the ISO CG 20 10 and or CG 20 37 endorsements without specifically and exclusively requiring the 11 85 or 10 01 edition dates, that person or organization is an additional insured, but only with respect to liability for "bodily injury", "property damage", or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf.

3. If the "written agreement" requires you to name the person or organization as an additional insured for operations arising out of your work and does not specify an ISO additional insured endorsement, that person or organization is an additional insured, but only with respect to liability for "bodily injury", "property damage", or "personal and advertising injury" arising out of your acts or omissions, or the acts or omissions of others working on your behalf, in the performance of your work as specified in the "written agreement". This coverage does not apply to liability arising out of the sole negligence of the additional insured unless specifically required in the "written agreement".

4. If none of the above paragraphs apply, then the person or organization is an additional insured only for, and to the extent of, liability arising out of "bodily injury", "property damage", or "personal and advertising injury" caused, in whole or in part, by your negligent acts or omissions, or the negligent acts or omissions of others working on your behalf, in the performance of your work as specified in the "written agreement". This coverage does not apply to liability arising out of the independent acts or omissions of the additional insured.

However, the insurance afforded to such additional insured only applies to the extent permitted by law.

C. The insurance provided to an additional insured under this endorsement does not apply to:

1. "Bodily injury" or "property damage" included in the "products-completed operations hazard" unless the "written agreement" specifically requires such coverage (including by specifically requiring the CG 20 10 11 85). To the extent the "written agreement" requires such coverage for a specified amount of time, the coverage provided by this endorsement is limited to the amount of time required for such coverage by the "written agreement".

2. "Bodily injury", "property damage", or "personal and advertising injury" arising out of an architect's, engineer's, or surveyor's rendering of, or failure to render, any professional services, including but not limited to:

a. The preparing, approving, or failing to prepare or approve:
- **(1)** Maps;
- **(2)** Drawings;
- **(3)** Opinions;
- **(4)** Reports;
- **(5)** Surveys;
- **(6)** Change orders;

(7) Design specifications; and

b. Supervisory, inspection, or engineering services.

D. The limits of insurance that apply to the additional insured are the least of those specified in the "written agreement" or declarations of this policy.

Coverage provided by this endorsement for any additional insured shall not increase the applicable Limits of Insurance shown in the Declarations. The limits of insurance that apply to the additional insured are inclusive of, and not in addition to, the Limits of Insurance shown in the Declarations.

E. With respect to the coverage provided by this endorsement, **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS,** Paragraph **4. Other Insurance** is deleted and replaced with the following:

4. **Other Insurance.**

a. Coverage provided by this endorsement is excess over any other valid and collectible insurance available to the additional insured whether:

(1) Primary;
(2) Excess;
(3) Contingent; or
(4) On any other basis.

In addition, this insurance is excess over any self-insured retentions, deductibles, or captive retentions payable by the additional insured or payable by any person or organization whose coverage is available to the additional insured.

However, if the "written agreement" requires primary and non-contributory coverage, this insurance will be primary and non-contributory relative only to the other insurance available to the additional insured which covers that person or organization as a Named Insured, and we will not share with that other insurance. For any other insurance available to the additional insured where that person or organization is not a Named Insured, this policy will share coverage with that other insurance based on the terms specified in Paragraph **b**. Method of Sharing below.

b. Method of Sharing

If all the other insurance permits contribution by equal shares, we will follow this method also. Under this method, each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION, NONRENEWAL OR MATERIAL CHANGE – THIRD PARTY

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
BUSINESS AUTO PHYSICAL DAMAGE COVERAGE FORM
COMMERCIAL GENERAL LIABILITY COVERAGE FORM
COMMERCIAL UMBRELLA LIABILITY COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE FORM
TRUCKERS COVERAGE FORM

Subject to the cancellation provisions of the Coverage Form to which this endorsement is attached, we will not:

1. Cancel;
2. Nonrenew; or,
3. Materially change (reduce or restrict)

this Coverage Form, except for nonpayment of premium, until we provide at least 30 days written notice of such cancellation, nonrenewal or material change. Written notice will be to the person or organization named in the Schedule. Such notice will be by certified mail with return receipt requested.

This notification of cancellation, nonrenewal or material change to the person or organization named in the Schedule is intended as a courtesy only. Our failure to provide such notification will not:

1. Extend any Coverage Form cancellation date;
2. Negate the cancellation as to any insured or any certificate holder;
3. Provide any additional insurance that would not have been provided in the absence of this endorsement; or
4. Impose liability of any kind upon us.

This endorsement does not entitle the person or organization named in the Schedule to any benefits, rights or protection under this Coverage Form.

SCHEDULE

Name Of Person Or Organization	Mailing Address
Any person or organization holding a certificate of insurance issued for you, provided the certificate:	The address shown for that person or organization in that certificate of insurance

1. Refers to this policy;
2. States that notice of:
   a. Cancellation;
   b. Nonrenewal; or
   c. Material change reducing or restricting coverage;

   will be provided to that person or organization;
3. Is in effect at the time of the:
   a. Cancellation;
   b. Nonrenewal; or
   c. Material change reducing or restricting coverage; and
4. Is on file at your agent or broker's office for this policy

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY AND NONCONTRIBUTORY – OTHER INSURANCE CONDITION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

The following is added to the **Other Insurance** Condition and supersedes any provision to the contrary:

Primary And Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured under your policy provided that:

(1) The additional insured is a Named Insured under such other insurance; and

(2) You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
ELECTRONIC DATA LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART DESIGNATED SITES
POLLUTION LIABILITY LIMITED COVERAGE PART DESIGNATED SITES
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART
UNDERGROUND STORAGE TANK POLICY DESIGNATED TANKS

SCHEDULE

Name Of Person(s) Or Organization(s):
ANY PERSON OR ORGANIZATION REQUIRED BY WRITTEN CONTRACT OR CERTIFICATE OF INSURANCE
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV – Conditions:**

We waive any right of recovery against the person(s) or organization(s) shown in the Schedule above because of payments we make under this Coverage Part. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person(s) or organization(s) prior to loss. This endorsement applies only to the person(s) or organization(s) shown in the Schedule above.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADVANTAGE
COMMERCIAL AUTOMOBILE BROAD FORM ENDORSEMENT

This endorsement modifies insurance provided under the

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

The premium for this endorsement is $1,615.00

1. EXTENDED CANCELLATION CONDITION

COMMON POLICY CONDITIONS - CANCELLATION, Paragraph **A.2.** is replaced by the following:

2. We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least:

a. 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or

b. 60 days before the effective date of cancellation if we cancel for any other reason.

2. BROAD FORM INSURED

SECTION II - LIABILITY COVERAGE A.1. WHO IS AN INSURED is amended by the addition of the following:

d. Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, and over which you maintain ownership or a majority interest, will qualify as a Named Insured. However,

(1) Coverage under this provision is afforded only until the end of the policy period;

(2) Coverage does not apply to "accidents" or "loss" that occurred before you acquired or formed the organization; and

(3) Coverage does not apply to an organization that is an "insured" under any other policy or would be an "insured" but for its termination or the exhausting of its limit of insurance.

e. Any "employee" of yours using:

(1) A covered "auto" you do not own, hire or borrow, or a covered "auto" not owned by the "employee" or a member of his or her household, while performing duties related to the conduct of your business or your personal affairs; or

(2) An "auto" hired or rented under a contract or agreement in that "employee's" name, with your permission, while performing duties related to the conduct of your business. However, your "employee" does not qualify as an insured under this paragraph (2) while using a covered "auto" rented from you or from any member of the "employee's" household.

f. Your members, if you are a limited liability company, while using a covered "auto" you do not own, hire, or borrow, while performing duties related to the conduct of your business or your personal affairs.

g. Any person or organization with whom you agree in a written contract, written agreement or permit, to provide insurance such as is afforded under this policy, but only with respect to your covered "autos".

This provision does not apply:

(1) Unless the written contract or agreement is executed or the permit is issued prior to the "bodily injury" or "property damage";

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(2) To any person or organization included as an insured by an endorsement or in the Declarations; or

(3) To any lessor of "autos" unless:

(a) The lease agreement requires you to provide direct primary insurance for the lessor;

(b) The "auto" is leased without a driver; and

(c) The lease had not expired.

Leased "autos" covered under this provision will be considered covered "autos" you own and not covered "autos" you hire.

h. Any legally incorporated organization or subsidiary in which you own more than 50% of the voting stock on the effective date of this endorsement.

This provision does not apply to "bodily injury" or "property damage" for which an "insured" is also an insured under any other automobile policy or would be an insured under such a policy, but for its termination or the exhaustion of its limits of insurance, unless such policy was written to apply specifically in excess of this policy.

3. COVERAGE EXTENSIONS - SUPPLEMENTARY PAYMENTS

Under **SECTION II - LIABILITY COVERAGE**, **A.2.a. Supplementary Payments**, paragraphs (2) and (4) are deleted and replaced with the following:

(2) Up to $2500 for the cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $500 a day because of time off from work.

4. AMENDED FELLOW EMPLOYEE EXCLUSION

SECTION II - LIABILITY COVERAGE, B. EXCLUSIONS, paragraph **5. Fellow Employee** is deleted and replaced by the following:

5. Fellow Employee

"Bodily injury" to:

a. Any fellow "employee" of the "insured" arising out of and in the course of the fellow "employee's" employment or while performing duties related to the conduct of your business. However, this exclusion does not apply to your "employees" that are officers, managers, supervisors or above. Coverage is excess over any other collectible insurance.

b. The spouse, child, parent, brother or sister of that fellow "employee" as a consequence of paragraph **a.** above.

5. HIRED AUTO PHYSICAL DAMAGE COVERAGE AND LOSS OF USE EXPENSE

A. Under SECTION III - PHYSICAL DAMAGE COVERAGE, A. COVERAGE, the following is added:

If any of your owned covered "autos" are covered for Physical Damage, we will provide Physical Damage coverage to "autos" that you or your "employees" hire or borrow, under your name or the "employee's" name, for the purpose of doing your work. We will provide coverage equal to the broadest physical damage coverage applicable to any covered "auto" shown in the Declarations, Item Three, Schedule of Covered Autos You Own, or on any endorsements amending this schedule.

B. Under **SECTION III - PHYSICAL DAMAGE COVERAGE, A.4. COVERAGE EXTENSIONS,** paragraph **b. Loss of Use Expenses** is deleted and replaced with the following:

b. Loss Of Use Expenses

For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver, under a written rental contract or agreement. We will pay for loss of use expenses if caused by:

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(1) Other than collision, only if the Declarations indicate that Comprehensive Coverage is provided for any covered “auto”;

(2) Specified Causes of Loss, only if the Declarations indicate that Specified Causes Of Loss Coverage is provided for any covered “auto”; or

(3) Collision, only if the Declarations indicate that Collision Coverage is provided for any covered “auto”.

However, the most we will pay for any expenses for loss of use is $30 per day, to a maximum of $2,000.

C. Under **SECTION IV – BUSINESS AUTO CONDITIONS**, paragraph **5.b. Other Insurance** is deleted and replaced by the following:

b. For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

1. Any covered "auto" you lease, hire, rent or borrow; and

2. Any covered "auto" hired or rented by your "employee" under a contract in that individual "employee's" name, with your permission, while performing duties related to the conduct of your business.

However, any “auto” that is leased, hired, rented or borrowed with a driver is not a covered “auto”, nor is any “auto” you hire from any of your “employees”, partners (if you are a partnership), members (if you are a limited liability company), or members of their households.

6. LOAN OR LEASE GAP COVERAGE

Under **SECTION III - PHYSICAL DAMAGE COVERAGE, A. COVERAGE**, the following is added:

If a covered “auto” is owned or leased and if we provide Physical Damage Coverage on it, we will pay, in the event of a covered total “loss”, any unpaid amount due on the lease or loan for a covered “auto”, less:

(a) The amount paid under the Physical Damage Coverage Section of the policy; and

(b) Any:

(1) Overdue lease or loan payments including penalties, interest or other charges resulting from overdue payments at the time of the “loss”;

(2) Financial penalties imposed under a lease for excessive use, abnormal wear and tear or high mileage;

(3) Costs for extended warranties, Credit Life Insurance, Health, Accident or Disability Insurance purchased with the loan or lease;

(4) Security deposits not refunded by a lessor; and

(5) Carry-over balances from previous loans or leases.

7. RENTAL REIMBURSEMENT

SECTION III - PHYSICAL DAMAGE COVERAGE, A. COVERAGE, paragraph **4. Coverage Extension**s is deleted and replaced by the following:

4. Coverage Extensions

(a) We will pay up to $75 per day to a maximum of $2000 for transportation expense incurred by you because of covered "loss”. We will pay only for those covered "autos" for which you carry Collision Coverage or either Comprehensive Coverage or Specified Causes of Loss Coverage. We will pay for transportation expenses incurred during the period beginning 24 hours after the covered "loss" and ending, regardless of the policy's expiration, when the covered "auto" is returned to use or we pay for its "loss". This coverage is in addition to the otherwise applicable coverage you have on a covered "auto". No deductibles apply to this coverage.

(b) This coverage does not apply while there is a spare or reserve "auto" available to you for your operation.

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8. AIRBAG COVERAGE

SECTION III - PHYSICAL DAMAGE, B. EXCLUSIONS, Paragraph **3**. is deleted and replaced by the following:

We will not pay for "loss" caused by or resulting from any of the following unless caused by other "loss" that is covered by this insurance:

a. Wear and tear, freezing, mechanical or electrical breakdown. However, this exclusion does not include the discharge of an airbag.

b. Blowouts, punctures or other road damage to tires.

9. GLASS REPAIR - WAIVER OF DEDUCTIBLE

SECTION III - PHYSICAL DAMAGE COVERAGE, D. DEDUCTIBLE is amended to add the following:

No deductible applies to glass damage if the glass is repaired rather than replaced.

10. COLLISION COVERAGE – WAIVER OF DEDUCTIBLE

SECTION III - PHYSICAL DAMAGE COVERAGE, D. DEDUCTIBLE is amended to add the following:

When there is a "loss" to your covered "auto" insured for Collision Coverage, no deductible will apply if the "loss" was caused by a collision with another "auto" insured by us.

11. KNOWLEDGE OF ACCIDENT

SECTION IV - BUSINESS AUTO CONDITIONS, A. LOSS CONDITIONS, 2. DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS, paragraph a. is deleted and replaced by the following:

a. You must see to it that we are notified as soon as practicable of an "accident", claim, "suit" or "loss". Knowledge of an "accident", claim, "suit" or "loss" by your "employees" shall not, in itself, constitute knowledge to you unless one of your partners, executive officers, directors, managers, or members (if you are a limited liability company) has knowledge of the "accident", claim, "suit" or "loss". Notice should include:

(1) How, when and where the "accident" or "loss" occurred;

(2) The "insured's" name and address; and

(3) To the extent possible, the names and addresses of any injured persons and witnesses.

12. TRANSFER OF RIGHTS (BLANKET WAIVER OF SUBROGATION)

SECTION IV - BUSINESS AUTO CONDITIONS A.5. TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US is deleted and replaced by the following:

If any person or organization to or for whom we make payment under this Coverage Form has rights to recover damages from another, those rights are transferred to us. That person or organization must do everything necessary to secure our rights and must do nothing after "accident" or "loss" to impair them. However, if the insured has waived rights to recover through a written contract, or if your work was commenced under a letter of intent or work order, subject to a subsequent reduction in writing with customers whose customary contracts require a waiver, we waive any right of recovery we may have under this Coverage Form.

13. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

SECTION IV - BUSINESS AUTO CONDITIONS, B. GENERAL CONDITIONS, 2. CONCEALMENT, MISREPRESENTATION OR FRAUD is amended by the addition of the following:

We will not deny coverage under this Coverage Form if you unintentionally fail to disclose all hazards existing as of the inception date of this policy. You must report to us any knowledge of an error or omission in your representations as soon as practicable after its discovery. This provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

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14. BLANKET COVERAGE FOR CERTAIN OPERATIONS IN CONNECTION WITH RAILROADS

When required by written contract or written agreement, the definition of “insured contract” is amended as follows:

— The exception contained in paragraph **H.3.** relating to construction or demolition operations on or within 50 feet of a railroad; and

— Paragraph **H.a.**

are deleted with respect to the use of a covered "auto" in operations for, or affecting, a railroad.

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INSURANCE BINDER

DATE (MM/DD/YYYY): 06/10/2026

THIS BINDER IS A TEMPORARY INSURANCE CONTRACT, SUBJECT TO THE CONDITIONS SHOWN ON PAGE 2 OF THIS FORM.

AGENCY	COMPANY	BINDER #
VTC Insurance Group Troy Office 1175 W. Long Lake Ste. 200 Troy MI 48098-4960	Amerisure Mutual Insurance Co.	B2661076058

EFFECTIVE DATE	EFFECTIVE TIME		EXPIRATION DATE	EXPIRATION TIME	
06/22/2026	12:01	X AM / PM	07/22/2026	X 12:01 AM / NOON	

PHONE (A/C, No, Ext): (248) 828-3377 FAX (A/C, No): (248) 828-3741

CODE: SUB CODE:

AGENCY CUSTOMER ID: 00154736

☐ THIS BINDER IS ISSUED TO EXTEND COVERAGE IN THE ABOVE NAMED COMPANY
PER EXPIRING POLICY #: OCP - LEE ST SAGINAW

INSURED AND MAILING ADDRESS

City of Saginaw
1315 S. Washington Ave
Saginaw MI 48601

DESCRIPTION OF OPERATIONS / VEHICLES / PROPERTY (Including Location)

Project: C-1727 Lee Street
Job Cost $1,553,583
Contractor: Champagne & Marx Engineering
1445 Liberty Road
Saginaw, MI 48601

COVERAGES

TYPE OF INSURANCE	COVERAGE / FORMS	LIMITS: DEDUCTIBLE	COINS %	AMOUNT
PROPERTY CAUSES OF LOSS: ☐ BASIC ☐ BROAD ☐ SPEC				
GENERAL LIABILITY		EACH OCCURRENCE		$ 1,000,000.00
☐ COMMERCIAL GENERAL LIABILITY		DAMAGE TO RENTED PREMISES		$
☐ CLAIMS MADE ☒ OCCUR		MED EXP (Any one person)		$
☒ Owners & Contractors		PERSONAL & ADV INJURY		$
☐ Protective Liability		GENERAL AGGREGATE		$ 2,000,000.00
☐	RETRO DATE FOR CLAIMS MADE:	PRODUCTS - COMP/OP AGG		$
VEHICLE LIABILITY		COMBINED SINGLE LIMIT		$
☐ ANY AUTO		BODILY INJURY (Per person)		$
☐ OWNED AUTOS ONLY		BODILY INJURY (Per accident)		$
☐ SCHEDULED AUTOS		PROPERTY DAMAGE		$
☐ HIRED AUTOS ONLY		MEDICAL PAYMENTS		$
☐ NON-OWNED AUTOS ONLY		PERSONAL INJURY PROT		$
☐		UNINSURED MOTORIST		$
☐				$
VEHICLE PHYSICAL DAMAGE DED	☐ ALL VEHICLES ☐ SCHEDULED VEHICLES	☐ ACTUAL CASH VALUE		
☐ COLLISION:		☐ STATED AMOUNT		$
☐ OTHER THAN COL:		☐		
GARAGE LIABILITY		AUTO ONLY - EA ACCIDENT		$
☐ ANY AUTO		OTHER THAN AUTO ONLY:		
☐		EACH ACCIDENT		$
☐		AGGREGATE		$
EXCESS LIABILITY		EACH OCCURRENCE		$
☐ UMBRELLA FORM		AGGREGATE		$
☐ OTHER THAN UMBRELLA FORM	RETRO DATE FOR CLAIMS MADE:	SELF-INSURED RETENTION		$
WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY		☐ PER STATUTE		
		E.L. EACH ACCIDENT		$
		E.L. DISEASE - EA EMPLOYEE		$
		E.L. DISEASE - POLICY LIMIT		$
SPECIAL CONDITIONS / OTHER COVERAGES		FEES		$
		TAXES		$
		ESTIMATED TOTAL PREMIUM		$

NAME & ADDRESS

☐ ADDITIONAL INSURED ☐ LOSS PAYEE ☐ MORTGAGEE
☐ LENDER'S LOSS PAYABLE ☐

LOAN #:

AUTHORIZED REPRESENTATIVE

Alan P. Chandler

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CONDITIONS

This Company binds the kind(s) of insurance stipulated on page 1 of this form. The Insurance is subject to the terms, conditions and limitations of the policy(ies) in current use by the Company.

This binder may be cancelled by the Insured by surrender of this binder or by written notice to the Company stating when cancellation will be effective. This binder may be cancelled by the Company by notice to the Insured in accordance with the policy conditions. This binder is cancelled when replaced by a policy. If this binder is not replaced by a policy, the Company is entitled to charge a premium for the binder according to the Rules and Rates in use by the Company.

Applicable in Arizona

Binders are effective for no more than ninety (90) days.

Applicable in California

When this form is used to provide insurance in the amount of one million dollars ($1,000,000) or more, the title of the form is changed from "Insurance Binder" to "Cover Note".

Applicable in Colorado

With respect to binders issued to renters of residential premises, home owners, condo unit owners and mobile home owners, the insurer has thirty (30) business days, commencing from the effective date of coverage, to evaluate the issuance of the insurance policy.

Applicable in Delaware

The mortgagee or Obligee of any mortgage or other instrument given for the purpose of creating a lien on real property shall accept as evidence of insurance a written binder issued by an authorized insurer or its agent if the binder includes or is accompanied by: the name and address of the borrower; the name and address of the lender as loss payee; a description of the insured real property; a provision that the binder may not be canceled within the term of the binder unless the lender and the insured borrower receive written notice of the cancellation at least ten (10) days prior to the cancellation; except in the case of a renewal of a policy subsequent to the closing of the loan, a paid receipt of the full amount of the applicable premium, and the amount of insurance coverage.

Chapter 21 Title 25 Paragraph 2119

Applicable in Florida

Except for Auto Insurance coverage, no notice of cancellation or nonrenewal of a binder is required unless the duration of the binder exceeds 60 days. For auto insurance, the insurer must give 5 days prior notice, unless the binder is replaced by a policy or another binder in the same company.

Applicable in Maryland

The insurer has 45 business days, commencing from the effective date of coverage to confirm eligibility for coverage under the insurance policy.

Applicable in Michigan

The policy may be cancelled at any time at the request of the insured.

Applicable in Montana

No binder shall be valid beyond the issuance of the policy with respect to which it was given or beyond 90 days from its effective date, whichever period is the shorter. If the policy has not been issued, a binder may be extended or renewed beyond such 90 days with the written approval of the insurer.

Applicable in Nevada

Any person who refuses to accept a binder which provides coverage of less than $1,000,000.00 when proof is required: (A) Shall be fined not more than $500.00, and (B) is liable to the party presenting the binder as proof of insurance for actual damages sustained therefrom.

Applicable in Oklahoma

All policies shall expire at 12:01 a.m. standard time on the expiration date stated in the policy.

Applicable in Oregon

Binders are effective for no more than ninety (90) days. A binder extension or renewal beyond such 90 days would require the written approval by the Director of the Department of Consumer and Business Services.

Applicable in the Virgin Islands

This binder is effective for only ninety (90) days. Within thirty (30) days of receipt of this binder, you should request an insurance policy or certificate (if applicable) from your agent and/or insurance company.

Additional Named Insureds

Other Named Insureds

Champagne & Marx Excavating

Doing Business As

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CITY OF SAGINAW
1315 S WASHINGTON AVE
SAGINAW MICHIGAN 48601

C-1727

Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface

BID OPENING
TUESDAY, JUNE 2, 2026
3:00 PM

TABLE OF CONTENTS

C-1727

Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface

SEALED BID INSTRUCTIONS 1
GENERAL INFORMATION 2
GENERAL INSTRUCTIONS TO BIDDERS 4
DIVISION 1: GENERAL CONDITIONS – CITY OF SAGINAW 11
NOTICE TO BIDDERS – CONSULTANTS/ INSURANCE/BONDS 32
NOTICE TO BIDDERS – IRAN SANCTIONS 36
NOTICE TO BIDDERS – PREFERENCE TO LOCAL BIDDERS 37
DAVIS BACON PREVAILING WAGE INFO 38
NOTICE INVITING SEALED BIDS 67
BID FORM 68
COPY OF CONTRACT 74
SCOPE OF WORK 77
PROGRESS CLAUSE 78
TECHNICAL SPECIFICATIONS 80
PRE-QUALIFICATION 81
SUBCONTRACTOR LIST 83
UTILITY COORDINATION 84
LIQUIDATED DAMAGES 85

SPECIAL PROVISIONS: 86-132
104 - MAINTAINING OF TRAFFIC 86
204 - PAVEMENT REMOVALS 88
204 - VERTICAL EXPLORATORY INVESTIGATION 90
205 - SUBGRADE UNDERCUTTING 92
205 - SIDEWALK GRADING, MODIFIED 93
302 - AGGREGATE BASE 94
403 - STRUCTURES ADJUSTMENTS 95
403 - SHUTOFF AND MONUMENT BOX ADJUST 97
501 - HMA APPLICATION RATE 98
501 - MDOT SPEC COLD MILLING CONCRETE PAVEMENT 99
802 - CONCRETE PAY ITEMS 100
802 - PAVEMENT & CURB DETAIL 101
803 - CONCRETE SIDEWALK 105
816 - TURF ESTABLISHMENT 107
823 - ALTERATIONS TO THE MUNICIPAL WATER SYSTEM 113

CONSULTANT SPECIFICATIONS:
SECTION 01 10 00 - SUMMARY 133
SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES 136
SECTION 01 22 20 - MEASUREMENT AND PAYMENT 140
SECTION 01 25 00 - SUBSTITUTION PROCEDURES 151
SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS 153
SECTION 01 32 16 - CONSTRUCTION PROGRESS SCHEDULE 158
SECTION 01 33 00 - SUBMITTAL PROCEDURES 160

SECTION 01 40 00 - QUALITY REQUIREMENTS 167
SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS 171
SECTION 01 60 00 - PRODUCT REQUIREMENTS 178
SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS 180
SECTION 03 20 00 - CONCRETE REINFORCING 189
SECTION 03 30 00 - CAST-IN-PLACE CONCRETE 194
SECTION 03 60 00 - GROUTING 204
SECTION 31 05 13 - SOILS FOR EARTHWORK 209
SECTION 31 05 16 - AGGREGATES FOR EARTHWORK 212
SECTION 31 22 13 - ROUGH GRADING 215
SECTION 31 23 16 - EXCAVATION 220
SECTION 31 23 16.26 - ROCK REMOVAL 223
SECTION 31 23 17 - TRENCHING 225
SECTION 31 23 19 - DEWATERING 233
SECTION 31 23 23.33 - FLOWABLE FILL 238
SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROLS 244
SECTION 32 01 16.70 - COLD MILLING 252
SECTION 32 11 23 - AGGREGATE BASE COURSES 254
SECTION 32 12 16 - ASPHALT PAVING 258
SECTION 32 13 13 - CONCRETE PAVING 264
SECTION 32 15 41 - PULVERIZING 273
SECTION 32 91 13 - SOIL PREPARATION 275
SECTION 32 91 19 - LANDSCAPE GRADING 278
SECTION 32 92 19 - SEEDING 281
SECTION 33 05 13 - MANHOLES AND STRUCTURES 286
SECTION 33 05 13.16 - PUBLIC MANHOLES AND STRUCTURES 291
SECTION 33 05 23.13 - UTILITY HORIZONTAL DIRECTIONAL DRILLING 300
SECTION 33 12 16 - WATER UTILITY DISTRIBUTION VALVES 310
SECTION 33 12 19 - WATER UTILITY DISTRIBUTION FIRE HYDRANTS 315
SECTION 33 13 00 - DISINFECTING OF WATER UTILITY DISTRIBUTION 321
SECTION 33 14 13 - PUBLIC WATER UTILITY DISTRIBUTION PIPING 324
SECTION 33 41 13 - PUBLIC STORM UTILITY DRAINAGE PIPING 338

PROJECT DRAWINGS:

DRAWINGS (COVER SHEET) 345
DRAWINGS (NOTE SHEET) 346
DRAWINGS (REMOVAL AND CONSTRUCTION SHEET) 347
DRAWINGS (DEMOLITION SHEET) 348
DRAWINGS (SITE SHEET) 349
DRAWINGS (GRADING SHEET) 350
DRAWINGS (UTILITY SHEET) 351
DRAWINGS (TYPICAL CROSS SECTIONS) 352
DRAWINGS (WATERMAIN PLAN AND PROFILE) 353
DRAWINGS (REMOVAL AND CONSTRUCTION SHEET) 354
DRAWINGS (PROFILE SHEET) 355
DRAWINGS (DETAILS SHEET) 356

City of Saginaw, Michigan
Purchasing Division
(989) 759-1430

SEALED BID INSTRUCTIONS

SEALED BIDS MUST BE SUBMITTED ACCORDING TO THE FOLLOWING INSTRUCTIONS OR YOUR BID WILL BE DISQUALIFIED

1. Bids must be submitted on printed forms furnished by the City Purchasing Office. Voluntary alternates may be attached to bid form, if necessary.
2. Bids must be in ink or typewritten.
3. Bids must contain bidder's complete name, address, and telephone number.
4. Bids must be signed in ink and dated.
5. Bids must include delivery or completion time.
6. If an addendum is issued by the City, it must be signed, dated, and returned with bid.
7. An **original** bid bond, bank money order, certified check, or cashier's check in the amount of five percent (5%) of the total amount bid must be submitted with any bid in excess of $100,000. The AIA Document A310 – 2010 bid bond is the preferred format. If the agreement is for multiple years, each year should be combined to get your total cost. **Facsimiles or copies of bid bond will not be accepted, and bid will be disqualified if submitted.**
8. All erasures or corrections to pricing information must be initialed in ink.
9. If this is a Davis-Bacon Prevailing Wage Project, it will include a wage decision and Division 2. The City of Saginaw does not have a Prevailing Wage ordinance.
10. In case of a discrepancy between a unit price and its extension, the unit price will be considered correct, and the bid will be recalculated to determine the amount bid. All addition errors will be corrected, and the total bid will be adjusted to reflect the corrections.
11. All bids must be in the City Purchasing Office, 1315 S. Washington Ave. Saginaw, MI 48601 by the date and time specified on bid forms. The Purchasing Office is located at Saginaw City Hall in room #105.
12. Each bidder's envelope, FED EX box/letter, UPS box/letter, or any other method of sealed delivery must have the bid number or contract number on the outside of the container. **UNMARKED BIDS WILL BE DISQUALIFIED.**
13. EACH BID MUST BE ENCLOSED IN A SEPARATE SEALED ENVELOPE WITH **SEALED BID AND THE BID NUMBER** MARKED ON THE FRONT. A COPY OF THE ORIGINAL BID MUST ALSO BE INCLUDED IN THE BID.

RIGHT OF CITY TO ACCEPT OR REJECT BIDS

THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY AND ALL BIDS, OR PARTS THEREOF, AND TO WAIVE ANY IRREGULARITIES WHICH DO NOT MATERIALLY AFFECT THE BID DOCUMENT OR OTHERWISE CONFLICT WITH STATUTE OR ORDINANCE. ANY REJECTION OF BIDS SHALL BE MADE ONLY IF THERE IS A SOUND DOCUMENTED REASON FOR SAME.

REV 9-2021

GENERAL INFORMATION

MAIL OR DELIVER ALL SEALED BIDS TO THE FOLLOWING ADDRESS BY THE DATE AND TIME SPECIFIED ON BID FORM

CITY OF SAGINAW PURCHASING OFFICE – ROOM #105
1315 S. WASHINGTON AVENUE, SAGINAW, MICHIGAN 48601

SEALED BID DOCUMENTS

EFFECTIVE IMMEDIATELY: All interested bidders may obtain bid document forms, proposal instructions, general specifications, and bid results from the City of Saginaw website **(www.saginaw-mi.com).**

NO CONTRACT SHALL BE VALID UNLESS APPROVED BY CITY COUNCIL

Pursuant to the Charter of the City of Saginaw, written contracts involving the Expenditure of $2,000 or more shall require the approval of City Council. No City Employee has the authority to bind the City to such a contract.

ALTERATION OF BID BY BIDDER

After bids have been opened, the bidder will not be allowed to withdraw, modify or correct any bid. Substitutions and alternates: If a document is issued with the language "No Substitutions, then none will be considered. If a document does not include this language the respective bidder can include a substitution and/or alternate of which the Cit reserves the right to determine equivalent.

EVIDENCE OF BIDDER'S QUALIFICATIONS

Bidders may be required to give some satisfactory evidence that they have been regularly engaged in the business or are reasonably familiar therewith, and that they are fully prepared with the necessary capital, materials, and machinery to complete the work or to furnish the material contracted for the satisfaction of the city.

FAMILIARITY OF BIDDER WITH CONTRACT REQUIREMENTS

Bidders are warned that they must inform themselves of the character and amount of work, labor, or material to be furnished under the contract.

CONTRACT ASSIGNMENTS OR TRANSFERS PROHIBITED

The assignment or transfer of a contract or of interest in the contract are prohibited unless approved by the proper City department and City Council.

CITY INCOME TAX COMPLIANCE

Bidders are hereby notified that the City of Saginaw has an income tax. All successful bidders will be subject to income tax withholding and compliance is mandatory. Per section 14 of the City of Saginaw uniform income tax ordinance, the tax percentage is 1.5% on income earned from the City. The tax shall apply on the taxable net profits of a corporation doing business within the City, being levied on such part of the taxable net profits as is earned by the corporation as a result of work done, services rendered and other business activities conducted with the City as determined in accordance with this ordinance.

WITHHOLDING FROM PAYMENTS

As part of the consideration for any bid/contract, all bidders agree to have withheld from any payment due them, any amounts for taxes, fees, or other charges due the City of Saginaw.

CONTRACT COMPLIANCE ORDINANCE

The City of Saginaw has a Contract Compliance Ordinance, which requires bidders to submit documentation furnished by the City indicating compliance with the Ordinance. Contract compliance forms must be sent to the City Purchasing Office; 1315 S. Washington Avenue; Saginaw, Michigan 48601. Forms may be obtained by calling (989) 759-1430.

BID FORMS

A copy of the original bid form is to be enclosed in the bid envelope (original plus a complete copy). "All or None" means bidders are required to submit pricing for all years and/or all items requested. Any proposal received that does not meet this requirement will be disqualified. If said bid is not listed as "All or None" the City reserves the right to split said bid to our best benefit. If you receive a bid copy from our website and have never conducted business with us you can also complete a copy of the "Vender Compliance From" are return it to us or contact our Purchasing Office so you can be formally added to the respective bidder list for that good or service. (989) 759-1430.

BID RESULTS

A bid tabulation sheet showing the initial results will be posted on our website within 48 hours of the bid opening date. Once the respective department reviews the bids, they will make a recommendation on who our City Council should award the bid to. At that time, the recommendation will also be posted on the tabulation sheet as a secondary notice.

INSTRUCTIONS AS PART OF CONTRACT

These instructions are to be construed with and made part of the contract or purchase order.

GENERAL INSTRUCTION TO BIDDERS

1. INTENT

It is the intent of the City, unless otherwise specified, that work on any contract awarded under the advertisement, to be started no later than Thirty (30) calendar days after award of the contract or the date specified in the contract documents, and that the work shall be carried on with due diligence, at such points and at such times and seasons, and with such force and in such manner as to secure its completion on or before the completion date as specified in the advertisement or as determined by the proposal or construction schedule, submitted by the Contractor.

2. INTERPRETATIONS OR ADDENDA

No oral interpretation will be made to any bidder *as* to the meaning of the contract documents or any part thereof. Every request for such an interpretation shall be made in writing to the City Engineer. Any inquiry received seven (7) or more days prior to the date fixed for the opening of bids will be given consideration. Every interpretation made to a bidder will be in the form of an addendum to the contract documents and when issued will be on file in the office of the City Purchasing Officer and the office of the City Engineer. In addition, it shall be *the* bidder's responsibility to make inquiry as to the addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda, whether or not received by the bidder.

3. INSPECTION OF SITE

Each bidder should visit the site of the proposed work and fully acquaint themselves with the existing conditions there relating to the work and should inform themselves as to the facilities involved, the difficulties and the restrictions attending the performance of the contract. The bidder shall thoroughly examine and familiarize themselves with the drawings, specifications, and all other contract documents. The Contractor by the execution of the contract shall in no way be relieved of any obligation under it due to their failure to receive or examine any form or legal instrument or to visit the site and acquaint themselves with the conditions there existing. The City of Saginaw will be justified in rejecting any claim based on facts regarding which he should have been on notice *as* a result thereof.

4. BIDS ON MORE THAN ONE CONTRACT

Any bidder may **submit** a proposal on any single contract, or on any number of contracts, or on all the contracts included in the advertisement. Bidders are cautioned to give full consideration to other commitments which might effect the starting date, schedule of progress, or completion date for any contracts awarded hereunder.

5. DEFINITIONS

The term "City Engineer" shall mean the Director of Public Service, or the City Engineer of the City of Saginaw.

The term "Department of Engineering" shall mean the Department of Public Services and Engineering of the City of Saginaw.

6. CORRECTIONS

All erasures or corrections to pricing information must be initialed in ink.

7. COLLUSIVE AGREEMENT (SEE PROPOSAL)

Each bidder submitting a bid to the City of Saginaw for any portion of the work contemplated by the documents on which bidding is based shall by signing the proposal form sheet agree that the bid is genuine and not sham or collusive or made in the interests or on behalf of any person not therein named. That the bidder has not directly or indirectly induced or solicited any bidder to put in a sham bid or any other person or corporation to refrain from bidding, and that the bidder has not in any manner sought by collusion to secure himself an advantage over other bidders.

8. STATEMENT OF BIDDER'S QUALIFICATIONS

Each bidder shall, upon request of the City of Saginaw, submit a statement of the bidder's qualifications, their construction experience, and their organization and equipment available for the work contemplated, and when specifically requested by the City of Saginaw, a detailed financial statement. The City of Saginaw shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform their obligations under the contract, and the bidder shall furnish the City of Saginaw all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available evidence or information does not satisfy the City of Saginaw that the bidder is qualified to carry out properly the terms of the contract.

9. ALTERNATIVE BIDS

No alternative bids will be considered unless specifically requested.

10. BIDS

a. Bidders are warned that they must inform themselves of the character and amount of work, labor, or material to be furnished under the contract. All bids must be submitted on forms supplied by the City of Saginaw and shall be subject to all requirements of the contract documents, including the drawings and these INSTRUCTIONS TO BIDDERS. All bids must be regular in every respect and no interlineations, excisions or special conditions shall be made or included in the Bid Form by the bidder. After bids have been opened, permission will not, in any case, be given for the withdrawal, modification or correction of any bid.

b. Bid documents, which are mailed shall include the bid, the bid guaranty (when required), the non-collusion affidavit, and the statement of bidder's qualification (if requested) and shall be enclosed in envelopes (outer and inner) both of which shall be sealed and clearly labeled "Sealed

Bid", (outer envelope properly addressed to "City of Saginaw Purchasing Office, 1315 S. Washington Avenue, Saginaw, Michigan 48601") project name and number, name of bidder, and date and time of bid opening, in order to guard against premature opening of the bid. All proposals must be either filled out in ink or typewritten; typewritten is preferred. Bids to include a copy along with the original.

c. The City of Saginaw may consider as irregular any bid on which there is an alteration of the bid form hereto attached and at its option may reject the same.

d. If the contract is awarded, it will be awarded by the City of Saginaw to a responsible bidder on the basis of the bid most favorable to the City of Saginaw. The contract will require the completion of work according to the contract documents. Transfer of contract or of interests in contract are prohibited unless approved by the proper City agency.

e. Each bidder shall include in his bid the following information:

I. Bidder Name
II. Address
III. City, State, Zip Code
IV. Telephone Number
V. E-mail
VI. Status

11. BID GUARANTY (When Applicable) (Effective February 16, 1984)

a. Bids of $100,000 or more must be accompanied by a bid guaranty which shall not be less than five percent (5%) of the total contract cost of construction including all overhead items. The bid bond shall be secured by a guaranty, or a surety company listed in the latest issue of U.S. Treasury Circular 570 and authorized to transact surety business in the State of Michigan. The amount of such bid bond shall be within the maximum amount specified for such company in said Circular 570. At the option of the bidder, the guaranty may be a certified check, cashier's check, bank money order or a bid bond in the amount specified. The AIA document A310 – 2010 bid bond is the preferred format. No bid will be considered unless it is accompanied by the required guaranty. The certified check, cashier's check, bank money order or a bid bond must be payable to the order of the City of Saginaw. The bid guaranty shall insure the execution of the agreement and the furnishing of the surety bond or bonds by the successful bidder, as required by the contract documents.

b. Revised bids submitted before the opening of bids, representing an increase in excess of two percent (2%) of the original bid, must have the bid guaranty adjusted accordingly, otherwise the bid will not be considered.

c. Certified checks or cashier's check, bid bonds, and bank money orders of unsuccessful bidders, will be returned as soon as practicable after award of a contract.

12. UNIT PRICE BIDS

The unit price for each of the several items in the proposal of each bidder shall include its pro-rata share of overhead so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price bid represents the total bid. In case of a discrepancy between a unit price and its extension, the unit price will be considered correct, and the bid will be recalculated to determine the amount bid. All addition errors will be corrected, and the total bid will be adjusted to reflect the corrections. Special attention of all bidders is called to this provision, should conditions make it necessary to revise the quantities. No limit will be fixed for such increased or decreased quantities nor extra compensation allowed, provided the net monetary value of all such additive and subtractive changes in quantities or such items or work shall not increase or decrease the original contract prices by more than twenty percent (20%) unless mutually agreed upon in writing by the City Engineer and Contractor, that extra work, that is work not covered in the drawings and specifications, shall not increase the original contract by more than twenty percent (20%).

13. PUBLIC ACT 524 OF 1980 (When Applicable)

Sec.2 (1) 1980 P.A. 524 states as follows:

The construction contract shall designate a person representing the Contractor who will submit written requests for progress payments, and a person representing the public agency to whom request for progress payments are to be submitted. The written requests for progress payments shall be submitted to the designated person in a manner and at such times as provided in the construction contract.

Therefore, the Contractor shall state on “Bid Proposal” the name of the person who will be submitting request for progress payment and the request shall be made to the City Engineer.

14. TIME FOR RECEIVING BIDS

Bids received prior to the time of opening will be securely kept unopened. The Purchasing officer will decide when the specified time has arrived. No bid received thereafter will be considered, except that when a bid arrives by mail after the time fixed for opening, but before the reading of other bids is completed, and it is shown to the satisfaction of the City of Saginaw that the non-arrival on time was due solely to delay in the mails for which the bidder was not responsible, then such bid will be received and considered.

15. OPENING OF BIDS

At the time and place fixed for the opening of bids, the City of Saginaw open and publicly read aloud every bid received within the time set for receiving bids, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.

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16. WITHDRAWAL OF BIDS

Bids may be withdrawn on written or telegraphic request dispatched by the bidder in time for delivery in the normal course of business prior to the time fixed for opening, provided that written confirmation or any telegraphic withdrawal over the signature of the bidder is placed in the mail and postmarked prior to the time set for bid opening. The bid guaranty of any bidder withdrawing his bid in accordance with the foregoing conditions will be returned promptly.

17. AWARD OF CONTRACTS: REJECTION OF BIDS

a. The contract will be awarded to the lowest responsible bidder complying with the conditions of the SEALED BID INFORMATION, provided such bid is reasonable and it is to the interest of the City of Saginaw to accept it. The City of Saginaw, however, reserves the right to accept or reject any and all bids or parts thereof, and to waive any irregularities in a bid except those specific any mentioned in the "Sealed Bid Instructions".

b. The City of Saginaw reserves the right to consider as unqualified to perform the contract, any bidder who does not habitually perform with his own forces, the major portions of the work involved.

c. On contracts of $50,000 or more, the bidder to whom the Purchasing Committee recommends for award will be required to provide bonds prior to award as outlined in Division 1, Section 121.

18. CONSTRUCTION SCHEDULE

In addition to the progress clause incorporated in the proposal, the successful bidder on any single contract, when so requested by the City Engineer, shall submit a schedule of the maximum number of calendar days required for the completion of the contract. The number of calendar days so stated, when approved by the City Engineer, shall be added to the starting date specified in Paragraph 1, and the date thus determined shall become the completion date of such contract unless otherwise specified in the contract.

The successful bidder on any two or more contracts, or the successful bidder on any single contract who also has uncompleted work on other City of Saginaw construction contracts previously awarded, shall prepare a Construction Schedule for submission to and approval by the City Engineer. When so requested by the City Engineer, the Construction Schedule shall be submitted immediately after the tabulation of bids in order that the information therein contained may be considered in the recommendation as to award of contracts. In any case, the Construction Schedule shall be submitted prior to the preparation of contract documents and not later than five (5) days after the tabulation of bids.

The Construction Schedule shall indicate the proposed sequence of operations, including any previously awarded City of Saginaw construction contracts not completed. The schedule shall show the total calendar days required for each contract and the date for starting and completion in each instance.

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The schedule shall show whether or not the Contractor proposes to use more than one construction crew and, if requested, shall itemize the types and quantities of machinery and equipment available for the work.

19. SUBCONTRACTS

The Contractor's attention is directed to the requirements as outlined in Section 103, "SUBCONTRACTS", under Division 1, "General Conditions".

20. PRE-CONSTRUCTION MEETING

If so requested by the City Engineer, the Contractor shall make themselves available for a pre-construction meeting. The time and place of the meeting to be designated by the City Engineer.

21. PURCHASING ORDINANCE

The Purchasing Ordinance of the City of Saginaw, §14.30-14.45, applies to all contracts, sub-contractors, or purchase orders except where portions of the Ordinance may be preempted by law:

22. CONTRACT COMPLIANCE DOCUMENTATION

The following documents are to be filled out “Contract Compliance Agreement” and the “City of Saginaw Vendor Information” which are provided by the Purchasing Department.

23. MICHIGAN’S ELLIOTT-LARSEN CIVIL RIGHTS ACT, PUBLIC ACT 453 of 1976, as amended

All contracts in which the City of Saginaw is a party shall contain a covenant by the Contractor and any subcontractors 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 race, color, religion, national origin, age, sex, height, weight, sexual orientation, gender identity, marital status, or membership in another class of persons protected by law. Breach of this covenant may be regarded as a material breach of the contract.

24. MICHIGAN’S PERSONS WITH DISABILITIES CIVIL RIGHTS ACT, PUBLIC ACT 220 of 1976, as amended

All contractors and subcontractors shall be subject to and comply with the Michigan Persons with Disabilities Civil Rights Act which prohibits discriminatory practices, policies, and customs in the exercise of the civil rights of individuals with disabilities. A violation of the act may be regarded as a material breach of the contract.

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25. AMERICANS WITH DISABILITIES ACT (ADA) of 1990, as amended

All contractors and subcontractors shall be subject to and comply with all the provisions of the Americans with Disabilities Act (ADA) of 1990. A violation of the Act may be regarded as a material breach of this contract.

26. CIVIL RIGHTS ACT OF 1964, as amended

All contractors and subcontractors shall be subject to and comply with all the provisions of the Civil Rights Act of 1964 which prohibits discrimination based on race, color, religion, sex, and national origin. A violation of the act may be regarded as a material breach of the contract.

27. GENETIC INFORMATION NONDISCRIMINATION ACT OF 2008 (GINA), as amended

All contractors and subcontractors shall be subject to and comply with all of provisions of the Genetic Information Nondiscrimination Act of 2008 which prohibits the use of genetic information in making employment decisions. A violation of the act may be regarded as a material breach of the contract.

Table of Contents

Division 1 – General Conditions		Page
101.	Definitions	2
102.	Application of Conditions	2
103.	Subcontracts	3
104.	Assignment of Contract	3
105.	Responsibilities of Contractor	3
106.	City Engineer's Power	4
107.	Contracts for Other Work	4
108.	Progress	5
109.	Contractor's Employees	5
110.	Drawings	5
111.	Changes in the Work	6
112.	Right of City to Take Over Contract	7
113.	Extension of Time	8
114.	Liquidated Damages	9
115.	Disputes	9
116.	Service of Notice	10
117.	Qualifications of Contractor	10
118.	Indemnity	10
119.	Insurance	10
120.	Patents, Royalties, Trademarks, Etc.	10
121.	Performance Bonds and Payment Bond	10
122.	Facilities and Notices for Inspection	11
123.	Materials and Workmanship	12
124.	Samples, Certificates and Tests	12
125.	Permits and Codes	13
126.	Care of Work	14
127.	Review by the City of Saginaw	14
128.	Sanitary Facilities	15
129.	Water	15
130.	Stoppage of Work and Crossings	15
131.	Privileges of Contractors in the Street	15
132.	Excavations under Railroads	16
133.	Barricades and Traffic Controls	16
134.	Grade Stakes	17
135.	Street Monuments	17
136.	Sunday and Night Work	17
137.	Test Borings, Test Holes or Test Pits	17
138.	Cleaning Up	17
139.	Correcting Work	17
140.	Accident Prevention	18
141.	Request for Supplementary Information	18
142.	Warranty of Title	18

Division I
General Conditions

143. Fair Employment Practices 19
144. Acceptance 20
145. Guarantee 20
146. Michigan Sales & Use Tax 20
147. Final Inspection 20

101. Definitions

Wherever used in any of the Contract Documents, the following meanings shall be given to the terms herein defined:

a. The term "Contract" is defined as the Contract executed by the City of Saginaw and the Contractor, of which these General Conditions, Specifications and Divisions are incorporated into by reference.

b. The term "Contractor" is defined as the person(s), firm, partnership, company, sole proprietorship, or corporation entering into the Contract with the City of Saginaw to construct and install the improvements, or otherwise undertake the activities, embraced in this Contract.

c. The term "City Engineer" is defined as the City Engineer of the City of Saginaw acting personally or, in the absence of the City Engineer, through their designee.

d. The term "Engineer" is defined as the City engineer acting directly or indirectly through their authorized representatives acting within the limits of the respective authority delegated to them. Any determination, directions, or approval of such authorized representatives shall be subject to review by the City Engineer.

e. The term "Contract Documents" is defined as and shall include the following: Executed Agreement, Addenda (if any), Invitation for Bids, Instructions to Bidders, Signed Copy of Bid, Specifications, Divisions, Special Conditions, Technical Specifications and Drawings

f. The term "Technical Specifications" is defined as that part of the Contract Documents which describes, outlines, and stipulates the quality of the materials to be furnished; the quality of the workmanship required; and the methods to be used in carrying out the construction work to be performed under this Contract.

g. The term "Addendum" or "Addenda" is defined as any changes, revisions or clarifications of the Contract Documents which have been duly issued by the City of Saginaw to prospective Bidders prior to the time of receiving Bids.

102. Application of Conditions

These conditions and the clauses on the following pages, printed as well as written, shall apply to all branches of the work with equal force, whether the work is done under one entire Contract or under several separate Contracts.

Division I
General Conditions

103. Subcontracts

The Contractor shall, as soon as practicable after signing the Contracts, but in any event prior to the performance of any work by any subcontractor, notify the City in writing of the names of subcontractors proposed for the work, designating the portions of work to be performed by each. The Contractor is as fully responsible to the City for the acts and omissions of the Subcontractors and of persons either directly or indirectly employed by them as for the acts and omissions of persons directly employed by the Contractor.

Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the City.

104. Assignment of Contract

a. It is agreed that the Contractor shall not assign or transfer this Contract, or any part of the work embraced in it, except with the written consent of the City to do so.

b. It is further agreed that all parts of the work which may be performed by a subcontractor shall conform to the Plans and Specifications and be subject to all the provisions of this Agreement exactly as if performed by the Contractor and the Contractor's immediate employees. No subcontracting of the work shall in any way diminish or weaken the responsibility of the Contractor for all parts of the work or lessen the obligations and liabilities of the Contractor under this Agreement.

c. It is likewise agreed that the Contractor shall not assign, either legally or equitably, any of the monies payable to the Contractor under this Agreement, or the Contractor's claim thereto, except with the written consent of the City.

105. Responsibilities of Contractor

a. The Contractor shall be held to have examined the premises and line of work and shall take the whole responsibility of the work. Should any unforeseen difficulty or obstruction be encountered in the prosecution of the same, involving a greater expenditure of money than expected at the time of bidding, the Contractor shall proceed, nevertheless, with the work, and no allowance will be made therefore.

b. It shall not be incumbent upon the City to notify the Contractor when to begin, to cease or to resume work, nor in any way to manage the work so as to release the Contractor of responsibility, or of any consequence of neglect or carelessness by the Contractor or anu subordinates.

c. The Contractor shall devote time and management/superintendence to the fulfillment of this Contract and shall keep the same under the Contractor's control.

d. The Contractor shall assume and have sole charge and possession of all work included in this contract, until the termination thereof, unless otherwise specified in this contract, and shall be solely liable for all damages to persons or property occasioned in any way by the

Division I
General Conditions

Contractor's acts or omissions, or that of the Contractor's agents, employees, subcontractors, or any persons in and about the work embraced in this Contract.

e. Prior to the start of construction in the public right-of-way, it shall be the responsibility of the Contractor to notify the TRAFFIC ENGINEERING DIVISION of said work. In the case where complete street closure is necessary, it shall be the responsibility of the Contractor to notify the TRAFFIC ENGINEERING DIVISION, FIRE DEPARTMENT AND POLICE DEPARTMENT at least forty-eight (48) hours prior to the start of said work.

106. City Engineer's Power

All work and material furnished under this contract shall be furnished under the direction of and to the satisfaction and approval of the City Engineer. Should any dispute arise as to quality or fitness of the materials or workmanship, the decision shall rest strictly with the City Engineer and shall be based upon the requirements that all work done and materials furnished shall be performed in a good and workmanlike manner, conform to all Technical Specifications and Drawings and other requirements of the Contract in every respect, and what is useable and customary shall in no way enter into any consideration or decision whatsoever. The City Engineer shall have power to condemn all work and reject all material which, in his or her opinion, is not done or furnished in accordance with this Contract. However, this power and authority shall be confined to the direction or specification of what is to be done under this Contract and shall not extend to the actual execution of the work which shall be under the control of the Contractor, and for which the Contractor alone shall be responsible.

107. Contracts for Other Work

a. In case any additional work shall be required in connection with the work contemplated under this Contract, the City shall have the right to have such additional work done by any person other than the Contractor, and the Contractor shall in no way interfere with the work of such person(s), and shall suspend such part of the work herein specified, or will carry on the same in such manner as ordered by the City Engineer, so as to afford all reasonable facilities for doing such additional work, and the Contractor shall make no claims for damages or for privileges or rights by reason of the suspension and the doing of such additional work, except for such extension of time to perform this Contract as may be certified by the City Engineer.

b. The City reserves the right to lay or relay, construct or repair any water mains, gas mains, sewers, conduits and all other pipes and any connections thereto, or to grant permits to those having franchise rights from the City to install or reinstall, construct or repair such water mains, gas mains, sewers or conduits and other pipes and connections thereto at any time, and to do such other underground work in the street or streets, easements or vacated Right of Way, along the line of work as shall be necessary, or grant permits for same, at any time prior to the completion of the foundation for the paving material within the limits of this improvement, and to that end shall have the right to suspend the work on the said improvement, or any part thereof, and the Contractor shall not interfere with

or place any obstruction in the way of any person or persons who may be engaged in doing any of the work herein specified, and shall not be entitled to damages because of such work or any delay caused thereby.

108. Progress

In addition to the progress clause incorporated in the Contractor's proposal/response, the Contractor shall be required to submit, on demand of the City Engineer, an outline of the proposed order of work and to indicate the dates of completion of the major items of the work. This outline, when approved by the City Engineer, may be incorporated in, and become a part of the Contract.

109. Contractor's Employees

a. The Contractor shall employ suitable superintendents and forepersons, who, in the absence of the Contractor, shall be present while any work is being done under this Contract, and who shall follow, without delay, all orders and instructions of the City Engineer. Any notice given to a superintendent or foreperson relative to deviation from any of the requirements of this Contract shall be equivalent to a notice to the Contractor.

b. The superintendents, forepersons, employees, mechanics, and others employed by the Contractor shall be skilled in the assignment of work given them to do. Any employee of the Contractor who uses profane or abusive language to the Engineer or any Inspector, or otherwise impedes or embarrasses him in the performance of his duties, or who obstructs the progress of the work shall upon the request of the City Engineer be immediately removed from the project/worksite and not again employed at same without the consent of the City Engineer.

c. In doing any work contemplated by this Contract, eight (8) hours shall constitute a legal day's work by any laborer or worker employed by the Contractor.

d. Residents of the City of Saginaw shall be employed upon the work of this Contract as far as possible to do so.

110. Drawings

a. These Specifications and accompanying Drawings are intended to be cooperative, and what is called for by either shall be as binding as if called for by both. Should it appear that the work hereby intended to be done, or any of the materials or matters relative thereto, are not sufficiently detailed or explained on said Drawings or in said Specifications, or should any error, discrepancy or inconsistency appear between any of the Drawings and Specifications, or between any of the several Drawings, or should any doubt or misunderstanding arise as to the meaning of said Drawings or Specifications, the City Engineer shall furnish such additional drawings, detail or explanation, and he shall have power to interpret, correct, adjust and explain all errors, omissions, discrepancies, doubts and misunderstandings between such Drawings and Specifications, or between several Drawings, and the decision of the City Engineer therein shall be final and conclusive.

Division I
General Conditions

Explanations received from officers and employees other than the City Engineer will be considered of no avail in a case of dispute.

b. Preference shall be given to the figured dimensions on the Drawings rather than to scale measurements. Figures, unless witnessed by lines and points, are approximate only, and shall not be taken to regulate the dimensions of the structure of improvement. The figures, when so witnessed, are intended to show the exact dimension for the construction of the structure or improvement, but the Contractor, without extra charge, shall make such slight alterations as may be necessary to make adaptable parts fit to fixed parts, leaving all complete and in proper shape when done. It shall be the duty of the Contractor to verify all dimensions given on the Drawings, and to report any error or inconsistency to the City Engineer before commencing work.

111. Changes in the Work

a. No deviation from the Drawings and Specifications shall be made in the execution of the work without the written order and approval of the City Engineer, nor shall any work in the nature of additional work, or any work not contemplated by the Specifications or Drawings, be performed, except on written order of the City Engineer, and if any extra work be proceeded with or executed by the Contractor without previous order given in writing under the hand of the City Engineer as herein provided, no compensation for the same will be allowed. Extra work shall be defined as work not contemplated in the Contract, not covered in the Drawings and Specifications, and for which no unit prices have been stipulated.

b. Should it be deemed expedient by the City Engineer, at any time previous to commencing work, or while the work is in progress, to increase or diminish the dimensions, quantities of material or work, or alter the situation or levels, or vary from the form or dimensions of any part of said work, or vary in any other way the work herein contracted for, the City Engineer shall have full power to do so and to order and direct any such increase, diminution, alteration, or extra work to be made or performed, and without in any way deviating or affecting this Contract; and the Contractor hereby waives any claim to right to damages that the Contractor may be entitled to by reason of such changes. The Contractor shall, in pursuance of such order and directions received in writing from the City Engineer, execute the work thereby ordered and directed, and the difference in expense occasioned by such increase, diminution or alteration, shall be added to or deducted from the amount payable under this Contract.

c. The Contractor shall perform any extra work (work in connection with the Contract but not provided for herein as defined in subparagraph a. of his section) when and as ordered in writing by the City Engineer, either (a) at the price agreed upon before such work is commenced and named in the written order for such work, or (b) if the City Engineer so elects, for the reasonable cost of such work, as determined by the Contractor and approved by the City Engineer, plus a percentage of such cost, as set forth below. No extra work shall be paid for unless specifically ordered as such in writing by the City Engineer.

Division I
General Conditions

The cost of extra work done under subparagraph b. of this section shall include the reasonable cost to the Contractor of materials used and equipment installed, common and skilled labor, and forepersons, and the fair rental for all machinery and equipment used on the extra work for the period of such use.

At the request of the Engineer, the Contractor shall furnish itemized statements of the cost of the extra work ordered as above and give the Engineer access to all records, accounts, bills and vouchers and correspondence relating thereto.

The fair rental of all machinery and equipment shall be based upon the most recent edition of the Michigan Department of Transportation Equipment Rental Rates (Schedule C), or a similar publication approved by the City Engineer. Rental for machinery and equipment shall be based upon an appropriate fraction of the approved monthly rate schedule. If said extra work requires the use of machinery or equipment not already on the site of the work, the cost of transportation, not exceeding a distance of 100 miles, of such machinery or equipment to and from the Job Site or Work Location shall be added to the fair monthly rental; provided, however, that this shall not apply to machinery or equipment already required to be furnished under the terms of the Contract.

The Contractor shall not include in the cost of extra work any cost or rental of small tools, buildings, or any portion of the time of the Contractor, the superintendent, or the office and engineering staff.

To the cost of extra work done by the Contractor's own forces under (b) above (determined as stated above), the contractor shall add 15 percent to cover the overhead, use of capital, the premium on the bonds as assessed upon the amount of this extra work, and profit.

If extra work is done under subparagraph b. of this section, the Contractor and/or subcontractor shall keep daily records of such extra work. The daily record shall include the names of people employed; the nature of the work performed, and hours worked, materials and equipment incorporated, and machinery or equipment used, if any, in the execution of such extra work. This daily record, to constitute verification that the work was done, must be signed both by the Contractor's authorized representative and by the Engineer. A separate set of daily records shall be submitted for each extra work order.

d. The City Engineer may order the Contractor to proceed with desired changes in work provided that the net value of all such changes does not increase or decrease the original total amount shown in the Contract by more than twenty percent (20%) unless mutually agreed upon in writing by the City Engineer and the Contractor and further, that "extra work" shall not increase the original Contract by more than twenty percent (20%) in accordance with the section entitled "Unit Price Bids" under "General Instructions to Bidders."

112. Right of City to Take Over Contract

If the work to be done under this Contract shall be abandoned, or if the Contractor shall become insolvent or shall assign this Contract or subcontract the work hereunder without the written consent of the City Engineer, or if at any time the City Engineer shall be convinced

that the work is unnecessarily or unreasonably delayed, or that the Contractor is not making such progress in the execution of the work as to indicate its completion within the required time, or that the conditions or agreements of the Contract are being willfully violated or executed carelessly or in bad faith, the City Engineer shall provide the Contractor with a 24-hour notice, in writing, and, after the delivery thereof to the Contractor, the City Engineer shall then have the power and right to place additional laborers and equipment on said work and supply additional material, if necessary, and do such work as deemed advisable for the completion of this Contract, and may use any materials or implements belonging to the Contractor, or the City Engineer shall have the power and right to notify the Contractor to discontinue all work, or any part thereof, under this Contract, and upon such notifications, the Contractor shall discontinue said work, or such parts thereof, as the City Engineer may designate, and the City shall thereupon have the right and power to re-let this Contract, or any part thereof, or to employ, by contract or otherwise, and in such manner and at such prices as it may determine, any person or persons, and obtain any vehicles, applications, machinery, tools, another means of construction, and to procure all proper materials which it may deem necessary to work at and to be used to complete the work herein described; also the power to use such appliances, tools, and materials and means of construction of every description as may be found upon the line of work, both such as entered into the completed work and such as are necessarily used in and about the same in the course of construction, and to procure other proper materials for the completion of the same; and it shall charge the expense of all such labor, materials, vehicles, appliances, machinery, tools and other means of construction, and all expense of inspection and engineering and all other expenses, to said Contractor, and the Contractor shall be liable to the City for the amount of the whole cost of accomplishing the object contemplated by this Contract in excess, if any, of the amount herein agreed upon, together with such other elements of damage as may have been sustained by the City by reason of said Contractor's failure to complete and perform this Contract. In determining the liability of the Contractor hereunder, the City shall not be required to obtain the lowest figures for the work of completing the contract, but all sums actually paid for such completion shall be credited to the City, together with other elements of damage above mentioned, and the certificate of the City Engineer as to the amount of such liability shall be final and conclusive.

113. Extension of Time

a. An extension of time for completion of the work under the Contract may be granted by the City Engineer, subject to the conditions of this paragraph, but only upon the written application of the Contractor. In general, an extension of time will be granted by the City Engineer only if the delay is unavoidable and substantial, not the fault of the Contractor, and could not be reasonably anticipated or adequately guarded against. The Contractor will not be liable for liquidated damages during the period for which time of completion is extended by the City. The Contractor shall be entitled to a reasonable extension of time for unavoidable delay in completion caused solely by the following:

   I. Any act or omission of the City, its officer or employees;

   II. Any act of other public authorities;

Division I
General Conditions

III. Causes not reasonably foreseeable by the parties at the time of the execution of this Contract and which are entirely beyond the control and without the fault or negligence of the Contractor, including, but not limited to, act of God, or the public enemy, war or other national emergency making performance temporarily impossible or illegal, acts or omissions of other contractors (but not the Contractors subcontractors), strikes and labor disputes not brought on by any act or omission of the Contractor, fires, floods, epidemics, quarantine restrictions, freight embargoes, weather of unusual severity such as cyclones or tornadoes, or excessively abnormal weather such as would interfere with the work.

b. The City Engineer will make a determination, based on the ascertained facts and the terms of this Contract, if an extension of time is justified, and, if so, will extend the time for completing the work for a period commensurate with the period of excusable delay. The determination made by the City Engineer shall be binding and conclusive on the Contractor.

114. Liquidated Damages

In the event of delay in the completion of the entire work beyond the period herein prescribed or beyond the period to which such time may be extended by the City, the City of Saginaw shall be paid the sum that is listed on the "Special Provision For Liquidated Damages." for each and every calendar day that the time consumed in said performance and completion extends beyond the final date herein specified, and this sum will be considered liquidated damages that the City will suffer by reason of said delay and default. As indicated in Article 6 of this Contract, this provision for liquidated damages applies separately to each proposal contained in the Contract.

115. Disputes

a. All disputes arising under this Contract or its interpretation, whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall within ten (10) days of commencement of the dispute, be presented by the Contractor to the City Engineer for decision. All papers pertaining to claims shall be filed in quadruplicate. Such notice need not detail the amount of the claim but shall state the facts surrounding the claim in sufficient detail to identify the claim, together with its character and scope. In the meantime, the Contractor shall proceed with the work as directed. Any claim not presented within the time limit specified within this subparagraph all be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days of its commencement, the claim will be considered only for a period commencing ten (10) days prior to the receipt by the City Engineer of notice thereof.

b. The Contractor shall submit in detail the claim and the proof thereof. Each decision by the City Engineer will be in writing and will be mailed to the Contractor by both regular mail, email, and/or certified mail, return receipt requested.

c. If the Contractor does not agree with any decision of the City Engineer, the Contractor shall not allow the dispute to delay the work but shall notify the City Engineer promptly

Division I
General Conditions

that the Contractor is proceeding with the work under protest and may then accept the manner in question from final release.

116. Service of Notice

Service of notice by the City upon the Contractor may be made by service upon the Contractor, the superintendent, foreman, agent or representative personally or by certified mail, return receipt requested, sent by the City Engineer to the Contractor, and the receipt of such notice by said Contractor, superintendent, foreman, agent or representative, shall constitute full and legal notice within the meaning of this Contract.

117. Qualifications of Contractor

The Contractor must be capable of performing the various items of work bid upon. The Contractor shall furnish on demand of the City Engineer a list of the Contractor's qualifications covering experience on similar work, a list of machinery, plants, and other equipment available for the proposed work, and such statements of any financial resources as may be deemed necessary.

118. Indemnity

The Contractor shall, at the Contractor's own expense, protect, defend, indemnify and hold harmless the City, and its officers, employees, agents, or representatives, from and against all claims, damages, liabilities, losses and expenses, including reasonable attorney's fees, resulting from the acts, omissions, or negligence of the Contractor, or any of the Contractor's officers, employees, agents, representatives, or subcontractors, in any way connected or otherwise related to their performance or nonperformance of this Contract.

119. Insurance

During the life of the Contract, the Contractor shall obtain and maintain the required insurance and bonds as shown on the "Notice to Bidders: Consultants – Bonds – Insurance". The Contractor shall neither be awarded this contract nor commence work under this contract until he has obtained all required documents and evidence of such has been reviewed and approved by the City of Saginaw. The insurance and bond requirements set forth herein are mandatory and not subject to negotiation.

120. Patents, Royalties, Trademarks, Etc.

All fees for claims and royalties for any patented inventions, materials, articles, methods, arrangements, or processes of manufacture that may be used on or in any way connected with the construction, erection or maintenance of this work, or any part thereof, embraced in this Contract, shall be included in the price stipulated and mentioned in the proposal to contract for said work. The City of Saginaw shall be the owner of any such work produced and paid for in connection with this Contract.

121. Performance Bonds and Payment Bonds

a. Prior to the award and within ten (10) days after the prescribed forms are presented for

signature, the successful bidder shall execute and deliver to the City of Saginaw an Agreement in the form included in the Contract Documents in such number of copies as the City of Saginaw may require.

b. Unless otherwise specified in the notice to bidders, the contractor shall furnish a performance and a payment bond. The bonds shall be required as provided by Act 213, Public Acts 1963, as amended. Performance bonds and payment bonds shall be in an amount not less than 100 percent (100%) of the total amount of the Contract, shall be executed by a corporate surety prior to award of Contract, and shall be subject to approval by the City Manager as to substance and by the City Attorney as to form. Irrespective of the provisions of Article 2 of this Contract, the Contractor shall not commence work hereunder until policies of the insurance required by Section 119 of General Conditions and the bonds required by this section shall have been furnished and approved by the City. Upon failure of the Contractor to furnish said insurance policies or bonds within ten (10) days prior to the award of the Contract by the Council, all of the Contractor's rights to the award of the Contract shall terminate unless the time for furnishing any of said instruments shall have been extended by the City Engineer; such extension shall be for good cause shown by the Contractor. Such termination shall not relieve the Contractor of his liability under his bid bond, and failure to provide the necessary surety bonds and insurance policies shall be treated as the failure of the Contractor to enter into the Contract pursuant to the Contractor's bid.

   Bid Bonds, Performance Bonds and Payment Bonds will be written with companies named in the Federal Register as published by the Department of the Treasury or acceptable to the City. Surety shall have a rating of no lower than an A- as rated by A.M. Best Key Rating Guide or acceptable to the City.

c. The failure of the successful bidder to execute this Contract and to supply the required bond or bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the City Engineer may grant, based upon reasons determined sufficient by the City Engineer as good cause shown by Contractor, shall constitute a default, and the City of Saginaw may either award the contract to the next best responsible bidder or re-advertise for bids, and may charge against the bidder the difference between the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by re-advertising the defaulting bidder shall have no claim against the City of Saginaw for a refund.

122. Facilities and Notices for Inspection

The City Engineer and duly authorized inspectors shall at all times have the right to enter the premises upon which said work is being done, or upon which material is manufactured, prepared or stored, for work under this Contract, and to inspect said work and materials, and to ascertain whether or not the construction is carried out in accordance with this Contract; and the Contractor shall render all necessary assistance and provide all reasonable facilities and give ample time for such inspection. When any work or material is being executed or prepared away from the line of work, the City Engineer shall be notified in reasonable time

where such work is being executed and such material prepared and when it will be ready for inspection so that inspection may be made from time to time before delivery. Failure or neglect on the part of the City Engineer or any inspector to condemn any material at the time of its being supplied or furnished shall not be construed to imply an acceptance thereof.

The Contractor shall notify the Engineer sufficiently in advance of backfilling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the Engineer, the Contractor shall uncover for inspection and recover such facilities, at the Contractor's own expense, when so requested by the Engineer.

123. Materials and Workmanship

a. Unless otherwise specifically provided for in the Technical Specifications, all workmanship, equipment, materials, and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles, or workmanship are referred to in the Technical Specifications as “equal to” any particular standard, the City Engineer shall decide the question of equality.

b. The Contractor shall furnish to the City Engineer for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment which the Contractor contemplates installing, together with full information as to type, performance characteristics, and all other pertinent information as required, and shall likewise submit for approval as required full information concerning all other materials or articles which the Contractor proposes to incorporate in the work (see paragraph 124: “Samples Certificates and Tests”, of Division 1, General Conditions).

c. Machinery, mechanical and other equipment, materials, or articles installed or used without such prior approval shall bear the risk of subsequent rejection.

d. Materials specified by reference to the number or symbol of a specific standard, such as an ASTM Standard, a Federal Specification or other similar standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Notice Inviting Sealed Proposals, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the Technical Specifications, shall have full force and effect as though printed therein.

e. When any material has been furnished by the City, the Contractor, or the Contractor’s authorized agent, shall sign a receipt therefore, stating that the material has been received in good condition; and, after receiving such material, the Contractor shall be responsible for the material and shall protect it from the weather and from all other causes which might damage the same, in order to keep the material in as good condition as when it was received. All material broken, damaged or stolen when in the care of the Contractor shall be charged against the Contractor and the value thereof deducted from any monies that may become due the Contractor. All materials furnished by the City shall be loaded and hauled from locations as directed by the City Engineer or Employee.

124. Samples, Certificates and Tests

Division I
General Conditions

a. The Contractor shall submit all material and equipment samples, certificates, affidavits, etc., as called for in the Contract Documents or required by the Engineer. No such material or equipment shall be manufactured or delivered to the site except at the Contractor's own risk, until the Engineer has approved the required samples or certificates. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the Contract time.

   Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the project for which it is intended, and the name of the producer. The accompanying certificates or letters from the Contractor shall state that the sample complies with Contract requirements, shall give the name and brand of the product, its place of origin, the name and address of the producer, and all specifications or other detailed information which will assist the Engineer in passing upon the acceptability of the sample promptly. Such certificate or letter shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.

b. Approval of any materials shall be general only and shall not constitute a waiver of the City of Saginaw's right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made, as deemed necessary in each instance, and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment, or accessories, which fail to meet check tests, have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.

c. Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:

   I. The Contractor shall furnish, without extra cost, all samples required for testing purposes; furnishing shall include packing and delivery charges, except for those samples taken on the project by the Engineer;

   II. The Contractor shall assume all costs of retesting materials which fail to meet Contract requirements;

   III. The Contractor shall assume all costs of testing materials offered in substitution for those found deficient; and

   IV. The City of Saginaw will pay all other expenses.

125. Permits and Codes

The Contractor shall keep fully informed of and shall at all times observe and comply with all existing or future Federal, State, or local laws or regulations, all requirements and provisions of the Charter of the City of Saginaw, and all municipal ordinances, prohibitions, rules, and regulations in any manner affecting the conduct of the work, and shall protect and indemnify

the City against any and all claims arising from or based on any violations of such laws, Charter, ordinances, prohibitions, rules, regulations, orders, or decrees and against all violations of same by the Contractor or the Contractor's officers, employees, agents, representatives, or subcontractors.

126. Care of Work

a. The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, or the fault or negligence of the Contractor's officers, employees, agents, representatives or subcontractors, in connection with the execution of the work and shall be responsible for the proper care and protection of all work performed until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the City of Saginaw.

b. In an emergency affecting the safety of life or property on or adjoining the site, the Contractor shall act, either at the Contractor's own discretion or as instructed by the City of Saginaw, to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work will be determined by the City of Saginaw as provided in the section entitled "Changes in the Work", in Section 111, Division I, General Conditions. In no instance shall the Contractor be paid for such emergency work where the emergency work was necessitated by the acts or omissions of the Contractor, or its officers, employees, agents, representatives, or subcontractors.

c. The Contractor shall avoid damaging sidewalks, streets, curbs, pavements, utilities, structures, or any other property (except that which is to be replaced or removed) either on or adjacent to the site. The Contractor shall repair at the Contractor's own expense and in manner satisfactory to the City of Saginaw, any damage thereto caused by the Contractor's operations, or the operations of the Contractor's officers, employees, agents, representatives, or subcontractors.

d. All water and gas mains, all sewer and other pipes, and all conduits and other underground work of any nature, crossing or projecting into any trench or excavation and all appurtenances thereto, such as Cast Iron Valve Boxes, curb boxes, manhole casting, etc. shall be sufficiently and adequately shored and supported by timber and planking, as required per contract specifications, and protected by the Contractor from injury, and any damage or injury thereto shall be repaired by the Contractor at the Contractor's own expense to the satisfaction of the City Engineer.

e. The Contractor shall at all times keep excavated areas, trenches, and holes free of water during the progress of the work. All costs for the installation and operating of pumps and other necessary equipment to keep excavated areas, trenches, and holes free of water shall be borne by the Contractor.

127. Review by the City of Saginaw

The City of Saginaw, its authorized representatives and agents, shall, at all times, have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, and other relevant data and records pertaining to this

contract, provided, however, that all instructions and approvals with respect to the work will be given to the Contractor only by the City of Saginaw through its authorized representatives or agents.

128. Sanitary Facilities

The Contractor shall furnish, install, and maintain ample sanitary facilities for employees and sub-contractors. As the need arises, a sufficient number of enclosed temporary toilets shall be conveniently placed as required by federal, state or local law or regulation.

Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing federal, state, or local law or regulation.

129. Water

Water for use on improvements may be procured from the nearest hydrant. Permission to open and use hydrants and water shall, however, first be obtained from the City of Saginaw or other proper jurisdiction, subject to rules and regulations of said jurisdiction; the Contractor shall furnish all necessary piping, hose and accessories and pay all water taxes, fees, and charges incidental to the opening and closing of hydrants and the use of water. Before the allowance of the final estimates, the Contractor shall present to the City Engineer a receipt from the authorizing jurisdiction's treasurer, showing that all water taxes and charges for the use of water under this Contract have been paid.

130. Stoppage of Work and Crossings

Upon any stoppage of work, all materials are to be piled up neatly so as not to impede travel upon the sidewalks or roadway, or the use of fire hydrants, and all rubbish and surplus material shall be removed immediately thereafter from the street or avenue by the Contractor. During rainy weather, the Contractor shall lay a temporary plank crosswalk across the street from sidewalk to sidewalk, such as will provide safe and dry footing for pedestrians. When so ordered by the City Engineer, the Contractor shall lay a temporary roadway or bridge sixteen (16) feet in width across the entire intersection or excavation or trench such as will provide a safe and satisfactory roadway for vehicular travel. All the aforesaid work shall be done without cost to the City other than the price paid for excavation.

131. Privileges of Contractor in the Street

a. The Contractor may occupy the whole width of the roadway between the sidewalks or the street lines. The Contractor shall not close more than three (3) blocks at one time without permission from the City Engineer. Each block of pavement or improvement shall be finished and opened to public travel as soon as practicable after the commencement of work thereon, but the use of any portion of the pavement or improvement by the public shall not be construed as an acceptance of the work, nor shall the Contractor be entitled to any damages thereby. No more than two consecutive street intersections shall be closed to public traffic at the same time, and each alternate intersection shall be opened for traffic,

unless otherwise ordered by the City Engineer.

b. All sidewalk approaches and the crossings at street intersections shall be kept open and always made safe and passable at all times by the Contractor for both pedestrian and vehicular travel, except at such times as the Engineer may direct otherwise.

c. The Contractor shall provide and maintain a safe and satisfactory roadway across all railway tracks at such places as required. Unless authority is otherwise given, the Contractor shall complete one side of the street before closing the other side, keeping the street open for travel and the fire department as much as possible.

132. Excavations Under Railroads

In excavating under or adjacent to any railroad tracks, the running of trains or cars must not be interrupted or interfered with, and the Contractor shall conduct this work so as not to cause injury to such tracks. The Contractor shall notify the railroad company owning said tracks to support and protect same and shall arrange with such company for any construction and for any expense incurred thereby, without cost to the City.

133. Barricades and Traffic Controls

All barricades and traffic controls for the work shall be in conformance with the 2011 Michigan Manual of Uniform Traffic Control Devices (hereafter referred to as the Manual). The Contractor shall barricade or fence the work as outlined in the Manual or as directed by the Engineer.

In addition to the requirements of the Manual, the Contractor shall maintain at all times a good and sufficient fence, railing or barrier around all exposed portions of said work in such a manner as to warn vehicular and pedestrian traffic of hazardous conditions. This shall apply to all construction projects either within street right-of-way or off-street right-of-way.

It shall also be the duty of the Contractor to place upon such barriers, fences, or railings, at evening twilight on each day, the required colored lights, and to keep them lighted during the night.

The Contractor shall put up and maintain barricades and traffic controls as required by the Manual for any stored materials the Contractor may have placed in the street.

Should the Contractor fail to properly barricade the work or stored material sites in the manner outlined above, the City may have the necessary barricading done, and all costs incurred for said barricading shall be charged to the Contractor.

All costs incurred for barricading or fencing shall be incidental to the work items in the Contract unless otherwise stated. In addition, all costs incurred by the City for placing barricading or fencing on the work site when the Contractor has failed to do so, or when the Contractor has failed to properly maintain those barricades or fencing the Contractor has placed, shall be charged to the Contractor, who shall promptly pay all charges. Should the Contractor fail to pay for the barricading placed by the City, the City may deduct the amount

owing from the final payment.

134. Grade Stakes

Grade or line stakes will be given by the City and must be protected and preserved and strictly followed, but the Contractor shall note any irregularities in such stakes and have the same checked before proceeding. The Tops of all stakes must be uncovered and kept exposed by the Contractor at any and all times so as to be accessible to the Engineer on demand.

135. Street Monuments

The Contractor shall not disturb any street monuments unless authorized to do so by the City Engineer.

136. Sunday and Night Work

No Sunday or night work shall be done except in case of emergency, and then only with the written consent of the Engineer. If, for any reason, it is necessary to do any work after twilight and permission is granted, the Contractor shall furnish suitable lighting without cost to the City other than the price paid for the work being done.

137. Test Borings, Test Holes, or Test Pits

All data on plans relative to test borings, test holes or test pits made by the City for the purpose of determining soil conditions in, alongside of, or in close proximity to the line of work, shall in no way be construed by the Contractor as a guarantee of soil conditions as will be encountered in the line of the work, but will be understood to be nothing more than data which the Contractor may or may not use in forecasting soil conditions.

138. Cleaning Up

Upon completion of the actual work of construction, the Contractor shall clean up and leave in a neat condition all the premises, which the Contractor has occupied during the construction period. Before the time for the final estimate, the Contractor shall remove from the premises all surplus excavation, debris, rubbish, and all unused materials, together with all tools and equipment. Should the Contractor fail to properly clean the premises within fourteen (14) days of completion of the work, the City of Saginaw, in its sole discretion, may exercise the right to clean same, and shall charge the costs of any such clean up against the final payment to the Contractor.

139. Correcting Work

Any unfaithful work or imperfect work or material that may be discovered before the final acceptance of the work shall be corrected and replaced immediately on the order of the City Engineer. In case any material is rejected, it shall be immediately removed from the line of work and not again brought thereon. In case the order for removal and replacing as specified above is not promptly complied with after written notice, the City Engineer shall be at liberty to remove and replace the same with proper materials, at the expense of the Contractor, and

the cost thereof shall be deducted from the amount due the Contractor. Any failure of the City to disapprove the work or material at the time of the inspection, or at the time of any semi-monthly or other estimate, shall not relieve the Contractor of any obligations. All work or material of whatever kind, which, during the progress of construction and before its final acceptance, may become damaged from any cause and shall be removed and replaced by the Contractor with good and satisfactory work or material; the Contractor shall bear the cost of such replacement where the replacement was necessitated by the act or omission of the Contractor or the Contractor's officers, employees, agents, representatives or subcontractors. Should it become necessary to retain any faulty or imperfect work or material which, if corrected or replaced would cause undue risk, injury or delay, a sum to be adjusted by the City Engineer, not exceeding the whole value of such work or material if the same were correct, shall be deducted from the Contract price.

140. Accident Prevention

a. The Contractor shall always exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons and property, either on or off the site, which occur as a result of the Contractor's fault or negligence, or the fault or negligence of the Contractor's officers, employees, agents, representatives or subcontractors, in connection with the execution of the work. The safety provisions of applicable laws and building and construction codes shall be observed, and the Contractor shall take or cause to be taken such additional safety and health measures as the City of Saginaw may determine to be reasonably necessary. Machinery, equipment, and all hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, Inc., to the extent that such provisions are not in conflict with applicable local laws.

b. The Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment or work under the Contract. The Contractor shall promptly furnish the City of Saginaw with reports concerning these matters.

c. The Contractor shall indemnify and save harmless the City of Saginaw from any claims from damages resulting from personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this Contract.

141. Requests for Supplementary Information

It shall be the responsibility of the Contractor o make timely requests of the City Engineer for any additional information not already in the Contractor's possession which should be furnished by the City of Saginaw under the terms of this Contract, and which will be required in the planning and execution of the work. Such requests may be submitted in writing from time to time as the need arises, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. The Contractor shall be fully responsible for any delay in the work or to others arising from the Contractor's failure to comply fully with the provisions of this section.

Division I
General Conditions

142. Warranty of Title

No material, supplies, or equipment for the work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon to the City of Saginaw free from any claims, liens, or charges. Neither the Contractor, nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract, shall have any right to a lien upon any improvement of appurtenance thereon. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the City of Saginaw. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

143. Fair Employment Practices

a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, age, sex, height, weight, sexual orientation, gender identity, marital status, or membership in another class of persons protected by federal, state, or local law. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, national origin, age, sex, height, weight, sexual orientation, gender identity, marital status, or membership in another class of persons protected by federal, state, or local law. Such action shall include but not be limited to the following: employment, upgrading, demotion, termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices describing the federal, state, or local law prohibiting job discrimination.

b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, national origin or inclusion in other class of persons protected by federal, state, or local law.

c. The Contractor will send to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice, to be provided, advising the labor union or worker's representative of the Contractor's commitments under this section.

d. The Contractor will furnish all information and reports required by the City of Saginaw, and will permit the City access to any books, records, and accounts for purposes of investigation to ascertain compliance with this section.

Division I
General Conditions

e. The Contractor shall comply with the provisions of the federal Civil Rights Act of 1964, as amended, Michigan's Elliott-Larsen Civil Rights Act, P.A. 453 of 1976, as amended, and any such other nondiscrimination law as may apply to Contractor and its activities hereunder.

f. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract, this Contract may be immediately cancelled, terminated, or suspended by the City, in whole or in part, and the Contractor may be declared ineligible for further contracts.

g. The Contractor will include the provisions of paragraphs (a) through (f) in every subcontract, so that such provisions will be binding upon each such subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the City of Saginaw may direct as a means of enforcing such provisions, including sanctions for noncompliance.

144. Acceptance

No estimate given or payment made under the Contract, or the occupancy of the work herein required, either partial or entire by the City, shall be evidence of the performance of the Contract either in whole or in part, nor an acceptance of imperfect or faulty work or material.

145. Guarantee

The Contractor shall be responsible for and must make good any defects arising or discovered in the work or material required hereunder within one (1) year from the completion and final acceptance of such work and material, except for concrete sidewalks, new or repaired, and paving between the curb and sidewalk (driveway approaches), which shall be guaranteed for a period of five (5) years from the completion and final acceptance of such work and material. No payment, final or otherwise, shall be construed to relieve the Contractor from the obligation to make good any defect arising or discovered within such period, nor as a waiver of any specific obligation which the Contractor may assume as to the durability of the work. Nothing in this section, or elsewhere in this Contract, shall be construed as a waiver or diminishment of any statute of limitations or other time period in which the City is allowed to raise a claim against the Contractor relating to the work to be performed herein.

146. Michigan Sales & Use Tax

The Contractor shall include and be deemed to have included in the bid and contract price all Michigan Sales and Use Taxes currently imposed by legislative enactment and as administered by the Michigan Department of Treasury on the bid date.

If the Contractor is not required to pay or bear the burden, or obtain a refund or drawback, in whole or in part, of any Michigan Sales or Use Tax, interest or penalty thereon, which was required to be and was deemed to have been included in the bid and contract price, the contract price shall be reduced by the amount thereof, and the amount of such reduction whether as a refund or otherwise shall ensure solely to the benefit of the City of Saginaw.

147. Final Inspection

Division I
General Conditions

When the improvements embraced in this Contract are substantially completed, the Contractor shall notify the City Engineer in writing that the work will be ready for final inspection on a definite date, which shall be stated in the notice. The notice will be given at least ten (10) days prior to the date stated for final inspection and bear the signed concurrence of the representative of the City Engineer having charge of inspection. If the City Engineer determines that the status of the improvements is as represented, he or she will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

NOTICE TO BIDDERS

Consultants - Insurance - Bonds

In case of a conflict between the City's documents and the documents provided by the consultant the City's shall prevail,

The City of Saginaw shall not be a party to any arbitration proceeding.

Provide Engineering with a copy of this endorsement with all other insurances and bonds.

REQUIRED/APPLICABLE INSURANCE – NO EXCEPTIONS

COMMERCIAL GENERAL LIABILITY (C.G.L.)

OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY (O.C.P.)

UMBRELLA LIABILITY

AUTOMOBILE - WORKMAN'S COMPENSATION

REQUIRED BONDS – Over $50,000 - NO EXCEPTIONS

PAYMENT BOND – S-215-AIA-A312 (11/10), S-215-AIA-A312 (11/10) or current version is required, no substitutions allowed.

PERFORMANCE BOND - A-2100-AIA-A312 (11/10) or current version is required, no substitutions allowed.

MAINTENANCE BOND – IF REQUIRED (See Individual contract)

The City of Saginaw does not provide the required bond forms.

Additional information:

Upon failure of the Contractor to furnish said insurance policies or bonds within ten (10) days prior to the award of the Contract by the Council, all the Contractor's rights to the award of the Contract shall terminate unless the time for furnishing any of said instruments shall have been extended by the City Engineer; such extension shall only be for good cause shown by Contractor.

The Contractor must have all copies the Contract signed, insurances, bonds and all required documents returned and approved by City of Saginaw (Engineering, Attorney, and Insurance/Bond Reviews) prior to the contract going to Council for approval and award.

The Contractor will not be allowed to start work until all City of Saginaw signatures are obtained. Contract Books are **not always** signed at the City Council Meeting when the contract is approved.

INSURANCES REQUIRED

INDEMNITY

The Contractor shall, at the Contractor's own expense, protect, defend, indemnify and hold harmless the City, and its officers, employees, agents, or representatives, from and against all claims, damages, liabilities, losses and expenses, including reasonable attorney's fees, resulting from the acts, omissions, or negligence of the Contractor, or any of the Contractor's officers, employees, agents, representatives, or subcontractors, in any way connected or otherwise related to their performance or nonperformance of this Contract.

INSURANCE

a. During the life of the contract, the Contractor shall effect and maintain the following types of insurance:

Commercial General Liability (cgl)
Automobile
Workman's Compensation
Umbrella Liability
Owner's and Contractor's Protective Liability (ocp)
*Builder's Risk (when applicable)
*Pollution Coverage (when applicable)
*The City will specify when such coverage is applicable.

All insurers shall have at least an A- (excellent) rating by A.M. Best or acceptable to the City and be written on an occurrence basis.

Contractor agrees to name and require its subcontractors to name the City of Saginaw, its officers, employees, agents, or representatives, as additional insureds on Contractor's and its subcontractors' general liability and umbrella/excess insurance policies, with primary, non-contributory coverages, and including coverage for products-completed operations hazards and for ongoing work. The policy shall include a per project aggregate. The Additional Insured endorsement shall be as broad as ISO's (CG 20 10 11/85) or a combination of ISO's Scheduled Ongoing Operations (CG 20 10 10/01) and Scheduled Completed Operations (CG 20 37 10/01). All of Contractor's insurance policies shall contain terms waiving subrogation rights against the City of Saginaw its officers and employees. Proof of the waiver of subrogation for each insurance policy shall be by endorsement. The Contractor shall include this waiver of subrogation in contracts with its Subordinate Parties.

For General Liability and Umbrella Coverage
Contractor shall maintain, for a period of six years after completion of all Work on the project General Liability and Umbrella coverage.

The Contractor shall not commence work under this contract until he has obtained all required insurance and evidence of such insurance has been reviewed and approved by the City Engineer.

b. All certificates of insurance issued for this contract shall contain the following information in addition to stating the type of insurance and the amount of coverage.

I. The Contract number and description of work covered by the insurance.

II. The insurance must be in a form acceptable to the City and the deductible shall not exceed $5,000.00, unless otherwise approved by the City.

III. Thirty (30) days' notice in writing of any cancellation, termination or change of condition of the policy.

c. Certificates of Insurance must be presented prior to commencing any work under this contract, as well as upon request by the City during or after the Project; however, Contractor's failure to submit the required Certificate of Insurance, or failure to have the Certificates of Insurance identify the required coverage, does not excuse Contractor from procuring the required insurance. The Contractor shall be responsible for and pay any deductibles or self-insured retention amounts. The Contractor's insurance policies shall provide for 30 days written notice to the City for cancelation or any change in coverage. Not less than two weeks prior to the expiration, cancellation, or termination of any such policy, Contractor shall supply the City with new and replacement certificate(s) of insurance as proof of renewal of said original policy showing compliance with minimum insurance requirements below.

d. Commercial General Liability and Owner's and Contractor's Protective Liability. The Contractor shall procure and shall maintain during the life of this contract Commercial General Liability, and Owner's and Contractor's Protective Liability insurance with limits of liability not less than the amounts listed on the following page.

e. Automobile Insurance: The Contractor shall procure and maintain during the life of this contract Automobile Insurance with limits of liability not less than the amounts listed on the following page.

f. Workman's Compensation: The Contractor shall procure and maintain during the life of this contract Worker's Compensation Insurance, including Employers Liability Coverage, in accordance with all applicable statutes of the State of Michigan.

g. Umbrella and/or Excess Liability: The Contractor shall procure and maintain during the life of this contract Umbrella and/or Excess Liability with limits of liability not less than the amounts listed on the following page.

h. Builder's Risk: (when applicable). The Contractor shall procure and maintain during the life of this contract Builder's Risk Insurance equal to one hundred percent of the completed value of the structures.

i. Pollution Coverage: The Contractor or the Subcontractor who actually performs the work shall carry pollution insurance in the amount of $1,000,000.00 (or such other limit as may be determined in the sole discretion of the City Engineer) where the project involves Asbestos, Environmental or Lead abatement or such other work where the City specifies that pollution insurance is necessary.

INSURANCE LIMITS

General Liability Limits	
$1,000,000	Each Occurrence
$1,000,000	Personal and Advertising Injury
$2,000,000	General Aggregate
$2,000,000	Products and Completed Operations Aggregate
Automobile	
$1,000,000	Each Accident
Umbrella and/or Excess Liability	
$5,000,000	Occurrence/Aggregate
Owner's and Contractor's Protective Liability	
$1,000,000	Occurrence
$2,000,000	Aggregate

The following language applies as it pertains to limits:

Should the Contractor have an insurance policy with limits of liability or coverage greater than or in addition to those required by the contract, then those higher limits of liability and coverage in the Contractor's policy shall apply.

The Contractor is responsible for USHL coverage for workers compensation if required by law.

The umbrella/excess policy can be used to meet underlying requirements and must follow form.

NOTICE TO BIDDERS

IRAN ECONOMIC SANCTIONS ACT:

The act provides that Iran linked businesses are ineligible from submitting a bid on the City's requests for proposals. The Act further provides that the City shall require all bidders to certify that they are not Iran linked businesses.

Definition: Iran linked businesses are those linked to the Iranian energy sector. An Iran linked business is specifically defined as:

i. A person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran.

ii. A financial institution that extends credit to another person, if that person will use the credit to engage in investment activities in the energy sector of Iran.

The provisions of the Act are only in effect if a country is a state sponsor of terror. A state sponsor of terror is defined as any country determined by the United States secretary of state to have repeatedly provided support for acts of international terrorism. Iran is currently on the US SOS state sponsor of terrorism list (http://www.state.gov/j/ct/list/c14151.htm), along with Cuba, Sudan, and Syria.

NOTICE TO BIDDERS

§ 14.36 PREFERENCE FOR LOCAL BIDDERS.

(A) (1) If the lowest bidder is not a Saginaw-based bidder, as defined above, any Saginaw-based bidder with a bid within 5% of the lowest bid shall be deemed the lowest bidder if it agrees to reduce its bid to match the bid of the lowest bidder. Such a bidder will remain bound to all terms of their original bid.

(2) A lowered bid by a Saginaw-based business which is premised upon, in whole or in part, changes to or variances to the bid specifications, contract requirements, or scope of work, shall be considered non-responsive and will not be considered.

(B) If such a Saginaw-based business refuses to reduce its bid to match the lowest bid, then the next lowest responsive and responsible Saginaw-based business with a bid within 5% of the lowest bid shall be deemed the lowest bidder, if it agrees to reduce its bid to match the bid of the lowest bidder. Such a bidder will remain bound to all other terms of their original bid.

(C) If no responsive and responsible Saginaw-based businesses within 5% of the lowest bid agree to reduce their bids, then the contract shall be awarded to the person or business with the lowest, most responsive and responsible bid.

(D) In the event of a tie between two or more Saginaw-based businesses, where all other factors are equal, the award of the bid shall be by coin toss conducted by the Purchasing Officer or his or her designee.

(E) No contract awarded pursuant to this ordinance shall be sublet in any manner that permits 50% or more of the dollar value of the contract to be performed by a subcontractor or subcontractors who do not meet the definition of “Saginaw-based.”

(F) The section shall not waive or constrain, in any manner, the right and prerogative of the City to reject any and all bids or proposals from any Saginaw-based business which fails to meet the requirements of any other section of this ordinance, or to reject a bid which is in any way incomplete, irregular, not responsive or not responsible.

(G) Local preferences shall not be applied in cases of procurements funded, even in part, with federal dollars, unless such procurement is for architectural and engineering services. When contracting for architectural and engineering services, local preference may be a selection criterion provided its application leaves an appropriate number of qualified vendors, given the nature and size of the project, to complete the contract.

See Title 1: Administrative Code - Chapter 14: Finance and Purchasing

STATE OF MICHIGAN

Wage and Hour Division
PO Box 30476
Lansing, MI 48909
517-284-7800

Informational Sheet: Prevailing Wages on State Funded Projects

REQUIREMENTS

Effective February 13, 2024

The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects that are financed or financially supported by the state Prevailing rates compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. While the prevailing wage rates are compiled through surveys of collectively bargained agreements, a collective bargaining agreement is not required for contractors to be on or be awarded state projects. The prevailing rate schedule provides an hourly rate which includes wage and fringe benefit totals for designated construction mechanic classifications. The overtime rates also include wage and fringe benefit totals. Please pay special attention to the overtime and premium pay requirements. The prevailing wage is satisfied when wages plus fringe benefits are equal to or greater than the required rate.

State of Michigan responsibilities:

- The department establishes the prevailing rate for each classification of construction mechanic requested by the contracting agents prior to contracts being let out for bid on a state project.

DTMB responsibilities

- If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re- determination of rates must be requested by the contracting agents.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, ***must*** be obtained ***prior*** to contracts being let out for bid on a state project.

Contractor responsibilities:

- Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
- Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic. This record shall be available for reasonable inspection by DTMB or the department.
- Each contractor or subcontractor is liable for the payment of the prevailing rate to its employees.
- The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
- A construction mechanic *shall only* be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:

A person who has information of an alleged prevailing wage violation on a prevailing wage project may file a complaint with the State of Michigan. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with contractual requirements, the Contracting Agent may consider the Contractor to be in material breach of the contract and may terminate the contract for cause at the sole discretion. There are also civil penalties for failure to be in compliance with Act 10. View the entire text of Act 10 of 2023 at michigan.gov/wagehour.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

General Information Regarding Fringe Benefits

Certain fringe benefits **may** be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic**,** is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week). The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

Vacation	40 hours X $14.00 per hour = $560/2080 =	$.27
Dental insurance	$31.07 monthly premium X 12 mos. = $372.84 /2080 =	$.18
Vision insurance	$5.38 monthly premium X 12 mos. = $64.56/2080 =	$.03
Health insurance	$230.00 monthly premium X 12 mos. = $2,760.00/2080 =	$1.33
Life insurance	$27.04 monthly premium X 12 mos. = $324.48/2080 =	$.16
Tuition	$500.00 annual cost/2080 =	$.24
Bonus	4 quarterly bonus/year x $250 = $1000.00/2080 =	$.48
401k Employer Contribution	$2000.00 total annual contribution/2080 =	$.96
	Total Hourly Credit	$3.65

Other examples of the types of fringe benefits allowed:

- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate

- Legally required payments, such as:
  - Unemployment Insurance payments
  - Workers' Compensation Insurance payments
  - FICA (Social Security contributions, Medicare contributions)
- Reimbursable expenses, such as:
  - Clothing allowance or reimbursement
  - Uniform allowance or reimbursement
  - Gas allowance or reimbursement
  - Travel time or payment
  - Meals or lodging allowance or reimbursement
  - Per diem allowance or payment
- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
  - Industry advancement funds
  - Financial or material loans

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE RATE COMMERCIAL SCHEDULE

1. Overtime is represented as a nine-character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

	Monday thru Friday	Saturday	Sunday & Holidays	Four 10s
First 8 Hours		**4**	**8**	**9**
9th Hour	**1**	**5**		
10th Hour	**2**	**6**		
Over 10 hours	**3**	**7**		

Overtime for Monday thru Friday after 8 hours:
the 1st character is for time worked in the 9th hour *(8.1 - 9 hours)*
the 2nd character is for time worked in the 10th hour *(9.1 - 10 hours)*
the 3rd character is for time worked beyond the 10th hour *(10.1 and beyond)*

Overtime on Saturday:
the 4th character is for time worked in the first 8 hours on Saturday *(0 - 8 hours)*
the 5th character is for time worked in the 9th hour on Saturday *(8.1 - 9 hours)*
the 6th character is for time worked in the 10th hour *(9.1 - 10 hours)*
the 7th character is for time worked beyond the 10th hour *(10.01 and beyond)*

Overtime on Sundays & Holidays
The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days
The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked ***between Monday and Friday*** **without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To *utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.***

2. Overtime Indicators Used in the Overtime Provision:
   H - means TIME AND ONE-HALF due
   X - means TIME AND ONE-HALF due after 40 HOURS worked
   D - means DOUBLE PAY due
   Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked
   N - means NO an optional 4-day 10-hour per day workweek *cannot* be worked without paying overtime after 8 hours worked

3. EXAMPLES:
   HHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday *(characters 1 - 3);* for all hours worked on Saturday, 1½ rate is due *(characters 4 - 7).* Work done on Sundays or holidays must be paid double time *(character 8).* The N *(character 9)* indicates that 4 ten-hour days is not an acceptable workweek at regular pay.

   XXXHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday *(characters 1-3);* for hours worked on Saturday, 1½ rate is due *(characters 4 – 7)*. Work done on Sundays or holidays must be paid double time *(character 8).* The Y *(character 9)* indicates that 4 ten-hour days is an acceptable alternative workweek.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

ENGINEERS - CLASSES OF EQUIPMENT LIST

UNDERGROUND ENGINEERS

CLASS I

Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self-propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8' digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.

CLASS II

Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6" discharge or larger gas or diesel powered by generator of 300 amps 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' digging capacity and smaller), Vac Truck.

CLASS III

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, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4" up to 6" discharge, gas or diesel powered, excluding submersible pump), Pumpcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).

CLASS IV

Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.

HAZARDOUS WASTE ABATEMENT ENGINEERS

CLASS I

Backhoe, Batch Plant Operator, Clamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer, Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher), Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blasting Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.

CLASS II

Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

CARPENTER CRAFT JURISDICTION

Michigan recognizes the Carpenters for any and all work related to weatherization that has historically been the work of the Carpenter. This work shall include, but not be limited to: all work defined under the Federal Weatherization Assistance Program.

The jurisdiction of Carpenters, as to all work that has historically and traditionally been performed consisting of the milling, fashioning, joining, assembling, erecting, fastening or dismantling of all materials of wood, plastic, metal, fiber, cork, or composition and all other substitute materials, as well as the handling, cleaning, erecting, installing and dismantling of all machinery, equipment and all materials used by Carpenters.

The jurisdiction, therefore, extends over the following divisions and subdivisions of the trade: Carpenters and Joiners, Millwrights, Pile Drivers, Bridge, Dock and Wharf Carpenters, Underpinners, Timbermen, and Core-drillers, Shipwrights, Boat Builders, Ship- hand, Stair-Builders, Millmen, Wood and Resilient Floor Decorators, Floor Finishers, Carpet-layers, Shinglers, Siders, Insulators, Acoustic and Drywall Applicators, Sharers and House Movers, Loggers, Lumber and Sawmill Workers, Reed and Rattan Workers, Shingle Weavers, Casket and Coffin Makers, Railroad Carpenters and Car Builders, regardless of material used and all those engaged in the operation of woodworking or other machinery required in fashioning, milling or manufacturing of products used in the trade, and the handling, erecting and installing materials on any of the above divisions or sub-divisions, burning, welding and rigging incidental to the trade. When the term "Carpenter and Joiner" is used, it shall mean all the subdivisions of the trade. The trade autonomy of Carpenters therefore extends over the divisions and subdivisions of the trade, which are set forth as follows:

(a) The framing, erecting and prefabrication of roofs, partitions, floors and other parts of buildings of wood, metal, plastic or other substitutes; application of all metal flashing used for hips, valleys and chimneys; the erection of Stran Steel section or its equal. The building and setting of all forms and centers for brick and masonry. The fabrication and erection of all forms for concrete and decking, the dismantling of same (as per International Agreement) when they are to be re-used on the job or stored for re-use. The cutting and handling of all falsework for fireproofing and slabs. Where power is used in the setting or dismantling of forms, all signaling and handling shall be done by carpenters. The setting of templates for anchor bolts for structural members and for machinery, and the placing, leveling and bracing of these bolts. All framing in connection with the setting or metal columns. The setting of all bulkheads, footing forms and the setting of and fabrication of, screeds and stakes for concrete and mastic floors where the screed is notched or fitted, or made up of more than one member. The making of forms for concrete block, bulkheads, figures, posts, rails, balusters and ornaments, etc.

(b) The handling and erecting of rough material and drywall, the handling, assembly, setting and leveling of all fixtures, display cases, all furniture such as tables, chairs, desks, coat racks, etc., all de-mountable or moveable partitions such as Von wall, E Wall, Steel Case, Herman Miller, Haworth, American Seating, Westinghouse, Lazy Boy, rosewood, etc. All rebuilding, remodeling and setting up of all kinds of partitions, finished lumber, metal and plastic trim to be erected by Carpenters shall be handled from the truck or vehicle delivering same to the job by Carpenters.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

CARPENTER CRAFT JURISDICTION

(c) The building and moving of all scaffolding runways and staging where carpenters' tools are used, the building from the ground up of all scaffolds over fourteen (14) feet in height including metal and specially designed scaffolding. The building and construction of all hoists and derricks made of wood; the making of mortar boards, boxes, trestles, all shoring, razing and moving of buildings. Lift type trucks are to be considered a tool of the trade. Metal siding and metal roofing fall within the scope of jurisdiction for the carpenters.

(d) The cutting or framing and fireproofing of the openings for pipes, conduits, ducts, etc., where they pass through floors, partitions, walls, roofs or fixtures composed in whole or in part of wood. The laying out of making and installation of all inserts and sleeves for pipes, ducts, etc., where carpenters' tools and knowledge are required. The making and installing of all wooden meter boards, crippling and backing for fixtures. The welding of studs and other fastenings to receive material being applied by carpenters.

(e) The installation of all grounds, furring or stripping, ceilings and sidewalks, application of all types of shingling and siding, etc.

(f) The installation of all interior and exterior trim or finish of wood, aluminum, kalamein, hollow or extruded metal, plastic, doors, transoms, thresholds, mullions and windows. The setting of jambs, bucks, window frames of wood or metal where braces or wedges are used. The installation of all wood, metal or other substitutes of casing, molding, chair rail, wainscoting, china closets, base of mop boards, wardrobes, metal partitions as per National Decisions or specific agreements, etc. The complete laying out, fabrication and erection of stairs. The making and erecting of all fixtures, cabinets, shelving, racks, louvers, etc. The mortising and application of all hardware in connection with our work. The sanding and refinishing of all wood, cork or composition floors to be sanded or scraped, filled, sized and buffed, either by hand or power machines. The assembling and setting of all seats in theaters, halls, churches, schools, auditorium, grandstands and other buildings. All bowling alley work.

(g) The manufacture, fabrication and installation of all screens, storm sash, storm doors and garage doors; the installation of wood, canvas, plastic or metal awnings or eye shades, door shelters, jalousies, etc. The laying of wood, wood block and wood composition in floors.

(h) The installation of all materials used in drywall construction, such as plasterboard, all types of asbestos boards, transite and other composition board. The application of all material which serves as base for acoustic tile, except plaster. All acoustical applications as per National Agreement or specific agreement.

(i) The building and dismantling of all barricades, handrails, guard rails, partitions and temporary partitions. The erection and dismantling of all temporary housing on construction projects.

(j) The installation of rock wool, cork and other insulation material used for sound or weatherproofing. The removal of caulking and placing of staff bead and brick mold and all Oakum caulking, substitutes, etc., and all caulking in connection with carpentry work.

(k) The installation of all chalk boards/marker boards.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

CARPENTER CRAFT JURISDICTION

(l) The operation of all hand operated winches used to raise wooden structures.

(m) The erection of porcelain enameled panels and siding.

(n) The unloading and distribution of all furnished, prefabricated and built-up sections such as door bucks, window frames, cupboards, cabinets, store fixtures, counters and show cases or comparably finished or prefabricated materials, to the job sites or points of installation as used in the construction, alteration and remodeling industry.

(o) The handling of doors, metal, wood or composite, partitions and other finished bulk materials used for trim from the point of delivery.

(p) All processing of these materials and handling after processing.

(q) The making up of panels and fitting them into walls, all bracing and securing, all removal of panels from the casting including all braces, whalers, hairpins, etc.

(r) The handling and setting of all metal pans and sections from the stock piles of reasonable distance as required by job needs shall be performed by carpenters. The stripping of such metal pans, panels or sections is to be performed by carpenters.

(s) The sharpening of all carpenter hand or power tools, or those used by carpenters.

(t). The layout, fabrication, assembling of and erection and dismantling of all displays made of wood, metal, plastic, composition board or any substitute material; the covering of same with any type of material, the crating and un-crating, the handling from the point of unloading and back to the point of loading of all displays and other materials or components.

(u) The same shall apply to all other necessary component parts used for display purposes such as turntables, platforms, identification towers and fixtures, regardless of how constructed, assembled or erected or dismantled.

(v) The make-up, handling, cutting and sewing of all materials used in buntings, flags, banners, decorative paper, fabrics and similar materials used in the display decorative industry for draperies and back drops. The decorative framing of trucks, trailers and autos used as floats or moving displays. The slatting of walls to hand fabrics and other decorative materials, drilling of all holes to accommodate such installations. Setting up and removal of booths constructed of steel or aluminum tubing as stanchions, railings, etc., handling and placing of furniture, appliances, etc., which are being used to complete the booth at the request of the exhibitor. Fabricating and application of leather, plastic and other like materials used for covering of booths. The handling of all materials, fabricating of same. The loading and unloading, erecting and assembling at the exhibit of show area, also in or out of storage when used in booth decorations.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

CARPENTER CRAFT JURISDICTION

(w) A display shall be construed as any exhibit or medium of advertising, open to private or public showing, which is constructed of wood, metal, plastic or any other substitute to accomplish the objectives of advertising or displaying.

(x) Handling, fitting, draping, measuring and installation of fixtures and other hardwares for draperies, all manner of making, measuring, repairing, sizing, hanging and installation of necessary fixtures and hardware for shades and Venetian blinds.

(y) Work consisting of cutting and/or forming of all materials in preparation for installing of floors, walls and ceilings; the installation of all resilient floor and base; wall and ceiling materials to include cork, linoleum, prefabricated, laminated, rubber, asphalt, vinyl, metal, plastic, seamless floors and all other similar materials in sheet, interlocking liquid or tile form; the installation of all artificial turf, the installation, cutting and/or fitting of carpets; installation of padding, matting, linen crash and all preformed resilient floor coverings; the fitting of all devices for the attachment of carpet and other floor, wall and ceiling coverings; track sewing of carpets, drilling of holes for sockets and pins, putting in dowels and slats; and all metal trimmings used; the installation of all underlayments, sealants in preparation of floors, walls and ceilings, the unloading and handling of all materials to be installed and the removal of all materials in preparing floors when contracted for by the employer, shall be done only by employees covered under this Agreement.

(z) The installation of all sink-tops and cabinets, to include all metal trim and covering for same. All cork, linoleum, congo-wall, linewall, veos tile, plexiglass, vinawall tile, composition tile, plastic tile, aluminum tile and rubber in sheets or tile form and the application thereof. All bolta-wall and bolta-wall tile and similar products.

(aa) The handling and placing of all pictures and frames and the assembly of bed frames and accessories. The hanging and placing of all signage.

(bb) The installation of all framework partitions and trim materials for toilets and bathrooms made of wood, metal, plastics or composition materials; fastening of all wooden, plastic or composition cleats to iron or any other material for accessories.

(cc) The erection of cooling towers and tanks.

(dd) The setting, lining, leveling and bracing of all embedded plates, rails and angles. The setting of all stay in place forms.

(ee) Environmental: Clean room, any type of environmental chamber, walk in refrigerated coolers and all refrigerated rooms or buildings.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

CARPENTER CRAFT JURISDICTION

PILE DRIVING AND CAISSON DRILLING

(ff) All unloading, handling, signaling and driving of piles, whether wood, steel, pipe, beam pile, composite, concrete or molded in place, wood and steel sheeting, cofferdam work, trestle work, dock work, floating derricks, caisson work, foundation work, bridge work, whether old or new, crib work, pipe line work and submarine work. Cutting of all wood, steel or concrete pile, whether by machine or hand; welding and cutting, peeling, and heading of all wood pile, steel sheeting and wood sheeting. The erecting and dismantling of all pile driving rigs, also derricks whether on land or water; also the moving, shoring and underpinning of all buildings. The loading and unloading of all derricks, cranes and pile driving materials. The tending, maintenance and operation of all valves pertaining to the operation of driving of pile. All diving and tending essential to the completion of jurisdictional claims.

All work done in the established yards of the Company and all work not enumerated above, shall be handled and manned as the Employer decides.

The pile driver will unload all material shipped in by rail from the point that the rail car is spotted.

All cleaning and preparation of all piling prior to driving.

The welding and attachment of all boot plates, pile points, splice plates, connectors, rock crosses, driving crosses, driving rigs, point reinforcements and overboots.

The construction, reconstruction, repair, alteration, demolition and partial or complete removal of all marine work including, but not limited to, docks, piers, wharves, quays, jetties, cribs, causeways, breakwaters, lighthouses and permanent buoys, etc. (mixing and placing of concrete excepted).

The driving and pulling of all wood, steel and concrete foundation piles and sheet piling.

The heading, pointing, splicing, cutting and welding of all piles.

The placing of all wales, bolts, studs, lagging, rods and washers including the cutting, drilling, boring or breaking of all holes or openings thereof.

The removal of all materials and/or obstructions of any nature (rip-rap included) that retard or interfere with the driving of piles or with the placing of wales, bolts and rods.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

CARPENTER CRAFT JURISDICTION

This is to be subject to the discretion of the contractor who may choose to use blasting specialists or other demolition specialists.

The handling on the job of all materials used in the work.

The manning of all floating equipment (towing equipment excepted) engaged in the work enumerated, including deck engines, except machinery manned by Operating Engineers.

The placing of all rip-rap, fill stone, bedding stone, cover stone and concrete blocks in connection with marine construction. Work normally performed by Employers, such as soil tests, shoring, underpinning of buildings, cribbing, driving of sheet piling, marine divers, tenders, underwater construction workers and similar operations shall continue to be included in the jurisdiction of this Agreement.

All burning, cutting, welding and fabrication of pipe, H-beams, sheet pile (metal or wood), done on the job site or in the yard of the Employer shall be done by pile drivers. The driving of bearing piles, sheet piling with heavy equipment, caissons, pile caps, auger drilling and boring, the setting up for load testing for any type of piling, all layout and spotting for piling, caisson and boring work, all earth retention, ditch boarding, installing tiebacks.

ASBESTOS ABATEMENT CARPENTERS

(gg) All erection and maintenance of barriers and partitions used in the removing of asbestos or any abatement work. The abatement of any materials previously installed by the carpenter such as transite, ceiling and floor tiles. All operating and maintaining of current equipment used in any abatement work.

STATE OF MICHIGAN
Informational Sheet: Prevailing Wages on State Projects

ELECTRICIAN – SOUND AND COMMUNICATION / DATA/ VOICE JURISDICTION

The installation, testing, service and maintenance, of systems which utilize the transmission and/or transference of voice, sound, vision or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, CATV and CCTV, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, radio page, school intercom and sound, burglar alarms, low voltage fire alarm systems, low voltage master clock systems, distributed antenna systems (DAS), IP data networks, and all surface-mounted (non-power) telecommunications wiremold. Shall additionally include the installation of all raceway systems of unlimited length in telecommunications rooms, entrance facilities, equipment rooms, and similar areas. Energy management systems. Security systems; perimeter, vibration, card access, access control and sonar/infrared monitoring equipment. Communications systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; SCADA (Supervisory Control and Data Acquisition), PCM (Pulse Code Modulation), Digital Data Systems, Broadband and Baseband and Carriers, POS (Point of Sale systems), VSAT Data Systems, RF and Remote-Control Systems, Fiber Optic Data Systems and Voice and Data Infrastructure and Backbone.

PREVAILING WAGE COMPLAINT

Michigan Department Labor and Economic Opportunity
Wage and Hour Division

Mailing Address:
P.O. Box 30476
Lansing, MI 48909-7976

Street Address:
530 W. Allegan St.
Lansing, MI 48933

Toll Free: 1-855-464-9243
Facsimile: 517-763-0110
Website: www.michigan.gov/wagehour

LEO is an equal opportunity employer/program. Auxiliary aids, services and other reasonable accommodations are available, upon request, to individuals with disabilities. Please call 1-855-464-9243 to make your needs known to this agency.

AUTHORITY:	PUBLIC ACT 10 OF 2023, AS AMENDED
COMPLETION:	VOLUNTARY
PENALTY:	NONE

Attach with complaint sufficient evidence to support your allegation (i.e., payroll records, project's prevailing wage rates, pay stubs, etc.)

COMPLAINANT INFORMATION Complete only one section: A or B. A=Individual B=Third Party

A. EMPLOYEE NAME: (if filing as an individual)	B. NAME: (if filing as a third party)
LAST FOUR DIGITS OF SOCIAL SECURITY #: (if filing as an individual)	ORGANIZATION YOU REPRESENT: (if filing as a third party)
DATE OF BIRTH: (if filing as an individual)	

ADDRESS (if you completed Section A, use individual's address; if you completed Section B, use organization's address)

CITY, STATE, ZIP:

COUNTY:	TELEPHONE NUMBER WHERE YOU CAN BE CONTACTED BETWEEN 8:00 A.M. AND 5:00 P.M., MONDAY THRU FRIDAY:

EMPLOYER INFORMATION

CONTRACTOR/SUBCONTRACTOR NAME:

ADDRESS:

CITY, STATE, ZIP:

COUNTY:	TELEPHONE NUMBER:

PROJECT INFORMATION

CONTRACTING AGENT (i.e., school, state agency, university, etc.):

CONTRACTING AGENT ADDRESS:

CITY, STATE, ZIP:	TELEPHONE NUMBER:

PROJECT NAME:

PROJECT DESCRIPTION:

PROJECT LOCATION (STREET ADDRESS, CITY, COUNTY, STATE and ZIP):

DATES WORKED ON THE PROJECT:

EMPLOYEE JOB CLASSIFICATION(S) (i.e.,: carpenter, plumber, electrician, etc.)

IS EMPLOYEE AN APPRENTICE? Yes No

IF YES, APPROXIMATELY HOW MANY APPRENTICES ON SITE?

PREVAILING WAGE COMPLAINT

ALLEGATION OF COMPLAINT

ATTACH WITH COMPLAINT SUFFICIENT EVIDENCE TO SUPPORT YOUR ALLEGATION (I.E., PAYROLL RECORDS, PROJECT'S PREVAILING WAGE RATES, PAY STUBS, ETC.)

DESCRIBE THE COMPLAINT – Include in detail the tasks performed on this project and identify the working title of the job classification.

How did you determine the contractor was in violation of the prevailing wage law?

What was the specific job title of the employee(s)?

Please describe in detail the specific job duties the employee(s) was required to perform.

Did the employee(s) supervise others? Yes No

Who is the direct supervisor of the employee(s)?

What was the hourly rate of pay for the employee(s)?

Start date of employment:	End date of employment:

Check any fringe benefits the employer provided:

_____ health and welfare contributions	_____ vacation pay
_____ pension or retirement contributions	_____ medical insurance
_____ profit sharing distribution	_____ life insurance
_____ annuity fund or tax deferred savings plan contributions	_____ holiday pay
_____ supplemental employment fund contributions	_____ bonus
_____ education or training fund contributions	_____ scholarship contributions

Any additional information you wish to add:

MICHIGAN DEPARTMENT OF LABOR & ECONOMIC OPPORTUNITY

Michigan Department of Labor and Economic Opportunity
Wage and Hour Division
PO Box 30476, Lansing, MI 48909
Telephone: 1 (855) 464-9243

Act 10 of 2023 Prevailing Wages on State Funded Construction Projects becomes effective February 13, 2024. The Wage and Hour Division will respond to rate requests made by "contracting agents" on and after February 13, 2024.

WHPWSurvey@michigan.gov

LEO Prevailing Wage Commercial Survey

Union Full name: _____

Street Address: _____

Union City: _____

Union State: _____

Union County: _____

Union ZIP: _____

I certify that the information I have provided on this survey form and attachments is true and correct to the best of my knowledge and belief. I further understand that the information provided is subject to verification by the Wage and Hour Division.

Union Rep Name: _____

Email: _____

Rep Cell/text: _____

Signature: _____

Date: _____

Please provide prevailing wages and fringe benefits currently in effect under the applicable collective bargaining agreement, and under any applicable understandings associated with the agreement. List rates separately for each geographic area and, if applicable, for each size of project for which there are different rates in effect.

On each rate sheet you complete, if there is only one pay rate in effect for a job classification, list that rate as the prevailing wage. If there is more than one pay rate in effect, list as the prevailing wage the one that has been the most frequently or commonly paid during the 60 days prior to completing this Survey. In determining the most common or frequent wage, include the pay rates in effect in the area even if a collective bargaining agreement or understanding excludes those rates from prevailing wage projects.

It is critical that you provide a copy of the pertinent collective bargaining agreement and the applicable understanding or understandings, if any, for each listed rate, and that you indicate the page numbers where all information is found as requested on the form.

Rates cannot be included in the state prevailing wage schedules if they are not submitted with a current collective bargaining agreement or understanding.

PREVAILING WAGE COMMERCIAL SURVEY
ATTACHMENT PAGE

1 Trade Classification * Attach additional sheets if necessary	2 County or counties	Page number(s) or article number(s) of Agreement or Understanding where geographic or boundaries are defined:

Fringe Benefits:	Straight Time:	Time and a Half:	Double Time:
Base Wage Rate			
Health & Welfare			
Dental			
Sick & Injury			
Vacation/Holiday			
Pension			
Training			
401(k)			
Annuity			
Accidental Death & Dismemberment Insurance			
Supplemental Employment Benefit (Sub Fund)			
Total Hourly Rate	$ 0.00	$ 0.00	$ 0.00

PREVAILING WAGE COMMERCIAL SURVEY
ATTACHMENT PAGE

1 Trade Classification * Attach additional sheets if necessary	2 County or counties	Page number(s) or article number(s) of Agreement or Understanding where geographic or boundaries are defined:

Fringe Benefits:	Straight Time:	Time and a Half:	Double Time:
Base Wage Rate			
Health & Welfare			
Dental			
Sick & Injury			
Vacation/Holiday			
Pension			
Training			
401(k)			
Annuity			
Accidental Death & Dismemberment Insurance			
Supplemental Employment Benefit (Sub Fund)			
Total Hourly Rate	$ 0.00	$ 0.00	$ 0.00

PREVAILING WAGE COMMERCIAL SURVEY
ATTACHMENT PAGE

1 Trade Classification * Attach additional sheets if necessary	2 County or counties	Page number(s) or article number(s) of Agreement or Understanding where geographic or boundaries are defined:

Fringe Benefits:	Straight Time:	Time and a Half:	Double Time:
Base Wage Rate			
Health & Welfare			
Dental			
Sick & Injury			
Vacation/Holiday			
Pension			
Training			
401(k)			
Annuity			
Accidental Death & Dismemberment Insurance			
Supplemental Employment Benefit (Sub Fund)			
Total Hourly Rate	$ 0.00	$ 0.00	$ 0.00

PREVAILING WAGE COMMERCIAL SURVEY

Local Union _____

Michigan Department of Labor and Economic Opportunity
Wage and Hour Division

County or counties of Collective Bargaining Agreement
for classification on this page.

* Attach additional sheets if necessary

List each fringe benefit which is paid at a premium rate for overtime hours:

- ☐ Base Wage Rate
- ☐ Sick & Injury
- ☐ Training
- ☐ AD&D Insurance
- ☐ Health & Welfare
- ☐ Vacation/Holiday
- ☐ 401(K)
- ☐ Supplemental Employment Benefit
- ☐ Dental
- ☐ Pension
- ☐ Annuity

7. Overtime Provisions

Please indicate from which page or article of the attached CBA or understanding this information can be found: _____

Mark the area that applies:		Time and ½	Time and ½ after 40	Double Time	Not Applicable
Monday - Friday	9th hour	☐	☐	☐	☐
	10th hour	☐	☐	☐	☐
	beyond 10 hours	☐	☐	☐	☐
Saturday	First 8 hours	☐	☐	☐	☐
	9th hour	☐	☐	☐	☐
	10th hour	☐	☐	☐	☐
	beyond 10 hours	☐	☐	☐	☐
Sundays & Holidays		☐	☐	☐	☐

Does the collective bargaining agreement allow an alternative of 4 ten-hour days without overtime payment? Yes/No _____

On which page or article is the alternative ten-hour days without overtime found? _____

PREVAILING WAGE COMMERCIAL SURVEY

Local Union

Michigan Department of Labor and Economic Opportunity
Wage and Hour Division

County or counties of Collective Bargaining Agreement for classification on this page.

* Attach additional sheets if necessary

Classification Description	Apprentice % of Base Rate

	Straight Hourly	Time and a one half	Double Time
Health and Welfare			
Dental			
Sick and Injury			
Vacation/Holiday			
Pension			
Training			
401(K)			
Annuity			
Accidental Death and Dismemberment			
Supplemental Employment Benefit Fund (Sub Fund)			
Total Hourly Rate			

PREVAILING WAGE COMMERCIAL SURVEY

Local Union

Michigan Department of Labor and Economic Opportunity
Wage and Hour Division

County or counties of Collective Bargaining Agreement for classification on this page.

* Attach additional sheets if necessary

Classification Description	Apprentice % of Base Rate		Straight Hourly	Time and a one half	Double Time
			$ 0.00		
		Health and Welfare			
		Dental			
		Sick and Injury			
		Vacation/Holiday			
		Pension			
		Training			
		401(K)			
		Annuity			
		Accidental Death and Dismemberment			
		Supplemental Employment Benefit Fund (Sub Fund)			
		Total Hourly Rate	$ 0.00	$ 0.00	$ 0.00

C-1727 Lee Street Rehab
Page 57 of 356

WHD-9462
Rev 5/24

PREVAILING WAGE COMMERCIAL SURVEY

Local Union

Michigan Department of Labor and Economic Opportunity
Wage and Hour Division

County or counties of Collective Bargaining Agreement for classification on this page.

* Attach additional sheets if necessary

Classification Description	Apprentice % of Base Rate		Straight Hourly	Time and a one half	Double Time
		Health and Welfare			
		Dental			
		Sick and Injury			
		Vacation/Holiday			
		Pension			
		Training			
		401(K)			
		Annuity			
		Accidental Death and Dismemberment			
		Supplemental Employment Benefit Fund (Sub Fund)			
		Total Hourly Rate			

C-1727 Lee Street Rehab
Page 58 of 356

WHD-9462
Rev 5/24

"General Decision Number: MI20260071 01/02/2026

Superseded General Decision Number: MI20250071

State: Michigan

Construction Type: Heavy

County: Saginaw County in Michigan.

Heavy, Includes Water, Sewer Lines and Excavation (Excludes Hazardous Waste Removal; Coal, Oil, Gas, Duct and other similar Pipeline Construction)

Modification Number	Publication Date
0	01/02/2026

CARP0706-009 06/01/2025

	Rates	Fringes
CARPENTER, Includes Form Work	$ 35.86	23.69

ELEC0557-002 06/01/2025

	Rates	Fringes
ELECTRICIAN	$ 40.00	29.95

ENGI0325-009 09/01/2025

POWER EQUIPMENT OPERATORS: Underground Construction (Including Sewer)

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 45.98	25.25
GROUP 2	$ 41.25	25.25
GROUP 3	$ 40.52	25.25
GROUP 4	$ 39.95	25.25

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backhoe/ Excavator, Boring Machine, Bulldozer, Crane, Grader/ Blade, Loader, Roller, Scraper, Trencher (over 8 ft. digging capacity)

GROUP 2: Trencher (8-ft digging capacity and smaller)

GROUP 3: Boom Truck (non-swinging, non- powered type boom)

GROUP 4: Broom/ Sweeper, Fork Truck, Tractor, Bobcat/ Skid Steer /Skid Loader

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ENGI0326-011 06/01/2025

EXCLUDES UNDERGROUND CONSTRUCTION

	Rates	Fringes
OPERATOR: Power Equipment		
Group 1	$ 48.98	25.25
Group 2	$ 45.68	25.25
Group 3	$ 44.00	25.25
Group 4	$ 41.32	25.25
Group 5	$ 41.32	25.25
Group 6	$ 35.46	25.25

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: $1.50 per hour above the group 1 rate.
Crane operator with main boom and jib 400' or longer: $3.00 per hour above 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 and jib 400', 300', or 220' or longer.

GROUP 2: Crane operator with main boom and jib 140' or longer, tower crane, gantry crane, whirley derrick

GROUP 3: Backhoe/Excavator; Boring Machine; Bulldozer; Crane; Grader/Blade; Loader; Roller; Scraper; Tractor; Trencher

GROUP 4: Bobcat/Skid Loader; Broom/Sweeper; Fork Truck (over 20' lift)

GROUP 5: Boom truck (non-swinging)

GROUP 6: Fork Truck (20' lift and under for masonry work)

IRON0025-006 06/01/2025

	Rates	Fringes
IRONWORKER		
Reinforcing	$ 36.55	33.37
Structural	$ 36.55	35.93

LABO0334-007 09/01/2022

SCOPE OF WORK:
OPEN CUT CONSTRUCTION: Excavation of earth and sewer, utilities, and improvements, including underground piping/conduit (including inspection, cleaning, restoration, and relining)

	Rates	Fringes
LABORER		
(1) Common or General	$ 22.42	12.95
(2) Mason Tender-Cement/Concrete	$ 22.55	12.95
(4) Grade Checker	$ 22.73	12.55
(5) Pipelayer	$ 22.85	12.95
(7) Landscaper	$ 18.41	12.95

LABO0334-012 06/01/2025

EXCLUDES OPEN CUT CONSTRUCTION

	Rates	Fringes
Landscape Laborer		
GROUP 1	$ 29.93	9.10
GROUP 2	$ 27.71	9.10

LANDSCAPE LABORER CLASSIFICATIONS

GROUP 1: Landscape specialist, including air, gas and diesel equipment operator, lawn sprinkler installer and skidsteer (or equivalent)

GROUP 2: Landscape laborer: small power tool operator, material mover, truck driver and lawn sprinkler installer tender

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LABO1098-007 07/01/2025

EXCLUDES OPEN CUT CONSTRUCTION

	Rates	Fringes
LABORER		
Common or General; Grade Checker; Mason Tender - Cement/Concrete; Pipelayer	$ 27.68	13.45

PAIN1803-005 06/01/2014

	Rates	Fringes
PAINTER		
Brush & Roller	$ 22.58	12.80
Spray	$ 23.58	12.80

PLAS0016-030 04/01/2014

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.47	12.38

PLUM0085-005 05/04/2020

	Rates	Fringes
PLUMBER	$ 38.25	21.07

TEAM0007-008 06/01/2025

	Rates	Fringes
TRUCK DRIVER		
Dump Truck under 8 cu. yds.; Tractor Haul Truck	$ 33.30	.75 + a+b
Dump Truck, 8 cu. yds. and over	$ 33.40	.75 + a+b
Lowboy/Semi-Trailer Truck	$ 33.55	.75 + a+b

FOOTNOTE:
a. $470.70 per week.
b. $68.70 daily.

SUMI2010-069 11/09/2010

	Rates	Fringes
TRUCK DRIVER: Off the Road		

Truck.....$ 20.82 3.69

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, 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 the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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 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 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 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.

==========

NOTICE INVITING SEALED BIDS

Bid/Contract Number – C-1727

C-1727 Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface

FOR THE DEPARTMENT OF PUBLIC SERVICES, ENGINEERING DIVISION, CITY OF SAGINAW, MICHIGAN. Sealed bids will be received by the City of Saginaw Purchasing Office, 1315 S. Washington Avenue, Saginaw, Michigan 48601, **until 3:00 p.m., Tuesday, June 2, 2026**, and then publicly opened for the DEPARTMENT OF PUBLIC SERVICES, ENGINEERING DIVISION – C-1727 Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface.

Mill and Resurface of Lee St. - S Niagara to Rust, and Hoyt Park Upper Drive and Boat Launch with pavement removal, concrete work, earthwork, subbase, aggregate base, curb and gutter, sidewalks, ADA sidewalk ramps, storm sewer, structure adjustments, water main, and restoration. Furnish labor, tools, equipment, and materials as required to perform the work as specified in the contract documents.

Direct any questions to Travis Hare, City Engineer, via email at engineer@saginaw-mi.com, before 3:00p.m. on May 26, 2026.

To access downloadable contract documents, go to the City of Saginaw's website at https://www.saginaw-mi.com/Bids.aspx. There is **no charge** for these downloadable documents. For a hard copy of the contract documents, call the City Engineer's office at 989-759-1410. The office is in the lower level of the Public Works Service Center building, 1435 S. Washington Avenue, Saginaw, Michigan 48601. There is a **$125.00 non-refundable** charge for a hard copy of the contract book and drawings with an additional charge of **$25.00** to cover the mailing. Checks must be made payable to "Treasurer, City of Saginaw" and mailed to the City Engineer, 1315 South Washington Avenue, Saginaw, Michigan 48601.

All vendors are subject to the provisions of the City's Purchasing, Contracting, and Selling Procedure Ordinance, Title I, Chapter 14, §14.30-14.45, of the Saginaw Code of Ordinances. For disability accommodation, please call 989-759-1410.

As part of the consideration for this bid, the vendor doing business with the City of Saginaw agrees to have withheld from any payments due them, any amounts for taxes, fees, or other charges due the City of Saginaw.

The City of Saginaw has an income tax. All successful bidders will be subject to income tax withholdings; compliance is mandatory.

Contract amounts totaling $100,000 or more will require a certified check, cashier's check, or surety company bid bond in an amount of five percent **(5%)** of the total bid to be submitted with the bid as security for the acceptance and execution of the contract.

The successful bidder on a contract of $50,000.00 or more will be required to furnish surety company bonds as follows:
First - A bond in the sum of one hundred percent (100%) of the contract price running to the City of Saginaw to insure the construction and completion of the entire work according to the proposal and contract.
Second - A bond in the sum of one hundred percent (100%) of the contract price running to the City of Saginaw for the protection of the subcontractors and labor and material suppliers, according to the statute of the State of Michigan at that time in effect.

The City of Saginaw reserves the right to accept or reject any and all bids, or parts thereof, and to waive any irregularities in the bid except those specifically mentioned in the Sealed Bid Instructions. Bidders are required by the City's Purchasing, Contracting, and Selling Procedure Ordinance to submit documentation concerning their current work force and past employment practices and to subscribe to a statement furnished by the City indicating compliance with the Ordinance.

Kim Jaime, Purchasing Officer

CITY OF SAGINAW, MICHIGAN
BID FORM

C-1727 Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface

To the City of Saginaw Date:_____

In response to your notice, the undersigned, hereinafter called the Contractor, hereby declares that the Contractor has read the "General Instruction to Bidders", "Sealed Bid Instructions" and "General Information", has examined the plans, specifications and the location of the work described herein, has reviewed the proposed Contract and its general conditions, and, is thus fully informed to the nature of the work and the conditions relating to its performance and further understands that the quantities shown hereon are approximate only and are subject to either increase or decrease.

The Contractor hereby proposes to furnish all the necessary equipment and tools, do all the work, furnish all the materials, except as otherwise specified and to complete the work herein described all in accordance with the Contract and its plans and specifications, of which this proposal is a part, for the unit prices named in the following itemized bid.

Prior to and contingent upon award of a contract of $50,000.00 or more, the undersigned further agrees to furnish a surety company performance bond in the sum of not less than 100 percent (100%) of the total amount of the contract company to secure the faithful performance of the Contract and, when required, a surety company labor and material bond in the sum of not less than 100 percent (100%) of the total amount of the Contract for the protection of subcontractors, labor and material suppliers, according to the laws of the State of Michigan at that time in effect. Said signed Contract, surety company bonds, and insurance shall be furnished within ten (10) days from date of notification by the Engineering Division of acceptance of the proposal submitted. The Contract cannot be fully awarded by City Council without the return of these executed documents.

In compliance with the requirements of said notice, this proposal is accompanied by an **original** bid bond, bank money order, certified check, or cashier's check in the sum of five percent (5%) of total bid to guarantee that a contract will be entered into if the above proposal is accepted, and the contract awarded to the undersigned.

52.222-21 Prohibition of Segregated Facilities.

As prescribed in 22.810(a)(1), insert the following clause:

Prohibition of *Segregated Facilities* (Apr 2015)

(a) *Definitions*. As used in this clause

Gender identity has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at http://www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

Segregated facilities, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, *sexual orientation*, *gender identity*, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

Sexual orientation has the meaning given by the Department of Labor's Office of Federal Contract Compliance Programs, and is found at http://www.dol.gov/ofccp/LGBT/LGBT_FAQs.html.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any *segregated facilities* at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where *segregated facilities* are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor *shall* include this clause in every subcontract and *purchase order* that is subject to the Equal Opportunity clause of this contract.

(End of clause)

Parent topic: 52.222 [Reserved]

HOYT PARK

	DESCRIPTION	APPX. QUANT.	UNIT	UNIT PRICE	BID AMOUNT
1	Cold Milling HMA Surface	6,980	Sq. Yd.		
2	HMA, 4EL	655	Ton		
3	HMA, 5EL	655	Ton		
4	Concrete Curb and Gutter, Remove and Replace	400	Lin. Ft.		
5	Limestone Retaining Wall	540	Sq. Ft.		
6	Stone Retaining Wall	294	Lin. Ft.		
7	Dr. Structure Cover Adj, Case 1	5	Each		
8	Drainage Structure Casting and Cover	5	Each		
9	Mobilization, Bonds, Insurance	1	Lump Sum		
10	Traffic Control	1	Lump Sum		
11	Soil Erosion & Sedimentation Control	1	Lump Sum		
12	Cleanup	1	Lump Sum		

TOTAL BID _____

RUST BOAT LAUNCH

1	Cold Milling HMA Surface	21,617	Sq. Yd.		
2	Reuse Millins as Aggregate Base	850	Ton		
3	HMA, 4EL	2703	Ton		
4	HMA, 5EL	2703	Ton		
5	Subgrade Undercutting, Type II	100	Cu. Yd.		
6	4' Dia Drainage Structure	6	Each		
7	12" RCP Storm Sewer	741	Ft.		
8	Dr. Structure Tap, 12 inch	1	Each		
9	Mobilization, Bonds, Insurance	1	Lump Sum		
10	Parking Lot Regrading	1	Lump Sum		
11	Pavement Markings and Signing	1	Lump Sum		
12	Soil Erosion & Sedimentation Control	1	Lump Sum		
13	Cleanup	1	Lump Sum		

TOTAL BID _____

LEE STREET					
1	6" P.V.C. Water Main	922	Lin. Ft.		
2	8"x6" Tapping Sleeve and Valve	1	Each		
3	Water Service Reconnections	5	Each		
4	1" Corp. and Saddle	3	Each		
5	1" Curb Stop and Box	3	Each		
6	1.5" Corp. and Saddle	1	Each		
7	1.5" Curb Stop and Box	1	Each		
8	2; Corp. and Saddle	1	Each		
9	2" Curb Stop and Box	1	Each		
10	1" Long Service	152	Lin. Ft.		
11	1.5" Short Service	14	Lin. Ft.		
12	6" Hydrant, Complete	3	Each		
13	6" Watermain Cut and Cap	1	Each		
14	Remove Existing Hydrant	1	Each		
15	Ditching, Modified	885	Lin. Ft.		
16	HMA Base Crushing and Shaping	3,060	Sq. Yd.		
17	Shld, Cl II, 4 inch	400	Sq. Yd.		
18	HMA, 4EL	370	Ton		
19	HMA, 5EL	370	Ton		
20	Subgrade Undercutting, Type II	100	Cu. Yd.		
21	4" HMA Driveway, Remove and Replace	3	Each		
22	6" Gravel Driveway, Remove and Replace	1	Each		
23	Mobilization, Bonds, Insurance	1	Lump Sum		
24	Traffic Control	1	Lump Sum		
25	Soil Erosion & Sedimentation Control	1	Lump Sum		
26	Cleanup	1	Lump Sum		

TOTAL BID _____

OVERALL TOTAL BID _____

Please check the MDOT Work Pre-Qualification Classification that your company holds. Your company and all sub-

B. CONCRETE PAVING _____

Ba. CONCRETE PAVEMENT PATCHING AND WIDENING _____

J. MISCELLANEOUS CONCRETE ITEMS _____

Cb. HOT MIX ASPHALT/BITUMINOUS PAVING _____

K. SEWER AND WATER MAINS _____

OTHER NOT LISTED _____

In accordance with the provisions of "Public Act 524 of 1980".

I do hereby designate _____ (name of representative) to submit a written request for progress payment during the duration of this contract.

The Contractor shall start work as specified in the Progress Clause, or as directed by the City Engineer. In no case, shall any work commence prior to receipt of formal Notice to Proceed from the City.

The undersigned bidder does hereby declare that the bidder has the legal status checked below:

_____ Individual

_____ Partnership

_____ Corporation

Incorporated under the laws of the State of _____

_____ Limited Liability Company

Formed under the laws of the State of _____

The undersigned does hereby agree to honor this bid until November 27, 2026.

Michigan's Iran Economic Sanctions Act:
The signature below certifies your company is in compliance with the Michigan Iran Economic Sanctions Act as identified on page #39 of this document. Further information on this Act can be viewed at (http://www.state.gov/j/ct/list/c14151.htm and https://www.legislature.mi.gov/(S(qnwpjcm0uyo1f2fhz0w1mlyq))/mileg.aspx?page=GetObject&objectname=mcl-Act-517-of-2012)

_____
(Signature)

_____
(Printed name)

_____
(Title)

This sheet must be included, or the bid will be disqualified.

By submitting a response to this request for proposal, the Contractor agrees to the terms and conditions set forth herein. Any changes made to such terms and conditions by Contractor in its response may result, at the City's sole discretion, in the Contractor's disqualification.

The successful Contractor will conform to all Contract specifications and requirements which are attached and incorporated as part of this bid. The City reserves the right to accept or reject any and all bids, or parts thereof, and to waive any irregularities in the bid except those specifically mentioned in the sealed bid instructions. Additionally, (if applicable) we reserve the right to add or delete any items(s) and/or service from this bid to the best benefit of The City of Saginaw.

By signature, the Contractor acknowledges that the signer below has complete authority to execute the bid on behalf of the Contractor and that the bid is genuine and not collusive in any manner; and that no other bidders were improperly induced to refrain from bidding or induced to submit a sham bid; and that the Contractor agrees to have withheld from any payment due them, any amounts owed for taxes or other charges due the City of Saginaw; and that successful bidders are subject to mandatory City of Saginaw income tax withholdings.

Signed	_____	Address	_____
Name	_____	City, State, Zip	_____
Title	_____	Telephone No:	_____
Company	_____	Fax No.	_____
E-mail	_____	Date:	_____

Check List

Iran Sanctions sheet Signed and included	Yes	No
Bid Form Signed and included	Yes	No
2nd Copy of Bid form included	Yes	No

Applies ONLY if an addendum(s) has been issued for this project

Addendum(s) Cover Sheet		
#1 – 1st page is signed and included	Yes	No
#2 – 1st page is signed and included	Yes	No
#3 – 1st page is signed and included	Yes	No

This sheet must be included, or the bid will be disqualified.

CONTRACT

CITY OF SAGINAW, MICHIGAN

This Contract is entered into on this 22 day of June, 2026, between **(name of contractor),** of _____ (hereinafter "Contractor"), and the City of Saginaw, 1315 S. Washington Avenue, Saginaw, Michigan 48601 (hereinafter "City"), for **Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727).**

WHEREAS, Contractor, at a regular meeting of the Council of the City of Saginaw, held on June 22 2026, was awarded the contract for furnishing the necessary labor, equipment, materials, and construction for the completion of **Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727).**

Contractor, in consideration of the Agreement herein made by the City, agrees with the City as follows:

Article 1. SUBJECT MATTER. Contractor shall furnish all the materials, except those specified to be furnished by the City, and perform all the work for **Lee St Rehab - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface, (C-1727),** as listed on the Table of Contents, and as shown on the drawings prepared by the Department of Public Services, Engineering Division, and described in the specifications, and in accordance with the general conditions, the general instructions to bidders, the notice inviting sealed proposals and the proposal, all of which are hereby made a part of this Contract by reference as though fully set forth herein. The Contractor acknowledges Contractor has received a copy of all such documents.

Article 2. COMMENCEMENT OF WORK. The Contractor shall start work as specified in the Progress Clause**,** or as directed by the City Engineer and the work shall be carried on with due diligence, at such points and at such times and seasons, and with such force and in such manner as to secure the completion in accordance with the Progress Clause, the time of beginning, rate of progress and the time of completion being essential conditions of this Contract.

Article 3. PAYMENT. It is hereby mutually agreed that the City shall pay, and the Contractor receive, the sum of **$Numerical amount,** same being the amount named in the Contractor's proposal or bid as full compensation for labor and materials required in executing all the work contemplated in this Contract, subject to additions and deductions, as provided in the specifications.

Article 4. ESTIMATES. The City hereby agrees to make payment under the restrictions and limitations herein contained, from time to time, on account of performance of this contract, by orders drawn upon the proper fund of the City, paying NINETY PERCENT (90%) thereof on the basis of estimates made by the Department of Public Services & Engineering semi-monthly as the work progresses, and approved by the City Engineer. Said estimates shall be made in writing and shall only include work done and material in place and shall not include completed work which, in the opinion of the City Engineer, is not advisable, for the protection of the City, at that time to

make payment on, and such estimates may be altogether withheld when, in the opinion of the City Engineer, work does not progress in accordance with the provisions of this Contract; and the making and furnishing of such estimates shall not be deemed or construed as an acceptance of any part of the work under this Contract. The City Engineer may authorize the reduction of the amount so withheld so that total payment equals NINETY-FIVE PERCENT (95%) of the estimate where the City Engineer shall find that the retention of FIVE PERCENT (5%) of the estimate is sufficient to protect the City, but the total amount so retained shall not in any event be reduced to less than FIVE PERCENT (5%) of the contract price above stated.

Article 5. RETENTION OF MONEYS. In addition to the TEN PERCENT (10%) of contract price above retained, to insure the completion of the work, the City reserves the right to retain at all times from the estimates, an amount sufficient to pay and discharge all debts incurred by Contractor, or subcontractor, for labor performed in the progress of the work, and for material purchased and used, and, at its discretion, to pay the same to the parties entitled thereto, and charge the same against the contract price.

Article 6. SEPARATE CONTRACTS. Where two or more separate proposals are grouped together herein, it is expressly agreed that each of said proposals shall constitute a separate contract and that all of the terms, conditions, and provisions of this Contract shall apply to each of said proposals to the same extent and in the same manner as though each of said proposals had been the subject of a separate contract.

Article 7. PUBLIC ACT 524 of 1980. Notwithstanding any provision herein to the contrary, this agreement is subject to 1980 PA 524, which statute is incorporated herein and made a part hereof by reference. Contractor hereby agrees that the City may, at its option, submit the following matters to dispute resolution by an agent agreed to or selected in accordance with the procedures set forth in the statute:

A. At any time during the term of the contract, to determine whether there has been a delay for reasons that were within the control of the Contractor, and the period of time that delay has been caused, continued, or aggravated by actions of the Contractor.
B. At any time after ninety-four percent (94%) of work under the Contract is in place, whether there has been an unacceptable delay by the Contractor in performance of the remaining six percent (6%) of work under the Contract. The agent shall consider the terms in the Contract and procedures normally followed in the industry and shall determine whether the delay was for failure to follow reasonable improvement practices in the industry for completion of the project.

The agent shall have all the rights, powers and duties specified in the statute.

Article 8. ACCEPTANCE AND FINAL PAYMENT. The final payment, including any retainage previously withheld, shall be payable on the approval and acceptance of the work by the City Engineer.

The payment of the final amount due under this Contract, and the adjustment and payment of all bills rendered for the work done in accordance with any alterations of same, shall release the City from any and all claims or liability on account of work performed or materials furnished under the Contract, or any alterations thereof.

The City of Saginaw has an income tax. All successful bidders will be subject to income tax withholdings and compliance is mandatory.

As part of the consideration for this Contract, the undersigned does hereby agree to have withheld from any payments due them, any amounts for taxes, fees or other charges due the City of Saginaw.

By their signatures below, the parties certify the persons signing on behalf of their respective party has the authority to do so. The parties hereto have executed this Contract the day and year first above written.

CONTRACTOR	**CITY OF SAGINAW**
	By:_____
	Timothy Morales
By:_____	**City Manager**
Name: _____	
Title: _____	

CITY OF SAGINAW

SCOPE OF WORK

COS: TJH **MAY 2026**

C-1727 LEE ST REHAB - S Niagara to Rust, Boat Launch & Hoyt Park Upper Drive Mill & Resurface:

Mill and Resurface of Lee Street - S Niagara to Rust, and Hoyt Park Upper Drive and Boat Launch with pavement removal, concrete work, earthwork, subbase, aggregate base, curb and gutter, sidewalks, ADA sidewalk ramps, storm sewer, structure adjustments, water main, and restoration.

Traffic control will be the responsibility of the Contractor. All major roads listed will be closed to through traffic with posted detour, while maintaining local access. 48-hour notice to the City is required for all closures. All local roads listed will be closed to through traffic with no posted detour required, while maintaining local access. Patches must be completed and the roadway open to traffic within 72 hours of removals. The contractor shall place temporary pavement markings until permanent pavement markings are placed.

CITY OF SAGINAW

PROGRESS CLAUSE

COS:(TJH) **1 of 2** **MAY 2026**

Start work on or after June 23, 2026 or as directed by City Engineer. All work must be completed on or before October 30, 2026 as shown on the Notice to Proceed, with the exception of seeding, to be completed by November 13, 2026 and turf establishment which shall be completed by May 1, 2027. In no case, shall any work commence prior to receipt of formal notice of award by the City.

Work is prohibited on City of Saginaw holidays and between the hours of 3 PM the day prior to the holiday and 7 AM the day after the holiday. Unauthorized work performed during prohibited time shall not be paid for.

	New Year's Day
	Martin Luther King Day
	Good Friday
	Memorial Day
July 4th,2026	Independence Day
September 7th ,2026	Labor Day
November 11th,2026	Veterans' Day
November 26th,2026	Thanksgiving
December 24th,2026	Christmas Eve
December 25th,2026	Christmas Day
January 1st,2027	New Year's Eve

Submit a complete, detailed, and signed MDOT Form 1130, Progress Clause. The Progress Schedule shall be submitted to the City of Saginaw five (5) days prior to the meeting.

The progress schedule submittal shall include, at a minimum, the controlling work items for the completion of the project and the planned dates or work days that these work items will be the controlling operations. All contract dates including opened to traffic, the final project completion dates, and any other controlling dates must be included in the project schedule.

Failure by the Contractor to meet interim, final, and/or any stage completion dates will result in the assessment of liquidated damages in accordance with subsection 108.10 of the Standard Specifications for Construction, and the special provisions included in the proposal.

After award and prior to the start of work, the Contractor must attend a pre-construction meeting with the Engineer. The schedule for this meeting will be determined by the Engineer after submittal of MDOT Form 1130. The project Engineer will arrange the day, time, and place for the pre-construction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project.

CITY OF SAGINAW

PROGRESS CLAUSE

COS:(TJH) 2 of 2 MAY 2026

The named subcontractor(s) for designated and/or specialty items, as shown in the proposal, is recommended to be at the pre-construction meeting if such items materially affect the work schedule.

No unnecessary stoppages in work will be allowed once work has begun at the site.

Failure on the part of the contractor to carry out the provisions of the Progress Schedule, as established, may be considered sufficient cause to prevent bidding future projects until a satisfactory rate of progress is again established.

CITY OF SAGINAW

SPECIAL PROVISION

FOR

TECHNICAL SPECIFICATIONS

COS:TJH **1 of 1** **MAY 2026**

The technical specifications for this project shall be in accordance with the 2020 Standard Specifications for Construction of the Michigan Department of Transportation, hereinafter referred to as the "STANDARD SPECIFICATIONS", the latest MDOT standard road plans, and Traffic and Safety standard plans.

The placement of permanent and temporary pavement markings, and temporary signing for work zones shall be in accordance with the Michigan Manual of Uniform Traffic Control Devices, 2011 Edition.

In case of discrepancy, figured dimensions shall govern over scaled dimensions and the parts of the contract will prevail over all other parts in the following order:

1. City, and MDOT Special provisions
2. MDOT Supplemental specifications
3. Project plans and drawings
4. MDOT Standard plans
5. MDOT Standard specifications

CITY OF SAGINAW

BIDDER PRE-QUALIFICATIONS – MDOT

COS:TJH **1 OF 2** **APRIL 2026**

All bidders must be Michigan Department of Transportation (MDOT) prequalified in one of the listed Work Classifications below to bid on this project. If your company or any of the listed sub-contractors is not pre-qualified by MDOT your bid will be rejected. The MDOT site will be checked for compliance.

https://www.michigan.gov/mdot/0,4616,7-151-9625_21539_21545---,00.html

B. CONCRETE PAVING

(Section 602 Standard Specifications)

This work shall consist of constructing a jointed portland cement concrete pavement, base course or shoulder, with or without reinforcement, as specified; large, road work.

Equipment: Major paving equipment (slipform).

Ba. CONCRETE PAVEMENT PATCHING AND WIDENING

(Section 603 Standard Specifications)

This work shall consist of repairing portions of a concrete pavement with portland cement concrete with or without reinforcement, as required, and with the type of joint specified. This would include miscellaneous concrete pavement, widening, turn lanes, and pavement patching and repair.

Equipment: Compaction equipment, drilling machine (dowel bars), forms, concrete saws, self-powered screed.

J. MISCELLANEOUS CONCRETE ITEMS

(Sections 801-804 Standard Specifications)

This work shall consist of constructing concrete curb, curb and gutter, sidewalk, barrier wall, driveways, sidewalk ramps, and other incidental construction.

Equipment: Backhoe, compaction equipment, excavator, forms, loader, paver (C&G slipform).

Cb. HOT MIX ASPHALT/BITUMINOUS PAVING

(Sections 501-504, 805, 806, 814 Standard Specifications)

This work shall consist of preparing the existing pavement and constructing HMA/Bituminous pavements, shoulders, and approaches. Also includes paver placed surface seal, HMA curb, HMA shared-use paths, paved ditches.

Equipment: Pressure distributor, pavers, compaction equipment (pneumatic and vibratory rollers), trucks

COS:TJH **2 OF 2** **APRIL 2026**

K. SEWERS AND WATER MAINS

(Sections 402 Standard Specifications)

This work shall consist of installing lines of sewer pipe, of the required class and the specified inside diameter and shall include excavation, backfilling, sewer taps, bulkheads, trench undercut and backfill, dewatering system, installing/testing/disinfecting/backfilling water mains.

Equipment: Backhoe, compaction equipment, excavator, forms, loader, paver (C&G slipform).

CITY OF SAGINAW

SUB-CONTRACTOR PRE-QUALIFICATIONS – MDOT

COS:TJH **1 OF 1** **APRIL 2026**

List the MDOT Work Pre-Qualification Classification that your company holds. If the sub-contractor does not hold an MDOT Pre-Qualification they are not allowed to work on the project. If the Prime wants the sub-contract employees to work, they must be on the prime contractor's company payroll with the work pre-qualification.

B. CONCRETE PAVING
Ba. CONCRETE PAVEMENT PATCHING AND WIDENING
J. MISCELLANEOUS CONCRETE ITEMS
Cb. HOT MIX ASPHALT/BITUMINOUS PAVING
K. SEWERS AND WATER MAINS
OTHER

Company Name/Address/Phone	**Pre-Qualification**

NOTICE TO BIDDERS

UTILITY COORDINATION

COS: TJH 1 of 1 MAY 2026

The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2020 MDOT Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the 2020 MDOT Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 109.05.E of the 2020 MDOT Standards Specifications for Construction.

The following public utilities may have facilities located within the right-of-way:

UTILITY	OWNER	CONTACT PERSON
Gas/Electric	Consumers Energy Co. 2400 Weiss Street Saginaw, MI 48602	Sam Oliveri (gas) (517) 915-8819 Sam.Oliveri@cmsenergy.com Virgie Downs (electric) Cell:(989)245-6241 (989)791-5938 Virgie.Downs@cmsenergy.com Alan Lindquist (transmission) (517)788-0534
Telephone	AT&T 309 S. Washington Ave. Saginaw, MI 48607	Mike McLane C:(810) 938-3143 O:(810) 768-0109 mm6798@att.com
Sewer & Water	City of Saginaw 1701 S. Jefferson Ave. Saginaw, MI 48601	Tony Folino (989) 759-1611 tfolino@saginaw-mi.com
Traffic Signals, Signs, Street lights	City of Saginaw 1435 S. Washington Ave. Saginaw, MI 48601	Joe Nugent (989) 737-5583 jnugent@saginaw-mi.com
Cable/ Television	Charter Communications 1480 S. Valley Center Drive Bay City, MI 48706	Mark Kelly (989) 667-0611 mark.kelly@charter.com

For protection of underground utilities, the Contractor shall dial (800) 482-7171 or 811, a minimum of 3 working days prior to excavating. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be a part of the 'Miss Dig' alert system.

CITY OF SAGINAW

SPECIAL PROVISION

FOR

LIQUIDATED DAMAGES

COS:TJH **1 OF 1** **JULY 2026**

GENERAL REQUIREMENT

All work shall be accomplished in accordance with section 108 of the Michigan Department of Transportation 2020 Standard Specifications for Construction and as modified herein.

DESCRIPTION

Liquidated Damages per calendar day will be assessed at 100% of the amount indicated below:

SCHEDULE OF LIQUIDATED DAMAGES	
ORIGINAL CONTRACT AMOUNT	**LIQUIDATED DAMAGES (per calendar day)**
$ 0 to $ 100,000	$500
$ 100,000 to $ 500,000	$800
$ 500,000 to $ 1,000,000	$1000
$ 1,000,000 to $ 5,000,000	$1500
$5,000,000 to $15,000,000	$2000
Over $15,000,000	$4000

ASSESSMENT OF LIQUIDATED DAMAGES

Sums assessed as Liquidated Damages shall not be considered penalties, but as damages due the City from the contractor for failure to complete the work within the specified time.

CITY OF SAGINAW

SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC

COS:TJH **1 of 2** **APRIL 2026**

General Requirements

This work shall be performed in accordance with the requirements of Sections 104.07C, 104.11, 812 and 922 of the Michigan Department of Transportation Standard Specifications for Construction and as herein specified. The contractor is advised that the 2011 Michigan Manual on Uniform Traffic Control Devices is hereby established as governing all work in connection with traffic control devices, barricade lighting, etc., required on this project.

The Contractor shall furnish, erect, and maintain any traffic control devices, temporary signs, and temporary pavement markings necessary to accomplish the maintenance of traffic in a safe manner. Traffic Regulators shall be used whenever necessary to assist in traffic flow and shall be included for payment under the item Traffic Regulator Control. Upon completion of the work, the contractor shall remove all temporary signs and traffic control devices.

The Contractor shall provide 24-hour emergency contacts to the Engineer. During non-working periods, the Contractor shall have a maximum two-hour response time for addressing issues within the work zone.

Walks, driveways, and entrances to buildings shall not be unnecessarily blocked. Vehicular access shall be maintained to all commercial and residential properties as directed by the Engineer. Unless otherwise specified herein, construction shall be completed in such a manner so as to maintain the required entrance width for traffic at all times. Maintenance gravel, if required, shall not be paid separately and will be considered incidental to the maintaining traffic items. The Contractor may use roadway millings as a means to maintain temporary access through and within the project site, as approved by the Engineer.

All diamond shaped warning signs shall be 36” x 36”. All temporary signs shall be mounted at a minimum seven-foot bottom height.

For HMA paving, no traffic shall be allowed on the surface being placed until rolling has been completed and the surface has cooled sufficiently to prevent damage from traffic. The contractor shall provide traffic regulators in sufficient number to maintain traffic as described herein, to keep traffic off sections being surfaced, and to provide for safe travel at all times.

Access to homes and businesses within each road will be maintained.

Specific Requirements

The Contractor will be responsible for coordinating construction activities with local businesses, keeping them advised in advance of any construction activities which will affect vehicular and pedestrian movements to their business.

The Contractor is responsible for the collection and transport of rubbish and yard waste from the residents' normal curb-side pick-up point to the nearest adjacent intersection outside the project limits on trash pick-up day if access by the waste hauler is not feasible. The collection and transport of the rubbish and yard waste must be completed by 8:00 am on trash pick-up day. The collection and transport of the rubbish and yard waste is considered incidental to other Maintaining Traffic pay items.

No work shall be performed between the hours of 10:00 pm and 7:00 am in accordance with City Ordinance. No deviation from these restrictions will be allowed unless otherwise approved by the Engineer.

Measurement and Payment

The Maintaining Traffic Pay Items will be paid for at the Contract Unit Price in accordance with the MDOT 2020 Standard Specifications for Construction, which shall be payment in full for all labor, material, and equipment needed to accomplish this work. All traffic control item quantities are based on the maximum amount required at any time for one street. All items shall be used one street at a time and moved when that street is completed.

Payment for temporary signs will be made based on the maximum square feet of dissimilar sign legends in use at any one time during the project.

Payment for barricades, lighted arrows, and plastic drums will be made based on the maximum number in use at any one time during the project.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
PAVEMENT REMOVALS

COS:TJH **1 of 2** **APRIL 2026**

DESCRIPTION

Work includes the removal and disposal of existing pavement and driveways as specified on the plans, in the Proposal, or as directed by the Engineer. Work shall be performed in accordance with section 204 of the Standard Specifications for Construction, except that additional payment will not be made for multiple layers of pavement or driveway regardless of thickness and type of pavement.

MATERIALS

None specified.

CONSTRUCTION

Construction shall be in accordance with subsection 204.03 of the Standard Specifications for Construction.

Pavement removal shall be to an existing joint or to a sawed joint as shown on plans or as directed by the Engineer.

Driveway removal shall be directed onsite by the Engineer.

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
Pavt, Rem, Modified	Square Yard

Payment for sawcutting, if required, will be included in the related removal pay item and will not be paid for separately.

Removal of driveway curb shall be included in the driveway removal pay item.

The removal of integral curb will be measured and paid for as **Pavt, Rem, Modified** and will not be paid for separately.

Pavement, Removal. The limits of Pavt, Rem, as shown on the plans, will be established at the discretion of the Engineer. The Engineer may decide to leave areas in place or remove additional sections to attain the required cross section and base. The Engineer will measure Pavt, Rem in accordance with the following criteria:

1.HMA Pavements and HMA Driveways. The Department will pay separately for the removal of curb, curb and gutter, or gutter in conjunction with removing hot mix asphalt (HMA) pavements or HMA driveways.

a. HMA No Greater Than 12 Inches Thick. The Engineer will measure the removal of HMA surface no greater than 12 inches thick overlying a material designated for removal or that is required to remain in place, as HMA Surface, Rem in accordance with subsection 501.04.H. The Engineer will measure the removal of the underlying material separately.
b. HMA Greater Than 12 Inches Thick. The Engineer will measure the removal of HMA surface, greater than 12 inches thick, overlying a material designated for removal or that is required to remain in place, as Pavt, Rem. The Engineer will measure the removal of the underlying material separately.

2. Concrete and Masonry Pavements and Concrete Driveways. The Engineer will measure the removal of concrete and masonry pavements and concrete driveways as Pavt, Rem.

If concrete or masonry pavements are encountered under the pavement being removed, the Engineer will measure each type of additionally encountered pavement at the unit price for Pavt, Rem.

The City will consider a concrete overlay a separate pavement.

The Engineer will measure the removal of curb, curb and gutter, or gutter in conjunction with removing concrete or masonry pavement or concrete driveways, as Pavt, Rem.

Curb, Removal; Gutter, Removal; or Curb and Gutter, Removal. The Engineer will measure Curb, Rem; Gutter, Rem; and Curb and Gutter, Rem if included as separate pay items and not removed in conjunction with pavement or driveway removal along the base of the curb face or along the flowline of the gutter.

The unit prices for Curb, Rem; Gutter, Rem; and Curb and Gutter, Rem include the cost of removing downspout headers.

Sidewalk, Removal. The unit price for Sidewalk, Rem includes the cost of removing and disposing of sidewalk 6 inches thick or less. The Engineer will measure sidewalk greater than 6 inches thick as Pavt, Rem in accordance with subsection 204.04.B.

CITY OF SAGINAW

SPECIAL PROVISION
FOR
VERTICAL EXPLORATORY INVESTIGATION

COS Page 1 of 2 4-6-26

a. Description. This work consists of providing all labor, equipment, and materials necessary to excavate an exploratory trench, expose an existing culvert, sewer, sump discharge or utility, and verifying the condition, size, material, elevation and alignment, and backfilling the trench. Perform the work in accordance with section 204 of the Standard Specifications for Construction and the contract. Locate utility crossings and service leads as a part of the work. Exploratory work required for locating existing utilities will not be paid for separately unless specifically called out on the plans or if the Engineer gives the Contractor explicit permission in advance of the excavation. The intent of this work is not to provide payment to the Contractor for locating each existing utility throughout the project. The Contractor is responsible for "using reasonable care to establish the precise location of the underground facilities in advance of construction" (2013 PA 174 - MISS DIG Underground Facility Damage Prevention And Safety Act) as a part of the overall project contract.

b. Materials. Ensure if the trench is located within the limits of pavement or within a 1 on 1 influence of pavement, backfill the trench with Class II or III granular material, as directed by the Engineer, and compact to at least 95 percent of the maximum unit weight. If the trench is located outside of the limits of pavement, excavated material from the trench may be used to backfill the trench and compacted to at least 95 percent of the maximum unit weight, unless otherwise directed by the Engineer.

c. Construction. Exploratory excavation shall be performed by the Contractor only after approval from the Engineer. The limits of disturbed areas and time spent in searching for unknown utility and structure conditions or locations shall be monitored and determined by the Engineer as the work is progressing.

Excavate the exploratory trench to expose the culvert, sewer pipe, or other facility to verify the condition, size, material, elevation and alignment of the pipe or facility. Perform all work in conformance with 2013 PA 174 - MISS DIG Underground Facility Damage Prevention And Safety Act. Contact the MISS DIG System a minimum of 3 full business days (72 hours) prior to beginning trenching. Backfill the exploratory trench only after the Engineer has approved it for backfilling and no later than 24 hours after approval has been given. Dispose of excess material in accordance with the Standard Specifications for Construction.

Replace or repair the exposed pipe or facility in accordance with other contract pay items as directed by the Engineer. Repair of exposed culverts and sewers damaged by exploratory or excavating operations is the responsibility of the Contractor.

d. Measurement and Payment. The completed work as measured for Exploratory Excavation will be paid for at the contract unit price for the following contract item (Pay Item):

Pay Item	**Pay Unit**
Exploratory Investigation, Vertical, Modified	Foot

Exploratory Investigation, Vertical, Modified will be measured by the foot from the top of existing grade vertically to the bottom of the excavation, or as approved by the Engineer. Exploratory Investigation, Vertical, Modified includes all costs associated with repair or replacement resulting from the Contractor's activities. Payment shall include all labor, tools, materials, equipment and machinery necessary to excavate, backfill, and compact to assist in the determination of buried utilities and/or structures. Providing necessary lane, shoulder and/or sidewalk closures required to perform work is included in Minor Traf Devices.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
SUBGRADE UNDERCUTTING

COS:TJH **1 of 1** **APRIL 2026**

DESCRIPTION

This work shall meet the requirements of sections 205 and 902 of the Standard Specifications for Construction except as herein specified.

MATERIALS

All undercutting beneath the proposed road section shall be backfilled with crushed limestone conforming to 21AA aggregate and complying with section 902 of Standard Specifications for Construction.

For compaction requirements, refer to section 302 of the Standard Specifications for Construction.

No crushed concrete shall be accepted.

CONSTRUCTION

Construction shall be in accordance with subsection 205.03, and section 902 of the Standard Specifications for Construction.

Contractor shall dispose of all undercut material at no additional cost to the City.

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
Subgrade Undercutting, Type II, Modified	Cubic Yard

This item will be measured in place, by volume in cubic yards and will be paid for at the contract unit price.

CITY OF SAGINAW

SPECIAL PROVISION
FOR
SIDEWALK GRADING, MODIFIED

COS:TJH **1 of 1** **04/17/2026**

Description

This work shall consist of all excavation, including earth, necessary to shape the subgrade and aggregate base to the cross-sections shown on the plans for sidewalks, curbs, drive approaches, etc. within the construction limits of the project. The work shall include proper disposal of excavated materials. This work shall also include all embankment and grading necessary to shape areas behind curb and gutter, around all drives and sidewalks to allow for placement of topsoil.

Materials

Materials used for embankment shall conform to the requirements of Sections 205 and 902 of Michigan Department of Transportation 2020 Standard Specifications for Construction.

Construction Methods

This work shall conform to the requirements of Section 205 of Michigan Department of Transportation 2020 Standard Specifications for Construction for the grading, earth excavation, embankment and density except as modified herein.

Measurement and Payment

The completed work as measured for **Sidewalk Grading, Modified** will be paid for at the contract unit price for the following contract item (Pay Item).

Pay Item	Pay Unit
Sidewalk Grading, Modified	Square Yard

Sidewalk Grading, Modified will be measured by square yard and depth to be as shown in the plans. Unit price shall be payment in full for all labor, equipment and materials, including embankment, excavation and disposal of excavated material needed to accomplish this work.

Approximately 100 cubic yards of earth will be excavated in front of, under, and behind the curb and gutter and sidewalk. Suitable excavated material, as determined by the engineer, may be used as fill material behind proposed curb. Approximately 30 cubic yards of embankment will be needed. Use of excavated material for fill material will be considered as included in the work of Sidewalk Grading, Modified.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
AGGREGATE BASE

TJH **1** of **1** APRIL 2026

DESCRIPTION

This work shall meet the requirements of sections 302 and 902 of the Standard Specifications for Construction except as herein specified.

The work includes furnishing, loading, hauling, stockpiling, placing, compacting, and shaping the base material at specified locations.

MATERIALS

Materials for **Aggregate Base, __ inch, Modified** shall be 100 percent crushed limestone conforming to Dense-Graded Aggregate 21AA under section 902 of the Standard Specifications for Construction.

No crushed concrete shall be accepted.

CONSTRUCTION

Construction shall be in accordance with subsection 302.03, and section 902 of the Standard Specifications for Construction.

MEASUREMENT AND PAYMENT

The completed work as measured will be paid for at the contract unit price for the following pay item(s).

Pay Item	Pay Unit
Aggregate Base, 4 inch, Modified	Square Yard
Aggregate Base, 8 inch, Modified	Square Yard

Aggregate Base, __ inch, Modified will be measured in place, at the specified depth, by area in square yards and will be paid for at the contract unit price. This price shall be payment in full for all labor, materials, and equipment needed to accomplish this work.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
STRUCTURE ADJUSTMENTS

COS:TJH **Page 1 of 2** **APRIL 2026**

DESCRIPTION

This work shall be done in accordance with section 403 of the Standard Specifications for Construction, the detail sheet in the Plans, and as modified herein.

This item shall include adjusting manhole castings and covers to the grades as directed by the Engineer. It shall also address areas where additional depth is required to adjust structures greater than six inches.

MATERIALS

Materials for all concrete items shall be in accordance with section 1004 of the Standard Specification for Construction.

The cover shall be sealed to the structure using a heat shrinkable sleeve system, Boa Tape, or a rubber seal system such as Wrapid Seal, Canusa, Infi-Shield, Cretex “X-85”, or Engineer-approved equal. The seal shall extend down the cover and adjusting brick as shown within the detail sheet in the Plans and as recommended by the manufacturer. Where required, galvanized steel compression bands or manufacturer recommended coupling system shall be used for extension sleeves.

CONSTRUCTION

This work shall be performed only when all asphalt has been placed. The adjacent pavement shall be cored and placed to the original elevation with concrete, grade 3500.

Where additional depth of replacement greater than 6 inches is required, the work to replace pre-cast sections of the structure shall be completed prior to paving. Final adjustments will be made only when all asphalt has been placed except for the top course. This work will occur in two separate operations.

Use of brick or block to reach final elevations and repair damaged structures will be allowed to a maximum depth of 12 inches. For work in excess of 12 vertical inches, all components must be pre-cast in conformance with the City of Saginaw Alterations to the Municipal Combined Sewer System special provision requirements and as shown in the Plans.

MEASUREMENT AND PAYMENT

The completed work as measured will be paid for at the contract unit price for the following pay item(s).

Pay Item	Pay Unit
Dr Structure Cover, Adj, Case 1, Modified	Each
Dr Structure, Adj, Add Depth	FOOT
Dr Structure Cover, Type K, Modified	Each

Dr Structure Cover, Adj, Case 1, Modified will be measured by units of each and will be paid for at the contract unit price per each. This price shall be payment in full for all labor, equipment, and materials needed to accomplish this work.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
STRUCTURE ADJUSTMENTS

COS:TJH **Page 2 of 2** **APRIL 2026**

Dr Structure Cover, Adj, Case 1, Modified includes the cost of the following:

1. Coring existing pavement.
2. Adjusting the cover up or down, no greater than 6 inches.
3. Removing and replacing pavement adjacent to the adjusted cover.
4. Concrete 3500 collar.

The Department will pay separately for removing and replacing curb and gutter adjacent to the adjusted structure.

The unit price for **Dr Structure Cover, Adj** of the case required includes the cost of repairs for uniform contact of temporary steel plate to the top of structures. The Engineer will measure **Dr Structure, Adj, Add Depth** of the required diameter and depth beginning 6 inches from the level of the existing structure, in the direction of adjustment, to the limit of the additional adjustment depth. If the contract includes a pay item for **Dr Structure, Adj, Add Depth**, the contract will also include a pay item for **Dr Structure Cover, Adj** of the case required. The unit price for **Dr Structure, Adj, Add Depth** includes the cost of drainage structure taps within the limits of the adjustment.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
SHUTOFF AND MONUMENT BOX ADJUSTSMENTS

COS:TJH **1** of **1** APRIL 2026

DESCRIPTION
This work shall include the proper setting and adjusting of existing monument boxes and water and gas valve castings and covers to the grades as directed by the Engineer.

This work shall be done in accordance with sections 403, 821, and 823 of the Standard Specifications for Construction and as modified herein.

MATERIALS
Provide material in accordance with subsections 403.02, 821.02 and 823.02 of the Standard Specifications for Construction.

CONSTRUCTION
This work shall be performed only when all asphalt has been placed. The adjacent pavement shall be cored and placed to the original elevation with concrete, grade 3500 per the detail in the plans.

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
Gas and Water Shutoff, Adj, Modified	Each
Monument Box Adj, Modified	Each

This item will be measured by the unit of each and will be paid for at the contract unit price per each.

Payment for coring, removal, and replacement of pavement adjacent to the adjusted gas, water shutoff, or monument box is considered included in the pay items listed herein.

CITY OF SAGINAW

SPECIAL PROVISION
FOR
HOT MIX ASPHALT (HMA) APPLICATION ESTIMATE

COS:TJH **1 of 1** **APRIL 2026**

DESCRIPTION

This work shall be done in accordance with the requirements of Division 5 of the Michigan Department of Transportation Standard Specifications for Construction except as modified herein.

CONSTRUCTION METHODS

Testing performed in accordance with Section 501.03.N will apply for this project.

MATERIALS

Top course shall be **HMA, 4EML** with an estimated thickness of 1.5 inches and a yield of 165 pounds per square yard (lbs/syd) placed in one lift. Aggregate Wear Index number shall be 260. The Performance Grade asphalt binder range for the Mixture shall be PG 64-28.

Leveling course shall be **HMA, 4EML** with an estimated thickness of 1.5 inches and a yield of 165 pounds per square yard (lbs/syd) placed in one lift. The Performance Grade asphalt binder range for the Mixture shall be PG 64-28.

Base course shall be **HMA, 3EML** with estimated thickness of 3 inches and a yield of 330 pounds per square yard (lbs/syd) placed in one lift. The Performance Grade asphalt binder range for the Mixture shall be PG 64-28.

Hand Patching shall be **HMA, 13A** and shall be placed with an average yield of 440 lbs/syd placed in two lifts. The Performance Grade asphalt binder range for the Mixture shall be PG 58-28.

The HMA bond coat mixture shall be per Section 501. The application rate on existing or between courses shall be 0.05 to 0.15 gallons per square yard. The HMA bond coat mixture will not be paid for separately, but will be included in HMA pay items.

Measurement and Payment

Measurement and payment shall be at the contract unit price per ton. No additional payment will be made for HMA bond coat mixture.

Pay Item	Pay Unit
Hand Patching	Ton
HMA, 4EML	Ton
HMA, 3EML	Ton

Payment for each shall include the material, labor and equipment necessary to construct each item according to the plans, specifications and any special provisions included with this contract.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
COLD-MILLING CONCRETE PAVEMENT

COS:THJ 1 of 1 APRIL 2026

a. Description. Accurately remove the top portion of an existing concrete pavement to the depth and cross section shown on the log or plans, and as directed by the Engineer.

b. Equipment. Use cold-milling machine(s) equipped with positive depth control adjustments and a positive means for controlling the cross slope. The cold-milling equipment used must be capable of removing the chips from the pavement and preventing dust from escaping into the air.

c. Construction. Cold-mill the existing concrete pavement to the depth and cross section indicated on the log or plans, and as directed by the Engineer. Collect and dispose of the excess material resulting from the operations as specified in subsections 104.07.D and 204.03.B of the Standard Specifications for Construction.

Provide a final surface texture that is reasonably smooth and free of gouges, holes or large depressions. Prevent damage to the adjacent concrete. Where material is removed below the depth specified due to poor cold-milling practice, backfill and compact the resulting holes or depressions by hand patching according to subsection 501.03.C.9. Repair all damage to adjacent surfaces as directed by the Engineer. All costs associated with this corrective work will be borne by the Contractor.

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**
Cold Milling Conc Pavt	Square Yard

Cold Milling Conc Pavt includes removing concrete pavement as described herein, loading removed debris, hauling debris, and disposal of the debris. Material picked up by sweeping after cold-milling will not be paid for separately. This work will be measured by area in square yards, regardless of the number of passes required to remove the concrete to the required depth.

CITY OF SAGINAW

SPECIAL PROVISION
FOR
CONCRETE PAY ITEMS

TJH 1 of 1 APRIL 2026

Description

This work shall be in accordance with sections 801, 802, and 803 of the Standard Specifications for Construction except as modified herein. This special provision indicates the type of concrete mixture to be used for pay items related to concrete.

Materials

Materials for all concrete items shall be Concrete, Grade 3500, in accordance with section 1004 of the Standard Specifications for Construction.

Construction

Construction shall be according to the Standard Specifications for Construction or as directed by the Engineer in the field.

A 4" minimum sand base shall be constructed for all driveways compacted to 95% of maximum unit weight. Sand base shall be MDOT Class II granular material and shall be included in the contract unit price for all sidewalk items. The excavation of subbase material to provide the correct plan grade as shown on the plans shall be included in the payment for Machine Grading, Modified.

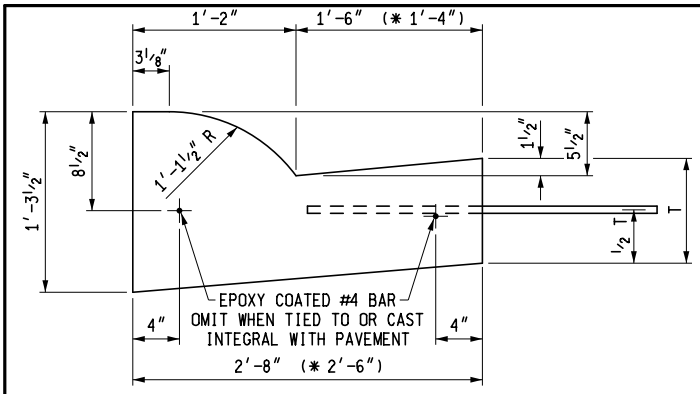
Measurement and Payment

The completed work, as measured, will be paid for at the contract unit price for the following pay item:

Pay Item	Pay Unit
Curb and Gutter, Conc, Det F2, Modified	Foot
Curb and Gutter, Conc, Det F4, Modified	Foot

Payment for each shall include the material, labor and equipment necessary to construct each item according to the plans, specifications and any special provisions included with this contract.

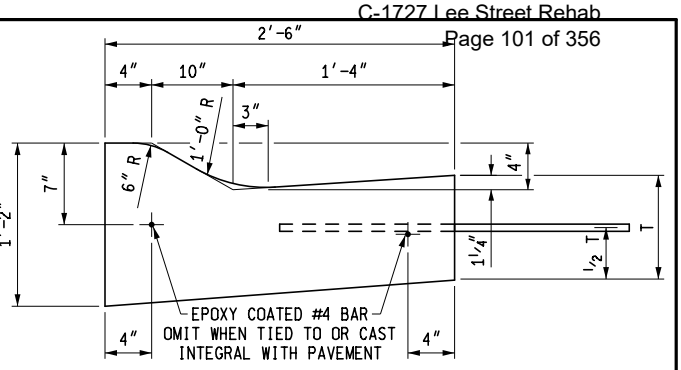
Sand base shall be included in the cost of sidewalk pay items. The excavation of subbase material to provide the correct plan grade as shown on the plans shall be included in the payment for Machine Grading, Modified.



(* GUTTER PAN WIDTH MAY BE REDUCED WHEN APPROVED BY THE ENGINEER)

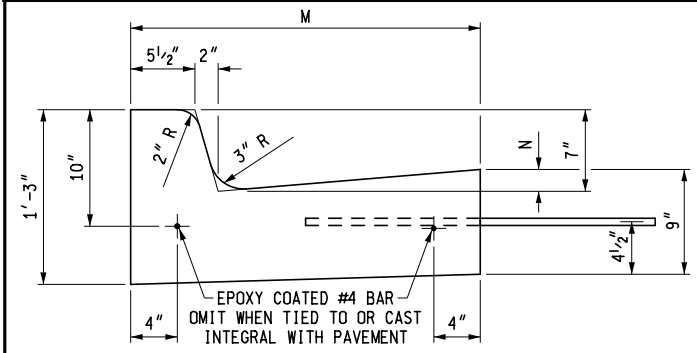
DETAIL	DIMENSION T	LANE TIES	CONCRETE CYD / LFT	CONCRETE CYD / LFT
B1	9″	AS SHOWN	0.0900	(* 0.0855)
B2	9″	OMITTED	0.0900	(* 0.0855)
B3	10″	AS SHOWN	0.0941	(* 0.0894)

B



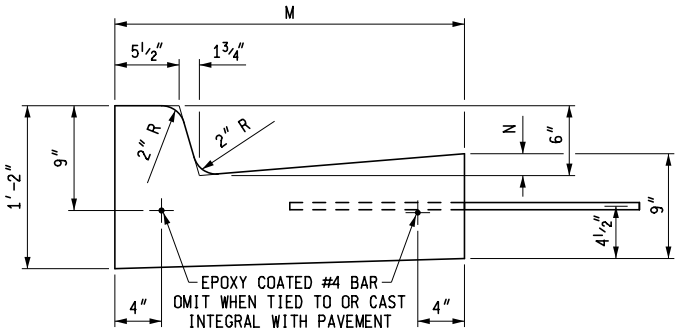
DETAIL	DIMENSION T	LANE TIES	CONCRETE CYD / LFT
D1	9″	AS SHOWN	0.0788
D2	9″	OMITTED	0.0788
D3	10″	AS SHOWN	0.0826

D



DETAIL	DIMENSION M	DIMENSION N	LANE TIES	CONCRETE CYD / LFT
C1	1′-6″	7/8″	AS SHOWN	0.0506
C2	1′-6″	7/8″	OMITTED	0.0506
C3	2′-0″	1 3/8″	AS SHOWN	0.0632
C4	2′-0″	1 3/8″	OMITTED	0.0632
C5	2′-6″	1 7/8″	AS SHOWN	0.0757
C6	2′-6″	1 7/8″	OMITTED	0.0757

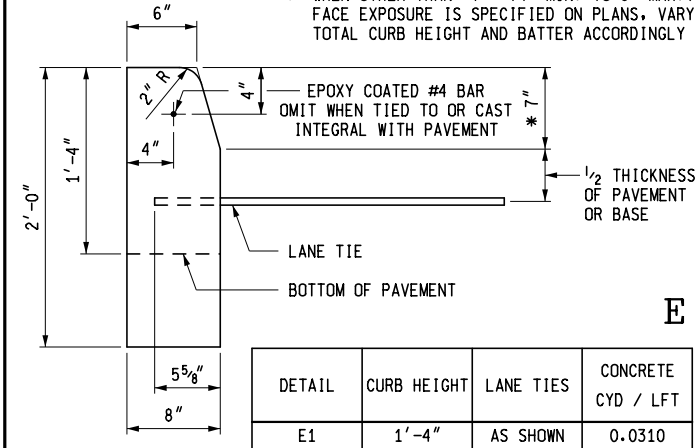
C



DETAIL	DIMENSION M	DIMENSION N	LANE TIES	CONCRETE CYD / LFT
F1	1′-6″	7/8″	AS SHOWN	0.0484
F2	1′-6″	7/8″	OMITTED	0.0484
F3	2′-0″	1 3/8″	AS SHOWN	0.0610
F4	2′-0″	1 3/8″	OMITTED	0.0610
F5	2′-6″	1 7/8″	AS SHOWN	0.0737
F6	2′-6″	1 7/8″	OMITTED	0.0737

F

* WHEN OTHER THAN 7″ (4″ MIN. TO 9″ MAX.) FACE EXPOSURE IS SPECIFIED ON PLANS, VARY TOTAL CURB HEIGHT AND BATTER ACCORDINGLY



E

DETAIL	CURB HEIGHT	LANE TIES	CONCRETE CYD / LFT
E1	1′-4″	AS SHOWN	0.0310
E2	1′-4″	OMITTED	0.0310
E4	2′-0″	OMITTED	0.0477

MDOT Michigan Department of Transportation

PREPARED BY DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

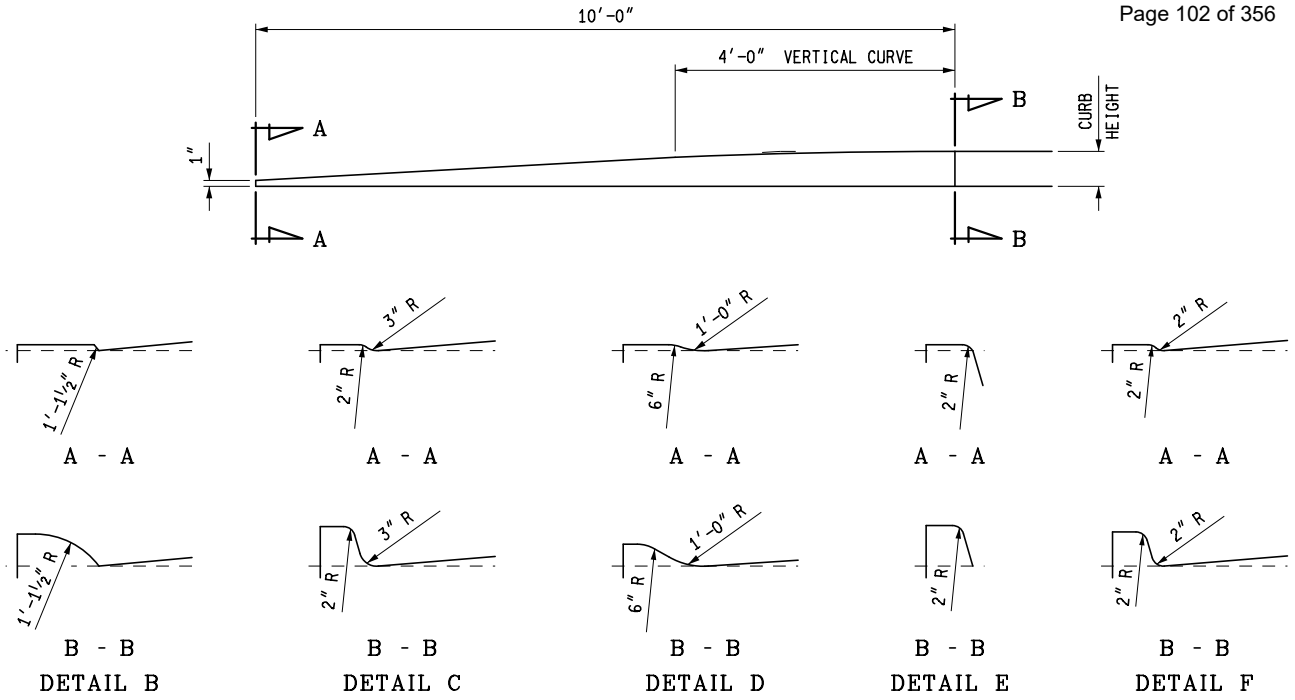
APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

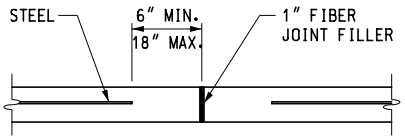
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE CURB AND CONCRETE CURB & GUTTER

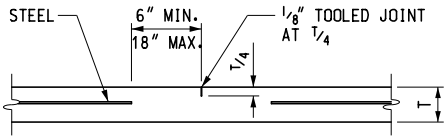
9-30-2014 F.H.W.A. APPROVAL	2-6-2014 PLAN DATE	R-30-G	SHEET 1 OF 2



CONCRETE CURB, CURB AND GUTTER ENDINGS



1″ FIBER JOINT FILLER



CONTRACTION JOINT

NOTES:

CURB AND GUTTER RADII SHALL BE DIMENSIONED TO THE FRONT EDGE OF THE GUTTER PAN OR EDGE OF PAVEMENT.

CONCRETE CURB AND GUTTER ENDINGS WILL BE PAID FOR IN LINEAR FEET OF THE ADJACENT CURB DETAIL.

JOINTS SHALL BE PLACED AT RIGHT ANGLES TO THE EDGE OF CONCRETE CURB AND GUTTER.

JOINTS DETAILED ON THE PLANS SHALL SUPERSEDE THOSE SPECIFIED ON THIS STANDARD PLAN.

BOTTOM SLOPE OF CURB AND GUTTER STRUCTURE MAY BE THE SAME SLOPE AS BOTTOM OF PAVEMENT. BACK OF CURB AND VERTICAL EDGE OF GUTTER PAN MAY HAVE A MAXIMUM ½″ BATTER TO FACILITATE FORMING.

WHEN CURB AND GUTTER IS CAST INTEGRALLY, SEE CURRENT STANDARD PLAN R-31-SERIES.

ALL JOINTS FOR CURB OR CURB AND GUTTER ARE INCLUDED IN THE PAY ITEM FOR THE CURB OR CURB AND GUTTER.

JOINTS IN CURB OR CURB AND GUTTER NOT TIED TO CONCRETE PAVEMENT; ADJACENT TO CONCRETE BASE COURSE; OR ADJACENT TO HMA PAVEMENT:

A. PLACE 1″ FIBER JOINT FILLER AT 400′ MAXIMUM INTERVALS.

B. PLACE 1″ FIBER JOINT FILLER AT SPRING POINTS OF INTERSECTING STREETS.

C. PLACE ½″ ISOLATION JOINT AT CATCH BASINS PER STANDARD PLAN R-37-SERIES.

D. PLACE CONTRACTION JOINTS AT 40′ MAXIMUM INTERVALS.

JOINTS IN CURB OR CURB AND GUTTER TIED TO JOINTED PAVEMENT

A. PLACE 1″ FIBER JOINT FILLER OPPOSITE ALL TRANSVERSE EXPANSION JOINTS IN PAVEMENT.

B. PLACE ½″ ISOLATION JOINT AT CATCH BASINS PER STANDARD PLAN R-37-SERIES.

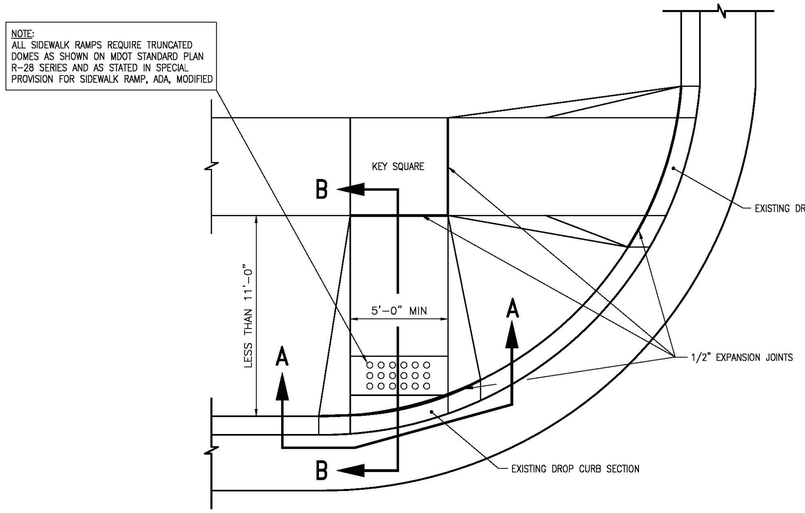
C. PLACE CONTRACTION JOINTS OPPOSITE ALL TRANSVERSE CONTRACTION JOINTS IN PAVEMENT.

D. A SYMBOL (B) JOINT SHALL BE PLACED BETWEEN CURB OR CURB AND GUTTER AND ADJACENT CONCRETE PAVEMENT AS SPECIFIED ON STANDARD PLAN R-41-SERIES.

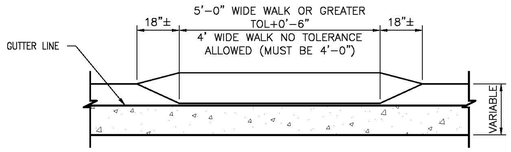
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE CURB AND CONCRETE CURB & GUTTER

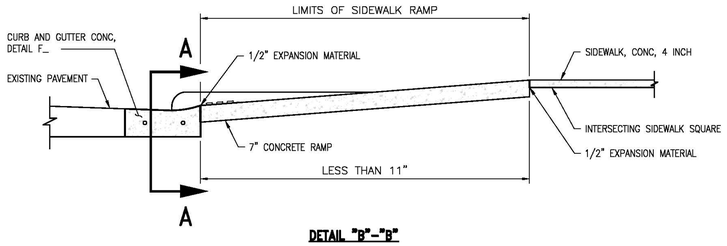
9-30-2014 F.H.W.A. APPROVAL	2-6-2014 PLAN DATE	R-30-G	SHEET 2 OF 2



PLAN VIEW



DETAIL "A"-"A"

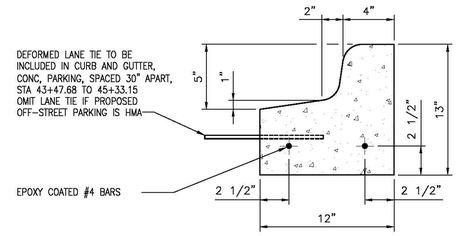


DETAIL "B"-"B"

NOTE:
ALL GRADING AND EXCAVATION NECESSARY TO CONSTRUCT SIDEWALK AS SHOWN, WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED AS PART OF SIDEWALK AND RAMP PAY ITEMS.

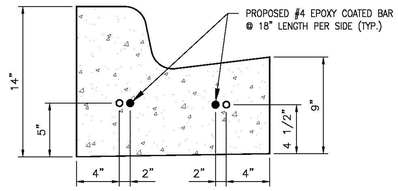
ADA HANDICAP RAMP DETAILS

NO SCALE ADA.DWG



CURB AND GUTTER, CONC, PARKING

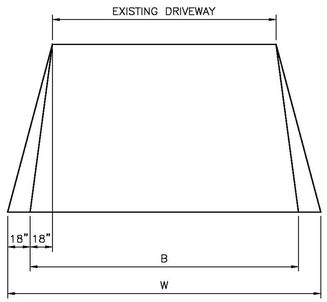
NO SCALE CURBGUT.DWG



NOTE: IN AREAS WHERE CONTRACTOR IS REPLACING EXISTING CURB WITH NEW CURB. CONTRACTOR SHALL DRILL EXISTING CURB AND INSTALL 2-#4 EPOXY COATED BARS PER EACH SIDE OF NEW CURB AS DIRECTED BY THE ENGINEER. COST TO PERFORM THIS WORK SHALL BE INCLUDED IN CURB AND GUTTER, CONC, DETAIL F2.

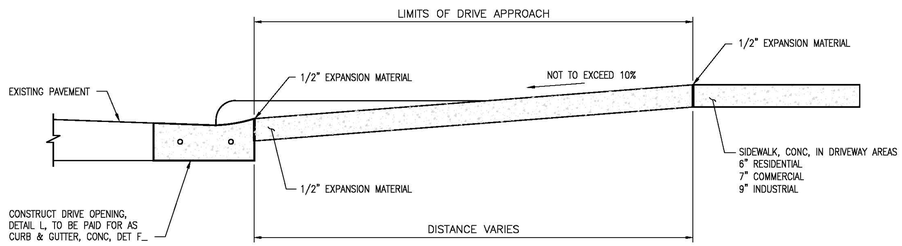
CURB REPLACEMENT DETAIL

NO SCALE CURBREP.DWG



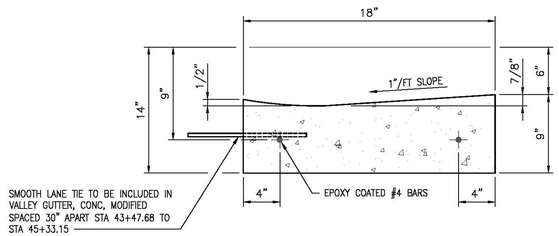
DRIVEWAY APPROACH PLAN

NO SCALE DRVAPP.DWG



DRIVEWAY APPROACH CROSS SECTION

NO SCALE DRVAPP.DWG



VALLEY GUTTER, CONC, MODIFIED

NO SCALE VALGUT.DWG

CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
-ENGINEERING DIVISION-

PAVEMENT AND CURBS

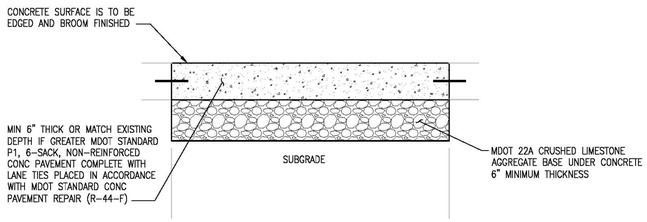
DESIGNED BY JMG
DRAWN BY RS/JDT/KIP/DEH/JTC
CHECKED BY JMG
APPROVED BY DWH

CONSTRUCTED
DATE OF PLAN
SCALE NOT TO SCALE
SHEET OF SHEETS

REVISION: DATE / INITIALS

CONTROL SECTION	JOB NO.	FEDERAL DWSRF PROJECT	ITEM	SHEET NO.
.				67

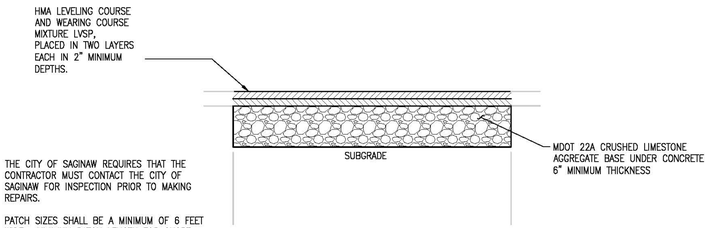
PLOT DATE:
DRAWING PATH:



THE CITY OF SAGINAW REQUIRES THAT THE CONTRACTOR MUST CONTACT THE CITY OF SAGINAW FOR INSPECTION PRIOR TO MAKING REPAIRS.

PATCH SIZES SHALL BE A MINIMUM OF 6 FEET WIDE. MINIMUM PATCH LENGTH SHALL BE BETWEEN NEAREST LONGITUDINAL JOINTS.

CONCRETE PATCH
NO SCALE

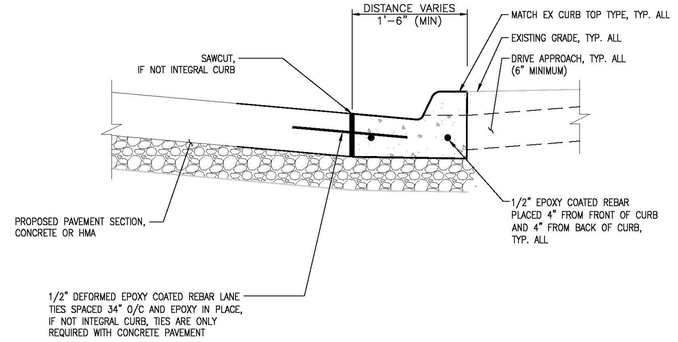


THE CITY OF SAGINAW REQUIRES THAT THE CONTRACTOR MUST CONTACT THE CITY OF SAGINAW FOR INSPECTION PRIOR TO MAKING REPAIRS.

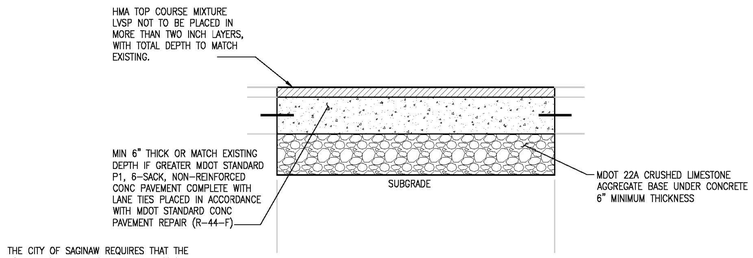
PATCH SIZES SHALL BE A MINIMUM OF 6 FEET WIDE. MINIMUM PATCH LENGTH FOR SHORT LEADS SHALL BE FROM CURB EDGE OF METAL TO ROAD CENTERLINE. MINIMUM PATCH LENGTH FOR LONG LEADS SHALL BE FROM CURB EDGE OF METAL TO OPPOSITE CURB EDGE OF METAL.

TACK COAT BETWEEN ALL COARSES (BOND COAT SHALL BE PER M.D.O.T. STANDARDS)

HMA PATCH
NO SCALE



TYPICAL CONCRETE OR HMA PAVEMENT AND CURB DETAIL
NO SCALE

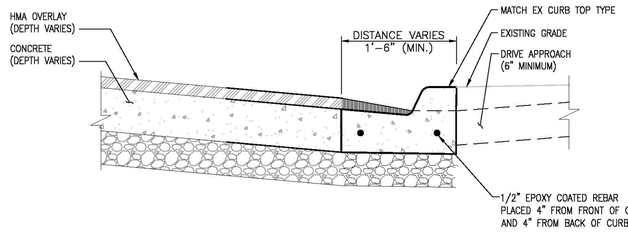


THE CITY OF SAGINAW REQUIRES THAT THE CONTRACTOR MUST CONTACT THE CITY OF SAGINAW FOR INSPECTION PRIOR TO MAKING REPAIRS.

PATCH SIZES SHALL BE A MINIMUM OF 6 FEET WIDE. MINIMUM PATCH LENGTH SHALL BE BETWEEN NEAREST LONGITUDINAL JOINTS.

TACK COAT BETWEEN ALL COARSES (BOND COAT SHALL BE PER M.D.O.T. STANDARDS)

COMPOSITE PAVEMENT PATCH (CONCRETE BASE WITH HMA OVERLAY)
NO SCALE



* EXISTING COMPOSITE PAVEMENT (CONCRETE BASE WITH HMA OVERLAY) MUST BE REPLACED WITH CONCRETE TO A DEPTH OF NO MORE THAN 2" FROM THE FINISHED GRADE AND WILL NOT HAVE A FINISHED SURFACE. THEN PLACE ASPHALT TO MATCH PAVEMENT GRADE AND OVERLAY EXISTING GUTTER AND COMPACT WITH A PLATE COMPACTOR.

TYPICAL COMPOSITE PAVEMENT WITH INTEGRAL CURB DETAIL (OVERLAYED GUTTER PAN)
NO SCALE

CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
-ENGINEERING DIVISION-

PAVEMENT

DESIGNED BY JMG
DRAWN BY RS/JDT/KIP/DEH/JTC
CHECKED BY JMG
APPROVED BY DWH

CONSTRUCTED
DATE OF PLAN NOV. 2021
SCALE NOT TO SCALE
SHEET ____ OF ____ SHEETS

REVISION: DATE / INITIALS

BID NUMBER	JOB NO.	FEDERAL DWSRF PROJECT	ITEM	SHEET NO.
				68

PLOT DATE: January 21, 2022
DRAWING PATH: Q:\PROJ2021\L3044150202I - DOE DWSRF LEAD SERVICE LINE REPLACEMENTS\CAD_GIS

CITY OF SAGINAW
SPECIAL PROVISION
FOR
CONCRETE SIDEWALK

COS:TJH **1 of 2** **APRIL 2026**

DESCRIPTION

This work consists of furnishing and installing sidewalk and sidewalk ramps at intersections in accordance with section 803 the Standard Specifications for Construction, MDOT Standard Plan R28-K, and MDOT Standard Plan R-29-J except as modified herein.

MATERIALS

Material provided for sidewalk and curb ramps shall be in accordance with subsection 803.02 of the Standard Specifications for Construction with the following exception: Materials for all concrete items shall be Concrete, grade 3500 Six Full Sack Mix, in accordance with section 1004 of the Standard Specifications for Construction.

The detectable warning shall be composite inlays installed, according to the manufacturer's instructions and MDOT Standard Plan R-28-K. Color shall be brick-red dip finish, as approved by the Engineer.

CONSTRUCTION

Prior to beginning construction, the Contractor shall submit the name and plant location of the proposed concrete supplier for the project.

Prior to beginning construction, the Contractor shall submit mix designs for the proposed concrete mixtures proposed for use on the project for the Engineer to review.

A 4-inch minimum sand base shall be constructed for all sidewalks and shall be compacted to 95 percent of maximum unit weight. Sand base shall be MDOT Class II granular material.

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
Sidewalk, Conc, 4 inch, Modified	Square Foot
Curb Ramp, Conc, 7 inch, Modified	Square Foot
Detectable Warning Surface	Foot

Payment for the 4-inch minimum sand base shall be included in the contract unit price for all sidewalk items.

All grading required to meet ADA standards shall be included in the items listed above.

The contract unit price for sidewalk and ramp includes placement of sand base, furnishing, placing, and curing concrete; furnishing and placing expansion joints; furnishing and placing backfill regardless of amount.

Curb ramp pay items shall include construction of rolled curb or “E” curb that is installed to alleviate steep ground grades.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
TURF ESTABLISHMENT

COS:TJH **1** of **6** APRIL 2026

DESCRIPTION

Section 816 of the Standard Specifications for Construction is deleted and replaced by this special provision. The Contractor shall be responsible for the performance and quality of turf growth in the areas indicated on the plans and as identified by the Engineer. The Contractor shall comply with all state and federal laws and regulations in completing this work.

The Contractor shall establish a durable, permanent, weed-free, mature, perennial turf. The work consists of fundamental turf work, including but not limited to topsoiling, seeding, mulching, erosion control, maintenance, and repair of turf as described herein during the life of the contract.

The Contractor shall choose and implement proven turf establishment industry practices; provide all necessary labor and equipment; select and provide all turf establishment materials; and control erosion and any subsequent sedimentation at all times.

The Contractor shall be responsible for a site analysis and its interpretation for their own use to ensure compliance with this special provision. The site analysis will take into consideration topsoil needs, fertilizer and pH requirements, seed mix, existing and future soil moisture levels, slopes and grades, required erosion control items and devices, maintenance requirements, local highway snow deicing practices, and any other characteristics that influence and affect turf establishment.

Subsection 107.11 of the Standard Specifications for Construction is revised relative to the Contractor's responsibility for the repair of turf establishment work as follows. The Contractor shall be responsible, at no additional cost to the contract, for the repair of turf establishment work occasioned by storm events up to and including 3 inches of rain in a 24-hour period as documented by local meteorological data submitted to the Engineer for review and approval. All other portions of subsection 107.11 remain unchanged.

REQUIREMENTS

1) All turf establishment materials shall be wildlife safe.

2) The Contractor shall possess valid Michigan Department of Agriculture commercial pesticide applicator's certificate for right-of-way category.

3) All herbicide applications shall be made by a commercial applicator licensed in the State of Michigan.

a) All individuals applying pesticides shall possess a valid Michigan Department of Agriculture commercial pesticide applicator's certificate for the appropriate category.

b) All application procedures and materials shall meet all federal, state, and local regulations.

4) At least 10 days prior to start of turf establishment, the Contractor performing the turf establishment work shall provide the Engineer with documentation that they will meet one or both of the following requirements:

a) At least one person employed by the Contractor and assigned to the job site shall have a degree or certificate in Turf Management, Horticulture, or related field.

b) At least one person employed by the Contractor and assigned to the job site shall have at least five (5) years of experience in roadside turf establishment.

MATERIALS

The Contractor shall use topsoil, seed, mulch, pesticide, herbicide and/or mulch blankets, and any other unique erosion control materials as necessary to fulfill this special provision, as detailed in the plans, and as indicated in the work plan. The Contractor may use additional materials as necessary to meet the standards set forth for turf establishment in this special provision. The use of any sod on the project requires the prior approval of the Engineer and if approved, may be used at limited site locations only.

Selection of all materials is the responsibility of the Contractor with the following minimum conditions:

1) Soil.

a) The Contractor shall provide furnished or salvaged topsoil which may be blended compost that will provide vigorous growth.

i) It shall be humus bearing and of not less than 4 inches in depth.

ii) It shall be free of stones larger than 1 inch in diameter and other debris.

iii) The finished slope shall be trimmed and graded according to subsection 205.03.N of the Standard Specifications for Construction.

2) Seed.

a) The Contractor shall use a seeding mixture that is composed of a blend of four or more species of perennial grass.

i) All species and their cultivars or varieties shall be guaranteed hardy for Michigan.

ii) The seed shall be legally saleable in Michigan.

iii) The seed product shall not contain more than 10 percent inert materials.

iv) The seed source shall be from a MDOT approved certified vendor.

The following is a list of recommended species of perennial grasses: Kentucky Bluegrass, Perennial Ryegrass, Hard Fescue, Creeping Red Fescue, Chewings Fescue, Turf-type Tall Fescue, Buffalo grass, and Alkaligrass-Fults Puccinellia distans.

The cultivars or varieties of grasses selected shall be disease and insect resistant and good color. No one species in the blend shall be more than 25 percent of the mixture by weight. No one species in the blend shall be less than 5 percent of the mixture by weight. No grass species selected shall be considered noxious or objectionable, such as Quack Grass, Smooth Brome, Orchard Grass, Reed Canary Grass, and others.

b) The species and varieties of seed shall be adapted to all site conditions, to the site use, and to the soils, moisture, and local climate.

i) Site use may include but is not limited to detention pond, wildlife habitat, playground, wetlands, forested wetland, rural roadside, urban roadside, and maintained front yard.

c) At least two of the species in the mixture proposed to be planted within 15 feet behind the curb or the shoulder shall be salt tolerant.

3) Mulch.

a) Seeded areas shall be mulched with the appropriate materials for the site conditions, shall promote germination and growth of seed and to mitigate soil erosion and sedimentation.

4) Herbicides.

a) The Contractor shall comply with all federal, state, and local laws as noted in the Standard Specifications for Construction, section 107.

b) A weed control application will require the Contractor to make proper notifications and/or postings as per label and MDA requirements for all locations that will be sprayed.

c) The Contractor will also notify selected City of Saginaw staff 48 hours prior to any applications being made.

d) The Contractor shall furnish and apply herbicide(s) as needed.

e) It shall be the Contractor's responsibility to select the herbicide(s) and the rate at which it will be used.

f) The work and herbicide(s) shall be approved by the Engineer prior to the application of the material.

g) A spray log will be required to be completed and submitted to the project office, each day an application is made.

h) No water shall be drawn from any waterway (i.e. river, ditch, creek, lake etc.) that is located on any state, county, or municipal right-of-way for mixing with herbicides.

5) Fertilizers.

a) The Contractor shall furnish and apply fertilizer(s) as needed.

b) It shall be the Contractor's responsibility to select the fertilizer(s) and the rate at which it will be used.

c) The work and fertilizer(s) shall be approved by the Engineer prior to the application of the material.

6) Water.

a) The Contractor shall furnish and apply water from an approved source as specified in the work plan at a rate of promote healthy growth.

CONSTRUCTION

The Contractor shall be responsible for all work and any and all construction methods used in completing this work. Any part of the Standard Specifications for Construction or MDOT Standard Plans chosen to be implemented by the Contractor shall not imply responsibility on the part of the City of Saginaw for acceptability of the Contractor's construction methods or for the quality of the Contractor's work outcome at any time.

1) Inspection of the work

a) The Contractor shall be responsible for all inspection of turf establishment work.

b) The Contractor shall use a Contractor's Daily Report approved by the Engineer to report inspections made and to document turf establishment work performed on this project.

i) The Contractor's Daily Report shall be completed and submitted to the Engineer when

any work performed under this special provision is in progress.

ii) The Contractor's Daily Report shall be accompanied by all necessary materials documentation including tests slips, certifications, etc.

iii) The Engineer shall determine the acceptability of these reports in terms of their completeness and accuracy.

iv) The Engineer reserves the right to verify all submitted measurements and computations.

v) Failure by the Contractor to submit acceptable and timely reports to the Engineer may result in withholding of progress pay estimates on turf-related items until such time as reports are submitted in an acceptable and timely fashion.

c) The Engineer reserves the right to inspect the project for any reason in accordance with subsection 104.01 of the Standard Specifications for Construction, including the fulfillment of other inspection requirements such as soil erosion and sedimentation control, NPDES, etc.

i) These inspections made by the Engineer shall not relieve the Contractor of the inspections required by this special provision or the Contractor's responsibilities for erosion control and turf establishment.

2) Erosion Control.

a) Erosion shall be controlled at all times according to section 208 of the Standard Specifications for Construction.

b) Control of soil erosion is the responsibility of the Contractor.

c) Sedimentation controls shall be placed as indicated on the plans or as directed by the Engineer.

d) The site shall be continuously monitored by the Contractor for needed erosion repair from any cause as addressed in the contract documents.

e) All eroded areas shall be returned to their original grade as detailed in the contract documents.

f) If sedimentation occurs in drainage structures or any watercourse or water containment area, corrective action shall be taken immediately and all disturbed areas contributing to this sedimentation shall be restored within 24 hours of erosion occurrence.

i) Sediment deposited as a result of the Contractor's inability to control the soil erosion shall be removed at the Contractor's expense.

g) The Contractor shall reimburse the City of Saginaw for any costs levied against the City of Saginaw, such as fines, environmental costs, costs for remedies required, or any other costs as a result of the Contractor's failure to comply with this special provision and with all federal, state, and local laws.

3) Erosion Repair.

a) The Contractor is responsible for all repair and liable for all consequences (legal, monetary, or other) associated with erosion or sedimentation damage to finished or unfinished work.

b) All erosion occurrences and the repairs made by the Contractor shall be reported to the Engineer in the format and at the frequency required by the Engineer.

c) Any erosion, displacement, or disturbance to ongoing or completed work by any cause shall be repaired by the Contractor at no additional cost to the contract unless otherwise noted

herein.

d) The Contractor shall be responsible and liable for all traffic control and safety measures required to repair and protect damaged turf areas.

e) Any eroded area that may affect the support of the roadbed or safety of the public shall be repaired within 24 hours of the erosion occurrence.

f) Protection devices such as barriers, directional sign/signals, temporary fence, or any other safety measures shall be placed by the Contractor immediately after any erosion damage occurs that has the potential of endangering the public.

   i) In these instances, the Contractor shall, within 24 hours of the occurrence of the damage, provide the Engineer with a written summary of the immediate action taken and describing the repairs made and the safety measures taken.

4) Final Acceptance Parameters.

a) Before final acceptance of the turf establishment work, all of the following minimum parameters shall be met throughout all exposed areas of the project designated on the plans or identified by the Engineer as turf establishment areas.

   i) There shall be no exposed bare soil and the turf shall be fully germinated, erosion free, weed free, disease free, dark green in color, and in a vigorous growing condition.

b) The Engineer will notify the Contractor of the dates and times of all acceptance inspections.

c) The Contractor may accompany the Engineer while these inspections are being made.

d) If the Contractor does not agree with the decision made by the Engineer, the Contractor can request an inspection by a mutually agreed upon third party (Michigan State University Extension service or other).

   i) A joint inspection, including the Engineer, the Contractor, and the third party, will be scheduled.

   ii) All expert fees and expenses charged by the third party will be paid by the Contractor.

   iii) Any and all claims for extra compensation shall be according to subsection 104.10 of the Standard Specifications for Construction.

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
Turf Establishment, Performance	Square Yard

This item shall be measured in place by area in square yards. All materials, labor, and equipment required or selected by the Contractor to install, maintain, inspect, repair, and meet the acceptance parameters for turf establishment specified in this special provision, including preparation, updating, and submittal of the Contractor's work plan and Contractor's Daily Reports, will not be paid separately but will be considered included in the contract unit price bid for **Turf Establishment, Performance**.

The following schedule of payment applies to work performed according to this special provision. Upon completion of topsoil surfacing stage, 50 percent of the authorized amount for Turf

Establishment, Performance will be paid to the Contractor. The remaining authorized amount will be paid upon completion of all other work necessary to comply with this special provision and to meet all final acceptance parameters for **Turf Establishment, Performance**.

CITY OF SAGINAW
SPECIAL PROVISION
FOR
ALTERATIONS TO THE MUNICIPAL WATER SYSTEM

COS:TJH **1 of 20** **04/17/26**

DESCRIPTION

This work shall consist of installing water main, fittings, hydrants, valves, water services, and appurtenances of the nominal diameter shown on the plans. This work includes the furnishing of all labor, equipment, and materials required for excavation, installation, restraint, testing, disinfection, and backfilling as shown on the plans and specified herein and in accordance with American Water Works Association (AWWA), Michigan Department of Environment, Great Lakes, and Energy (EGLE), and City of Saginaw Standard Requirements. Any change or deviation from the plans must be approved in writing by the Engineer.

The work also includes removal of existing water mains and appurtenances as called for on the plans. All removed materials which the City of Saginaw does not designate for salvage, shall become the property of the Contractor and shall be, disposed of as specified in subsection 205.03.P of the Standard Specifications for Construction.

All removed valves and hydrants will be salvaged and returned to the City of Saginaw.

Partial lead service line replacement is not allowed under Michigan's Lead and Copper Rule. If the Contractor discovers that the private side of the existing water service line is lead or galvanized, the Contractor must proceed with replacement of the private side of the line within the time limits of the Contract. Payment for this work shall be added to the Contract as approved by the Engineer.

MATERIAL

The Contractor shall furnish all pipe materials required for the contract. All materials shall meet the requirements of MDOT, AWWA, EGLE, and the municipality, as specified, and the January 2014 Lead Free Requirements of the Safe Drinking Water Act. Products manufactured in the State of Michigan shall be used when at all possible. When multiple products have similar performance, price, and other characteristics, the Michigan product shall be selected. If Michigan products are not available, products manufactured in the United States of America shall be used whenever possible. All materials supplied for this project shall be manufactured within at least two years of the construction start date unless otherwise approved by the Engineer.

1) Water Main.

All water main 16 inches or larger shall be ductile iron pipe.

Unless specifically called for on the plans, all water main 12 inches and smaller may be either ductile iron pipe or Polyvinyl Chloride (PVC) C909.

a) Ductile Iron.

i) The ductile iron pipe shall be manufactured in accordance with ASTM Specification A339, pipe Class 52 or Pressure Class 350, of the sizes shown on the plans.

ii) All pipe shall be lined with a standard thickness cement mortar lining sealed with a bituminous seal coat in accordance with AWWA Specification C104 (ANSI A21.4), unless otherwise specified.

iii) The outside of the pipe shall be coated with standard bituminous seal.

iv) The metal thickness class, net weight of the pipe without lining, the nominal size, and the manufacturer's identifying symbol shall be clearly marked on each length of pipe.

v) All ductile iron pipe shall be wrapped in polyethylene in accordance with ANSI/AWWAC105/A21.5.

vi) The joint for the pipe shall be push-on or mechanical joint with a compressed rubber gasket seal such as Bell-Tite, Tyton, or Engineer approved equal.

vii) All joints shall be fitted with wedges.

viii) viii) Material, number, and installation shall be per manufacturer's recommendation.

ix) In areas where non-hazardous contaminated soil is suspected, ductile iron pipe with Nitrile gaskets and poly wrap shall be used.

b) PVC.

i) PVC pipe shall meet the requirements of ANSI/AWWA C909.

ii) Pipe shall have a ratio of diameter to wall thickness (DR) of 18, unless noted otherwise on the plans or on the proposal.

iii) Pipe shall meet both ANSI/NSF Standard 61 and ANSI/NSF Standard 14.

iv) Pipe shall be marked with "NSF PW" or otherwise indicate it meets NSF 14 and 61.v) The pipe manufacturer and class shall be marked on each length of pipe.

vi) Joints for pipe shall be push-on type with elastomeric gaskets meeting the requirements of ASTM D3139. vii) All PVC pipe shall come with a 50-year manufacturer's warrantee.

c) Fittings and plugs.

i) Fittings and Plugs shall meet all applicable requirements of AWWA C153 (ANSIA21.53) specifications.

ii) Cement mortar linings for fittings shall be in accordance with AWWA C104.

iii) The joint for the fittings shall be mechanical joint with elastomeric gasket in accordance with ASTM D3139 and ASTM F477.

d) All directionally bored ductile iron pipe shall be Flex-Ring restrained joint pipe as manufactured by American or Engineer approved equal.

e) All directionally bored PVC pipe shall be Certa–Lok restrained joint pipe.

2) Water Service Piping and Appurtenances.

a) The water service piping shall be copper tubing, Type K, annealed, in accordance with ASTM B88.

b) The size of tubing shall match the existing size of the water service being replaced.

c) The fittings shall conform to ASTM B16.26, cast bronze.

d) The joints of the copper tubing shall be flared.

3) Gate Valves.

Gate Valves shall be manufactured by Mueller, East Jordan, Clow, or equal. All valves up to 24 inches, for use in water distribution systems, shall be resilient seat, single wedge valves. The valves shall be in accordance with AWWA Specification C509 and shall also meet any

supplemental requirements or specifications of the municipality. Valves used on this project shall have mechanical joints.

a) The valves shall be manually operated with non-rising stems, iron body, bronze trim, and be furnished with a standard AWWA 2-inch square-operating nut.

   i) The wrench nut shall turn right (clockwise) to open and shall be indicated by an arrow cast on the operating nut skirt.

b) Valve stem risers are required for depths greater than 6½ feet.

4) Butterfly Valves.

Butterfly Valves shall be manufactured by Mueller, Dezurik, Henry Pratt, or equal. All valves 24 inches and greater, for use in water distribution systems, shall meet the full requirements of the AWWA Standard for rubber-seated Butterfly Valves, AWWA Specification C504, CL150B, Direct Bury.

a) The valve shall be for distribution and transmission systems with operators complete and sealed for direct buried use in ordinary line position.

b) The valve shall be the short body type.

c) The shaft seal shall be O-Ring and be furnished with a standard AWWA 2-inch square operating nut.

   i) The wrench nut shall turn right (clockwise) to open and shall be indicated by an arrow case on the operating nut skirt.

d) All valves shall be tested in accordance with Section 5.2 of the AWWA C504.

   i) The manufacturer shall furnish an affidavit that the valve purchased complies with all applicable provisions of the standard and shall furnish test records as specified under Section 5.2 of this standard.

e) Valve stem risers are required for valves on water main deeper than 8 feet.

   i) Valve stem risers shall be made of 1½ inch solid steel with 2-inch square operating nut, include a centering collar, and installed per municipality standards.

5) Valve Boxes.

Valve boxes shall be manufactured by Mueller, East Jordan, or equal.

a) The valve box shall be cast iron, 5½ inch diameter, and three-piece adjustable screw type.

b) Valve box extensions are required for depths greater than 6½ feet.

c) No. 6 round bases are required for gate valves up to 8 inches in diameter and No. 160 oval bases for gate valves 10 inches and greater.

d) The box covers shall be stamped “water”.

6) Corporation Stops and Saddles.

a) For Class 52 D.I. pipe, any taps less than or equal to 2 inches shall be Ford Model #F-600-3or approved equal.

b) For Pressure Class 350 D.I. pipe, any taps greater than ¾-inch and less than or equal to 2inches shall be Style 202B Double Strap Saddles as manufactured by Ford Brass or approved equal.

c) For PVC C909 and asbestos cement pipe, any taps less than or equal to 2 inches shall be Style 202BS double band saddles as manufactured by Ford Brass or approved equal.

7) Curb Stop and Box.

Curb Stops shall be manufactured by Ford, Model #Z-22-333 or approved equal.

a) Curb Stops shall be 5½ feet deep.

b) Curb Stop Boxes shall be the standard Buffalo patterns and all parts of the same, including extension sections, shall be interchangeable and fit up with corresponding parts of other standard Buffalo pattern boxes.

c) The internal diameter of the base shaft shall be 2½ inches for ¾-inch and 1-inch curb stop.

d) The boxes shall be cast iron, suitable coated to resist corrosion, and the casting shall be smooth and free of any imperfections.

e) The covers shall overlap and fit outside the rim of the upper section, and they shall have a horseshoe-shaped groove in them to receive the bolt head and the word “water” embossed on the top surface.

f) All boxes shall be Tyler Union 6500 (2½ inch Boxes) Series or approved equal.

g) Curb Stops and Boxes shall be in accordance with municipality standards.

8) Meter Pit.

a) For meters 1½ inches or smaller, the pit shall be manufactured by Hancor, Model #MP-NL1-0004 or approved equal.

b) For 2-inch meters, the pit shall be manufactured by Carson Industries, Model #2436 or equal. Cover for the 2-inch meter box shall be a polymer concrete flush cover with cast iron reader door as manufactured by Carson Industries or equal.

9) Meter Isolation Valve.

a) All water service fittings shall be fabricated of brass and shall be lead free. Valves up to 2inches, for use in residential dwellings, shall be non-rising stem gate valve type with NPT connections.

10) Fire Hydrants.

Fire hydrants shall be in accordance with the detail shown on water main detail sheet and shall conform to AWWA C502 for dry-barrel fire hydrant traffic model or traffic flange type and 150-pound working pressure, compression type, and opening with the line pressure with mechanical joints.

a) Fire hydrants shall be bronze mounted throughout with no iron-to-iron or steel contacts or threads. The operating stem in the base and valve seat shall be bronze.

b) All iron parts shall be of high strength grey iron conforming ASTM Designation A126 Class B

c) Fire hydrants shall have a 6-inch valve opening with a 6-inch mechanical joint inlet.

d) The minimum inside dimension shall be 8 inches.

e) The operating nut shall turn to the right to open and have a weather shield.

i) The opening direction shall be plainly marked with an arrow near the operating nut showing the opening direction.

ii) The operating nuts and nut nozzle caps shall be square and slightly tapered; and it shall be 15/16-inch at its base and 13/16-inch square at its end and 11/8-inch long.

f) Fire hydrants shall be completely assembled at the factory with the drain opening sealed with a threaded plug.

g) Provide two fire hose connections and one pumper connection with national standard threads in accordance with municipal standards.

h) All nozzles shall be on a movable head on the hydrant barrel so that they may be rotated by changing the position of the top flange without removing the barrel.

i) Provide a Spring Cap Style McGard Fire Hydrant Lock for hydrant.

j) Provide proper length for installation in a water main depth of 6 feet or as indicated on the drawings.

k) All fire hydrants shall have a concrete collar around the lower barrel, 12 inches below the ground line with 1-inch of expansion joint material between the hydrant barrel and collar, as shown on the plans and as directed by the Engineer.

i) The collar shall be 6 inches thick with a diameter of at least 24 inches. ii) Diameter will be as wide as necessary to reach undisturbed earth. iii) Collars shall be formed using grade 3500 concrete.

iv) Fire hydrants shall be tested to 300 pounds hydrostatic pressure from inlet side with valve in both open and closed position.

l) Fire hydrants shall be painted red above the grade line conforming to the city standards and black below the grade line.

m) Fire hydrants shall be designed so one man can easily remove or replace the working parts without removing the main valve seat.

n) Fire hydrants shall be flagged per city specifications.

11) Gaskets.

All water main gaskets shall meet the requirements of ANSI/AWWA C111/A21.11. For soils contaminated with volatile organic compounds, as determined in the field by the Engineer, use nitrile gaskets.

12) Repair Clamps.

For ductile iron, PVC, and asbestos, cement pipe shall be either model 226 full circle repair clamp manufactured by Smith Blair or the Ford F Style repair clamp or equal.

13) Thrust Blocks.

Concrete shall be grade 3500 in accordance with Table 1004-1 of the Standard Specifications for Construction. The course aggregate shall be MDOT aggregate Class 6AA. The thrust blocks shall be placed in accordance with the water main detail sheet and in addition to joint restraints.

14) Joint Restraints.

a) Manufacturer: MEGALUG by EBAA Iron or approved equal.

i) Series 1100 for mechanical joints restraints on ductile iron pipe. ii) Series 1700 for push joint/bell restraints on ductile iron pipe.

iii) Series 19MJ00 for Mechanical joints restraints on C909 PVC pipe.

iv) Series 1900 for push joint/bell restraints on C909 PVC pipe.

b) Restrain all mechanical joints with retainer glands.

i) Restrain all joints within length(s) according to restraint schedule as determined using EBAA Iron Restraint Length Calculator.

c) Restrain hydrants, tees, valves etc. according to the manufacturer's requirements for application soil type, trench detail, test pressure of 150 psi, safety factor of 2 and depth of bury.

d) Mechanical joint restraint shall be incorporated into the design of the follower gland.

i) The restraint mechanism shall consist of plurality of individually actuated gripping surfaces to maximize restraint capability.

ii) Glands shall be manufactured of ductile iron conforming to ASTM A536-80.

iii) The gland shall be such that it can replace the standardized mechanical joint gland and can be used with the standardized mechanical joint bell conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of latest version.

(1) Twist off nuts, sized same as tee-head bolts, shall be used to ensure proper actuating of restraining devices.

iv) The restraining glands shall have a pressure rating equal to that of the pipe on which itis used.

v) The restraining glands shall have been tested to ASTM F1674-96, be listed by Underwriters Laboratories, and be approved by Factory Mutual.

vi) The restraint shall be Mega Lug, as manufactured by EBAA iron or approved equal.

e) Ductile iron pipe restraint shall consist of a wedge action restraint ring on the spigot joined toa ductile iron follower gland behind that bell.

i) The restraint ring shall have individually actuated wedges that increase their resistance to pullout as pressure or external forces increase.

ii) The restraint ring and its wedging components shall be made of a minimum grade of 6042-10 ductile iron conforming to ASTM A536.

iii) The wedges shall be heat-treated to a minimum hardness of 370 BHN.

iv) Torque limiting twist off nuts shall be used to ensure proper actuation of the restraining wedges.

v) The follower gland shall be made of a minimum grade of 60-42-10 ductile iron conforming to ASTM A536.

vi) The connecting tie rods that join the two rings shall be made of low alloy steel that conforms to ANSI/AWWA C111/A21.11.

vii) The assembly shall have a rated pressure, with a minimum two to one safety factor, of350 psi in sizes 16-inch and below and 250 psi in the sized 18-inch through 36-inch.

viii) The product shall be the Series 1700 Mega Lug restraint harness manufactured by EBAA Iron or approved equal.

f) Submit to Engineer product information and restraint schedule showing locations of use.

15) Corrosion Protective Material.

a) The corrosion protective material shall be applied to all buried nuts, bolts, threaded rod, shall be manufactured by the following:

i) San Chem Inc., product: NO-OXG-GG-2 ii) Coronado Paint product: coal tar epoxy, 10 mil (DMT) iii) Or Approved Equal

b) Ductile iron pipe, bends, tees, crosses, fittings, and fire hydrants assemblies shall be double wrapped in candy cane pattern to within 1 foot of finished grade with polyethylene encasement.

i) Use 8 mil low-density polyethylene film or 4 mil high density polyethylene film conforming to ASTM C105/A21.5.

ii) The wrap shall be secured during the backfill operation.

16) Tracer Wire.

a) The tracer wire shall be polyethylene coated steel core copper wire, manufactured by the following:

i) Copperhead Industries, LLC, product: Copperhead Reinforced Tracer Wire ii) Or

Approved Equal

b) The use of solid copper tracer wire will not be allowed.

c) Tracer wire connectors must contain a dielectric waterproof and corrosion proof sealant, lock shut and be color coded blue.

i) Approved manufacturer is Copperhead Industries, LLC, Snake Bite Corrosion Proof Wire
Connectors

d) Tracer wire must be attached to all PVC pipe by the use of tape or other approved means.

17) Tracer Wire Box.

a) Tracer wire boxes shall be magnetized, provide a direct connection to tracer wire without removing the cover, be color coded and have a locking cover, such as the Snake Pit Magnetized Tracer Box manufactured by Copperhead Industries, LLC.

b) Tracer wire boxes will be installed at every fire hydrant when main line PVC pipe is installed or other PVC water pipe endpoint.

18) Backfill Material.

a) The backfill material shall be in accordance with the Standard Specifications for Construction and Standard Plan R-83 series.

19) Air Reliefs.

Air Reliefs shall be furnished by the Contractor where required to allow for proper air relief, disinfection and sampling. They shall include the tapped hole, brass plug, corporation, copper pipe, and any other fittings required to accomplish this work. All air reliefs shall be placed as directed by the Engineer.

a) The cost for air reliefs shall be included in the pay item for **Water Main, __inch, Tr Det__, Modified.**

20) Disinfectant.

a) Use NSF Chlorine per AWWA Standards.

21) Welded Steel Pipe Sleeve.

a) Welded steel pipe sleeve shall meet requirements of ASTM, A53, Type S, Grade.

22) Stainless Steel Repair Clamps.

a) The repair clamps shall be full circle gray coated stainless steel of the appropriate size for

the main to be repaired and manufactured by the following:

i) Ford Romac Industries, Inc ii) Smith-Blair iii) Or Approved

Equal

CONSTRUCTION

The Contractor shall install all pipe materials, required for the contract, according to MDOT, AWWA, EGLE, and the municipality standards.

1) Connection to Existing Water Main.
   a) The Contractor shall not make any connections to the public water distribution system until the new water main has been pressure tested, chlorinated, and laboratory tests show satisfactory results in accordance with EGLE Standards for safe drinking water.
   b) The Contractor shall locate the existing water main prior to construction of the proposed water main and shall furnish and install the necessary fittings, including tees, bends, crosses, cutting-in-sleeves, pipe, and/or adaptors to complete the connection.
   c) The Contractor shall connect the proposed water main to the existing water main as shown on the plans or as directed by the Engineer.
   d) The Contractor shall connect the proposed water main to the existing water main in a continuous effort to complete the work.
      i) Once the existing water main has been disconnected (or shutdown), the Contractor shall not leave the work site until the connection is complete and the system is placed back into service and approved by the Engineer.
   e) The Contractor shall handle Asbestos Cement pipe removal and disposal following the applicable MIOSHA Standards.
2) Water Main Shutdowns.
   a) The Contractor shall schedule all water main shutdowns with the City of Saginaw a minimum of 48 hours prior to shutdown.
   b) The Contractor is responsible for all de-watering including dewatering if the City of Saginaw is unable to obtain complete shutdown due to age or deterioration of existing valves.
   c) The Contractor shall, under no circumstances, operate any City of Saginaw valves.
   d) Once a shutdown has taken place, the Contractor shall not leave the work site until the system is placed back into service and approved by the Engineer.
3) Crossing Existing Utilities.
   a) The locations of existing utilities are shown in accordance with available data.
      i) The Contractor shall expose all existing utilities prior to construction to verify location and elevation and immediately notify the Engineer of any conflicts.
   b) Where existing utilities cross the open-cut trench, compacted sand backfill shall be required to bed the utility crossing.
      i) The sand backfill shall extend to 4 inches above the top of the pipe or conduit, which is being supported.
      ii) In addition to the sand backfill, it may be necessary to support the utility crossing with a 6-inch by 6-inch timber supported on each end on solid earth at both sides of the

trench. iii) When supporting pipes with collars or bell joints, the timber shall be placed 3 inches below such collars or bells and the barrel of the pipe supported with hardwood blocking at 3-foot centers.

c) Cost of sand backfill shall be included in the pay item for **Water Main, __inch, Tr Det__, Modified**.

4) Separation of Water Mains and Sewers.

a) The Contractor shall follow EGLE Standards for separation of sewers and water distribution systems.

b) For parallel installations, water mains shall be at least 10 feet horizontally from sewers.

i) The distance shall be measured edge-to-edge.

c) For crossings, the water mains and sewers shall be separated at least 18 inches from the outside of the water line to the outside of the sewer.

i) The maximum separation of the water main and sewer joints shall be maintained.

d) The reviewing authority shall approve any deviations from these requirements.

5) Abandoning Pipe.

a) If, in the judgment of the Engineer, the abandoned pipe may be left in place and is greater than 8 inches in diameter, the ends of the abandoned pipe shall be blocked with concrete and the pipe filled with flowable fill.

b) Prior to removing and/or working near abandoned gas main and electrical conduits or ducts, the Contractor shall coordinate with Consumers Energy to confirm that suspected abandoned utilities are actually abandoned and are no longer in service.

6) Disposal

a) All waste material shall be disposed of as specified under section 204 of the Standard Specifications for Construction.

7) Disposal of Flushing Water.

a) Contractor is responsible for de-chlorinating flushing water to the requirements of PA 451.

b) The Contractor shall provide outlets to existing drainage for flushing purposes.

8) Water Cost.

a) The Contractor shall pay the City of Saginaw for all water used during construction, including water main breaks and water necessary for testing, cleaning, and chlorinating water mains.

i) The actual volume of water used shall be determined by the Engineer.

ii) The rate of pay for all water used shall be at the current rate per 100 gallons.

b) The water necessary to fill the volume of the water main at the completion of the project shall be paid by the City of Saginaw.

9) Maintaining Water Service.

a) The Contractor shall coordinate any proposed interruptions in the existing water system with both the City of Saginaw and the Engineer.

b) If any portions of the existing water mains cannot remain in service due to construction of the proposed water mains, the Contractor shall extend a temporary 1¼ inch polyethylene service to each customer affected by the outage.

i) The cost of these temporary connections, if required, shall be included in all other items of the Contract.

c) Services shall be reconnected to the existing water main.

10) Installing Pipe, Fittings, and Accessories.

a) Install pipe, fittings, and accessories in accordance with manufacturer's instructions.

b) Install to the line and elevations shown on the drawings.

i) Water main shall have a minimum cover of 6 feet from proposed finish grade, unless shown otherwise on the drawings or directed by the Engineer.

ii) Maintain an 18-inch vertical separation between proposed water main and existing utilities.

c) Where pipe is to be installed with less than the minimum required cover, 4-inch rigid foam insulation shall be placed directly over the watermain for the width of the trench. i) The insulation shall be placed on a level compacted sand base for support.

11) Installing Fire Hydrants.

a) Install in accordance with manufacturer's instructions.

i) Set at plan location and grade as directed by the Engineer.

ii) Set hydrant plumb on a concrete block according to the water main detail sheet.

iii) In addition to blocking, restrain hydrants with two ¾-inch threaded rods, anchored to concrete block, welded steel pipe sleeve, or joint collars.

b) Install collar per the fire hydrant manufacturer’s recommendations, industry standards, and as directed by the Engineer.

i) Install collar to a width necessary to meet undisturbed earth, with a minimum width of 24 inches.

c) Duc-Lugs and/or Eye Bolts, as manufactured by Continental Eastern, Romac Industries, or equal, may be used with rods as a means of restraint.

d) The hydrant may be rotated up to 180 degrees as shown on the plans or as directed by the Engineer.

e) Obtain approval of the Engineer prior to backfilling trench.

f) Backfill hydrant according to the Water Main Detail Sheet and in accordance with the Standard Plan R-83-C, Utility Trenches. 12) Installing Gate Valves and Butterfly Valves.

a) Install in accordance with manufacturer's instructions.

i) Tighten nuts on valve body.

ii) Set valves plumb on a concrete block according to the water main detail sheet.

b) Verify and document set points and number of turns between fully closed position and fullyopen position are within manufacturer’s tolerances for each gate valve installed.

c) Leave valves in the open position except for the valves that connect to the existing watermain.

13) Installing Valve Boxes.

a) Set base on MDOT 6A, compacted crushed limestone, material a minimum of 2 inches above the flange on the valve dome and centered over the operating nut.

b) Set valve box plumb and centered over the valve-operating nut.

c) Adjust the top of the valve box to match proposed finish grade.

i) Install extensions for trench depth greater than 6½ feet.

ii) Valve box extensions shall be included in the pay item for **Gate Valve and Box, __inch, Modified**.

d) In pavement areas, adjust to the final elevation prior to placement of the final course of pavement.

14) Installing **Water Serv, Modified** and **Water Serv, Long, Modified**.

a) Installation of Water Services must be done in accordance with ANSI/AWWA C810-17 (First Edition), Replacement and Flushing of Lead Service Lines.

b) Water services shall include double strap saddles, corporations, copper tubing Type Flared joints, and all other material for complete operation.

c) This work shall not begin until the proposed main has been tested, disinfected, accepted by the Engineer and is in operation.

d) Water services larger than 2 inches in diameter are considered water mains insofar as this contract is concerned.

e) Open cut services shall pass visual inspection by the Engineer, under system pressure prior to backfilling.

f) Backfill the water service trenches with granular material Class II.

g) **Water Serv, Long, Modified** shall be defined as any service greater than 30 feet in length as measured along the centerline of the service from the centerline of the proposed water main to the road right-of-way.

h) Water services shall be installed in an open-cut method unless approved by the Engineer.

i) When a service bore will cross an existing water main, a sight hole must be excavated sufficient in size for the Engineer to visually verify the bore will clear the existing main.

j) **Water Serv, Long, Modified** shall be installed utilizing an approved bore method unless an open cut method is approved by the Engineer.

k) Water services installed using a bore method shall pass an Engineer approved line pressure test witnessed by the Engineer prior to backfilling connection points.

l) Existing curb stops and boxes requiring removal for the installation of a new curb stop and box will not be paid for separately but shall be included in the pay item for **Water Serv, Modified** and **Water Serv, Long, Modified**.

m) Curb stop boxes shall be installed with 5½ feet cover.

i) Precautions shall be made to ensure the curb stop box is no less and no greater than 5½ feet deep.

15) Installing New Water Services from Curb Stop to Private Residence or Businesses.

a) The installation of new water services from curb stop to private residence must be done in accordance with ANSI/AWWA C810-17 (First Edition) Replacement and Flushing of Lead Service Lines.

b) Contractor to install private water services utilizing open-cut or bored method.

c) Open-cut private services shall pass visual inspection by the Engineer, under system pressure prior to backfilling.

d) Private services installed using a bore method greater than 10-feet shall be tested at 75 PSI for minimum of 15 minutes as witnessed by the Engineer prior to backfilling connection points.

e) The Engineer shall make the final determination of where the new service shall enter the dwelling.

f) Services shall enter a dwelling at a minimum depth of 5½ feet below existing grade.

g) New service shall match size shown on plans unless otherwise directed by Engineer. Minimum service size shall be ¾-inch.

h) Contractor shall be responsible for protecting private landscaping and plantings.

i) Any landscaping or plantings disturbed by the Contractor shall be replaced at the Contractor's expense.

16) Transition/Connection Fittings.

a) Transition/ connections fittings shall be hand chlorinated prior to installation.

17) Hydrostatic Testing.

a) Hydrostatic Test for Water Main Pipe 20-inch and Smaller.

b) Perform after entire water main or a section between two valves has been installed and has passed the visual leakage test.

c) Length of water main tested between two valves shall be the length of the entire water main, or a maximum distance of 5,280 feet.

d) Fill pipe slowly, expelling all air.

e) Pressurize pipe as indicated under total pressure, on the table below, and maintain for 15minutes.

Pipe Size	Oper. Press.		Water Hammer		Total Pressure, Oper. Water & Hammer		Total Internal Design Pressure (Safety Factor Included)	
	Psi	kPa	Psi	kPa	Psi	kPa	Psi	kPa
6”-10"	60	4.4	120	830	180	1240	450	3100
12”-14"	60	4.4	110	760	170	1170	425	2930
16”-18"	60	4.4	100	690	160	1100	400	2760
20"	60	4.4	90	620	150	1035	375	2585
24"	60	4.4	85	590	145	1000	363	2500
30"	60	4.4	80	550	140	965	350	2415
36"	60	4.4	75	520	135	930	338	2330
42”-60"	60	4.4	70	480	130	900	325	2240

f) Reduce pressure to 150 psi and maintain for two hours.

i) Add water to maintain pressure to within + 1 psi of 150 psi.

ii) If at any time the test pressure drops so fast that water cannot be added quickly enough to maintain the pressure to within 5 psi of 150 psi, the hydrostatic test is considered to have failed, and the test started over.

g) The amount of water added to maintain test pressure to within 5 psi of 150 psi shall be defined as the make-up water.

h) The hydrostatic test will be considered to have failed and the pipe installation shall not be accepted if the make-up water measured exceeds the testing allowance calculated per AWWA C600-05 and as follows:

In inch-pound units,

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

Where:
L = Testing Allowance, in gallons per hour
S = Length of Pipe Tested, in feet
D = Nominal Diameter of the Pipe, in inches
P = Average Test Pressure During the Hydrostatic Test, in pounds per square inch (gauge)

i) Read line pressure on a 4-inch diameter gauge with a snubber and a range of 0 to 200 psi in 2 psi increments.

j) Measure make-up water added to the pipe with a tested water meter connected to the water supply line.

k) For short sections of pipe, water may be added through a sterilized container and the amount calculated by direct measurement.

l) Find and repair leaks.

m) Flush pipe with potable water.

n) Procedure for testing water main 20 inches in diameter and larger shall be the same as required for water mains less than 20 inches in diameter except that the 15-minute hydrostatic test will not be required for pipe in this size range.

18) Visual Leakage Test.

- When directed by the Engineer, a visual leakage test may be performed in lieu of a pressure leakage test.
- Place sufficient backfill to prevent pipe from buckling or shifting.
- Joints remain exposed.
- Restraints are installed.
- place and block test plug at the end of the pipe.
- Fill pipe slowly with water expelling all air.
- Increase water pressure to equal pressure from existing supply water main.
- Visually inspect joints for leakage.
- Repair leaks and repeat test.
- Backfill after successful completion of test.

19) Disinfection.

a) Disinfection procedure shall be in accordance with AWWA Standard C651, latest revision, Continuous-Feed Method.

b) Verify that the water main is complete, flushed, and clean.

c) Inject disinfectant, NSF chlorine solution per AWWA Standards, through a corporation Coc inserted in the horizontal axis of the water main.

d) Inject disinfectant at the beginning of the pipeline or a valved section.

e) Slowly fill the line with potable water from the existing distribution line, as approved by the Engineer.

f) Bleed water from a valve at the end of the line to ensure distribution and prevent pressure build up in excess of 138 kPa (20 psi).

g) Inject disinfectant, chlorine solution, to obtain a concentration of 50 parts per million.

h) Chlorine residual will be checked to insure a minimum of 50 ppm solution, using a method as approved by the Engineer.

i) Maintain disinfectant in pipeline for 24 hours.

   i) All valves in the disinfected section of pipe must be turned during the 24-hour time period. Free chlorine residual after 24 hours shall be not less than 10 ppm.

   ii) The testing method used to verify the amount of free chlorine residual shall be approved by the Engineer.

j) Flush disinfectant from pipeline until chlorine level leaving the pipe is not higher than normal chlorine residual in the City of Saginaw water distribution system.

   i) Contractor shall be responsible for dechlorinating flushing water to the requirements of PA 451.

k) The Contractor, with assistance from the Engineer, will obtain samples for laboratory tests, which will be analyzed at the City of Saginaw Water Treatment Plant Certified Laboratory.

   i) Samples will be taken after flushing the disinfectant from the pipeline in accordance with AWWA requirements.

   ii) Samples must be taken so that the testing and lab analysis can be done during normal business hours (8 a.m. to 4 p.m., Monday through Friday).

   iii) Care shall be taken with bottles, sample collection, and transportation to ensure proper technique is followed.

   iv) The number of fittings in the apparatus or blow-off used to obtain the samples should be minimized to reduce the possibility of contamination.

   v) Per the Safe Drinking Water Act, the samples shall be collected a minimum of 24 hours apart.

l) Do not place the water main into service until laboratory tests show satisfactory results in accordance with EGLE and City of Saginaw standards for safe drinking water, as indicated in this special provision.

   i) City of Saginaw standards for safe drinking water require that coliform testing by membrane filtration display a lack of coliform bacteria and lack of atypical bacteria. ii) City of Saginaw standards for safe drinking water also require that the Heterotrophic Plate Count (HPC) shall be </= 50 cfu/1mL to display the water quality is reasonably equal to the potable supply.

   iii) HPC requires 48 hours for each sample taken before results are known.

m) Repeat the complete disinfection process if laboratory results do not meet the EGLE Standards for safe drinking water, and the requirements in this special provision.

n) Replace corporation cocks with brass plugs when the disinfection process is complete and water is determined safe for drinking and meets EGLE and City of Saginaw Standards.

o) The use of chlorine pills or tablets placed in the pipe during construction for use in the disinfection process is prohibited.

p) Results of bacteriological sampling to determine if the new water main can be placed into service may take 7 to 10 days to receive.

20) Continuity Testing.

a) Ductile iron pipe and fittings (except flanged pipe) shall be provided with metallic wedges at each joint to provide metal-to-metal contact at the joint to allow an electric current to flow through the joint for location, locating and cathodic protection.

b) The system (pipeline and hydrants) shall be tested for electrical continuity and current capacity.

c) Perform the electrical test after the hydrostatic pressure test, before services are connected and while the line is at normal operating pressure.

d) The line may be tested in sections of convenient length as approved by the Engineer.

e) Pass a direct current of 400 amperes ± 10 percent through the system for 5 minutes.

f) Continuously measure current flow through the pipe on a suitable ammeter while maintaining a steady current without interruption or excessive fluctuation throughout the 5minute test period.

g) Insufficient current or intermittent current or arcing, indicated by large fluctuation of the ammeter needle, shall be evidence of defective electrical contact in the pipeline.

h) Isolate and correct the cause of the deficiency.

i) After correction, retest the section in which the defective test occurred.

21) Boring, Jacking, or Tunneling installation with Pipe Sleeve.

a) Construct and maintain jacking/boring pits as required.

i) Adequately clear site required for pits as needed to perform the work.

ii) Size pits for boring machine, frames, reaction blocks, minimum two sections of pipe, and with sufficient room for working.

iii) Provide steel safety ladder.

iv) Locate pits such that no damage occurs to trees, poles (not specified for removal), or structures in the immediate area.

b) Construct pits with sheeting and bracing as required for proper support in accordance with OSHA standards and as needed to sufficiently support reaction blocks.

i) Place crushed rock or approved bedding to sufficiently support equipment and protect pit floor.

c) Employ guide timbers and rails for maintaining pipe line and grade.

d) Push utility pipe through the bored opening leaving minimum annular space.

e) A pushing or jacking frame shall be built and furnished to fit or match the end of the pipe to be jacked so that the pressure of the jacks will be evenly distributed over the end of the pipe.

f) The hydraulic jacks shall have sufficient power to apply a smooth and even pressure to move the pipe in place.

i) Hammering or ramming the pipe will not be allowed.

g) The pipe shall be jacked upgrade where possible.

h) The excavation shall be done within the inside of the pipe and shall not exceed 12 inches ahead of the pipe being jacked in place.

i) After each pipe section is in place, the pipe shall be checked for correct grade and line.

i) Pipe not meeting the correct grade and line shall be rejected and replaced.

j) Excavation shall be done within the inside of the pipe sleeve not to exceed 6 inches ahead of the sleeve.

k) Excavation at the top and sides may be approximately 1-inch greater than the outside periphery of the pipe.

l) The bottom of the excavation shall be accurately cut to line and grade.

m) After the pipe sleeve has been jacked and augured, it shall be checked by pouring water through the pipe.

i) Pipe sleeve not meeting the line and grade requirements shall be rejected.

n) The water main pipe shall be pushed in the pipe sleeve, supported on a minimum of three each 1-inch by 2-inch (minimum) hardwood continuous slats banded to the utility pipe. i) The banding shall be 5/8-inch stainless steel.

o) The annular spaces at the ends of the pipe sleeve shall be sealed with filter fabric or approved equal and held in place with 6A stone.

p) Additional footage of pipe installed by jacking and boring above what is shown on the plans and specifications shall not be paid.

i) Extra footage will only be paid if authorized in writing by the Owner and the Engineer prior to installation.

22) Horizontal Directional Drilling Pipe.

a) The Contractor shall ensure a representative from the drilling Contractor, who is experienced with the equipment and boring procedures is on site at all times during the boring operation to address immediate concerns and emergency operations.

i) Installation must not begin until the Engineer agrees that proper preparations have been made. ii) Notify the Engineer at least two (2) work days prior to starting the work.

b) The directional bore shall begin with a pilot hole drilled along the proposed bore alignment.

i) Directional information shall be monitored and provided to the drilling operator using navigation equipment on the surface.

ii) A reverse drilling reamer shall be attached to expand the pilot hole to allow for the pipe installation.

iii) Bentonite slurry shall be pumped through the drill steel and mixed by the reamer to stabilize and lubricate the wall lining of the bore hole and to protect the pipe.

c) Instrumentation shall be provided and maintained to accurately locate the pilot hole and measure drilling fluid flow and pressure at all times.

d) Drilling fluids shall be contained within the drilling area and cleaned up within 48 hours following completion of pipe installation.

e) The Contractor shall ensure deflections in pipe are made by bending the pipe in accordance with the manufacturer’s recommendations.

f) When a bored main will cross an existing water main, a sight hole must be excavated sufficient in size for the Engineer to visually verify the bore head will clear the existing main.

g) If the Contractor encounters an obstruction during boring that prevents completion of the installation in accordance with the design location and specification, the pipe may be abandoned and left in place with approval by the Engineer.

   i) If the pipe is approved to be left in place, the Contractor shall immediately fill it with flowable fill and bulkhead the pipe.

   ii) The Contractor shall submit a revised plan prior to begin another boring for approval by the Engineer.

   iii) If damage is observed during construction, the Contractor shall cease all work until a plan to minimize further damage and for restoration is obtained and approved by the Engineer.

h) If conditions warrant removal of any materials installed in a failed bore path, as determined by the Engineer, it will be at no additional cost to the contract.

i) The Contractor shall restore any damage caused by heaving, settlement, escaping drilling fluid (frac-out) or the drilling setup and operation.

   i) The Contractor shall ensure a frac-out contingency plan is provided and approved by the Engineer prior to starting the work.

   j) The Contractor shall provide the Engineer a complete set of record (as-built) plans, showing all bores (successful and failed), within 30 calendar days of completing the work.

      i) The Contractor shall ensure as-built plans include the locating equipment used; horizontal and vertical alignment with degree of accuracy, entry, and exit points; bore diameter; tracer wire termination locations; drilling fluid composition; and important subsurface features.

      ii) The Contractor shall ensure the as-built plans are legibly drawn on project plan sheets or sheets developed by the boring Contractor.

      iii) The Engineer will have 15 calendar days to review and approve the as-built plans.

23) Stainless Steel Repair Clamps at Existing Water Service.

a) Following construction of new service lead and connection to existing service at right-of-way, remove existing corporation valve and saddle.

b) Coordinate with City of Saginaw staff to reduce main pressure prior to removal of existing corporation valve.

c) Dewater excavation area as necessary to ensure clear visual of repair area on main.

d) Place stainless steel repair clamp over existing tap area per manufacturer’s requirements and place protective wrapping over affected area.

e) Coordinate with City of Saginaw staff to reinstate main pressure and perform a visual leak test of the repair clamp.

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
Water Main, 6 inch, Tr Det G, Modified	Foot
Water Main, 8 inch, Tr Det G, Modified	Foot
Water Main, 12 inch, Tr Det G, Modified	Foot
Connection to Existing 4 inch Water Main	Each
Connection to Existing 6 inch Water Main	Each
Connection to Existing 8 inch Water Main	Each
Connection to Existing 10 inch Water Main	Each
Gate Valve and Box, 6 inch, Modified	Each
Gate Valve and Box, 8 inch, Modified	Each
Gate Valve and Box, 12 inch, Modified	Each
Hydrant, Complete, 6 inch	Each
Hydrant, Rem, Modified	Each
Water Serv, Modified	Each
Water Serv, Long, Modified	Each
Water Serv, Private	Each
Abandon Existing Water Main, In Place	Lump Sum

Water main of the sizes and trench detail specified will be measured in place per foot, along the centerline of the pipe, with no deductions for fittings. All water main pipe shall be placed utilizing a trench box to minimize the required trench width or as approved by the Engineer. The price shall include payment in full for furnishing all material, labor, and equipment required to perform the work specified herein and shown on the plans, including flushing and disinfecting the main, furnishing and installing all fittings, gaskets, wedges, insulation, bracing or sheeting, blocking, thrust blocks, air reliefs, tracer wire, tracer wire boxes, removal of existing abandoned utilities, and all other miscellaneous items necessary for the installation of pipe.

Payment for all material, labor and equipment necessary to remedy an unsatisfactory testing, including removing and replacing any backfill, shall be considered as included in the contract unit price for **Water Main, __ inch, Tr Det__, Modified**.

Temporary sewer services rerouted to avoid conflict with the proposed water main are included in the unit price for **Water Main, __ inch, Tr Det__, Modified**.

Dewatering operations, trench and or pipe, associated with Alterations to the Municipal Water System will not be paid for separately, but will be included in the contract unit prices bid for other related contract items.

The cost of excavation, disposal of excess material, and furnishing, placing, and compacting the backfill for the water main pipe and accessories will be considered as included in the contract unit price bid for other related contract items unless otherwise specified.

Removal of the existing water main within the influence of the roadway, as required to construct the proposed water main, shall be included in the lump sum price bid for **Abandon Existing Water Main, In Place** or other related contract items unless otherwise specified. Any cutting and capping necessary to abandon water main in place is included in **Abandon Existing Water Main, In Place**. Any existing gate valves to be abandoned in place shall have risers removed to a minimum depth of 18 inches below finished grade and will be included in lump sum price bid for **Abandon Existing Water Main, In Place**. All water mains abandoned in place require flowable fill backfill. Flowable fill is included in the pay item for **Abandon Existing Water Main, In Place**.

The removal of Valve Boxes and Water Shutoffs shall not be paid for separately but shall be considered included in the item **Abandon Existing Water Main, In Place**.

Removal of other existing abandoned utilities encountered during construction including abandoned steam lines, gas main, abandoned electrical conduits, ducts, concrete encasement, valves, structures, etc. that is necessary for removal in order to install the proposed water main will not be paid for separately and is included in the unit price for water main pay items.

Hydrant, Rem, Modified shall be measured and paid for at the contract unit price each, which price shall be payment in full for all labor, material, removal of bollards, removal of existing valve and delivery of existing hydrant and valve to the municipality storage yard and equipment necessary to accomplish this work.

Gate valves and boxes, including tapping valves, and butterfly valves and boxes of the size and type specified will be measured and paid for at the contract unit price each, which shall be payment in full for all labor, material, valve stem risers, extensions, and equipment necessary to accomplish this work. Any costs to adjust boxes on new valves to final elevations, including pavement repairs per the City of Saginaw and MDOT details shall be included in the listed pay item and not paid for separately.

Hydrant, Complete, 6 inch will be paid for at the contract unit price each, which shall be payment in full for all labor, material, hydrant extensions, hydrant lock, concrete collar, and equipment necessary to accomplish this work. A maximum of 20 feet of 6-inch pipe for the lead from the main shall be included in the listed pay item.

Connection To Existing ___inch Water Main, as specified shall be measured and paid for at the contract unit price each for the size of the existing pipe being connected to, which shall be payment in full for all labor, material, backfill, excavation, tapping sleeves, solid sleeves, reducers, plugs, and equipment necessary to accomplish this work.

Water Serv, Modified and **Water Serv, Long, Modified**, as specified shall be measured and paid for at the contract unit price each, which shall be payment in full for all labor, material, saddles, corporation stops, fittings, adapters, curb stops and box, and equipment necessary to accomplish this work including sight hole excavation and restoration. **Water Serv, Modified** is a service of 30 feet or less in length. **Water Serv, Long, Modified** is a service more than 30 feet in length.

Curb Stop and Box, as specified shall not be paid for separately but shall be included in the item **Water Serv, Modified** or **Water Serv Long, Modified**.

Private irrigation equipment including sprinkler heads, valves, and piping which interfere with the Contractor's work shall be removed and stockpiled at the back of the right-of-way and shall be included in the item **Water Serv, Modified** or **Water Serv Long, Modified**.

Water Serv, Private, for sizes ranging from ¾ inches to 1½ inches, as specified on the plans, will be paid for at the contract unit price each, from curb stop to the end point inside dwelling with no

deductions for fittings; which shall be payment in full for all labor, material, isolation valve, and equipment necessary to accomplish this work. **Water Serv, Private** shall include restoration of all disturbed areas including concrete walkways, landscaping, and plantings removal and replacement.

Water Main, Cut and Plug. The unit price for **Water Main, Cut and Plug** includes the cost of cutting the existing water main, providing and placing the required plug, and trust block.

SECTION 01 10 00
SUMMARY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Contract description.
2. Contractor's use of Site
3. Work sequence.
4. Owner occupancy.
5. Permits.
6. Specification conventions.
7. Utilities Constructed within Public Street.

1.2 CONTRACT DESCRIPTION

A. The Contractor shall furnish all the labor, material and construction equipment and perform all the work for the construction of the Utilities as shown on the Drawings and described in the specifications prepared by Spicer Group, Inc. Contractor shall be responsible for the entire work until completed and accepted by the Owner.

B. The Owner will obtain easements and rights-of-way needed for construction, as shown on the plans. Additional temporary easements beyond what is shown shall be the responsibility of the Contractor.

1.3 CONTRACTOR'S USE OF SITE

A. Limit use of Site to allow:
1. Cooperate with Land Owners to minimize conflict. If disputes arise, contact the Engineer immediately.

B. Utility Outages and Shutdown:
1. Schedule temporary shutdowns of active utilities at times which will cause the least interference with service use and as approved by the Owner or Engineer.

C. Construction Operations:
1. Limited to right-of-way limits and Owner furnished easements as noted on Drawings.

1.4 WORK SEQUENCE

A. Construct Work in an upstream direction during the construction period, coordinate construction schedule and operations with Engineer

B. Sequencing of Construction Plan: Before start of construction, submit three copies of construction plan regarding phasing of demolition, and installation of new Work for acceptance by Owner.

After acceptance of plan, construction sequencing shall comply with accepted plan unless deviations are accepted by Owner in writing.

C. Sequencing of Construction Plan shall be as follows:
   1. Contractor shall begin Trenching, Modified for the widening of Woodard Street.
   2. Aggregate Base 22A Crushed Limestone, 6” shall be placed prior to any crushing and shaping or HMA base stabilizing operations.
   3. Contractor to crush and shape existing HMA roadway.
   4. HMA base stabilizing shall be completed after crushing and shaping of existing HMA.
   5. Contractor may proceed with the contract in a fashion that suits their schedule provided the prior operations are completed in order they are listed.

1.5 OWNER OCCUPANCY

A. Schedule and substantially complete designated portions of the Work for occupancy before Substantial Completion of the entire Work.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Contractor will provide Property Owners a minimum 4-day notice to relocate obstructions within the right-of-way. A 7-day notice is required for fence relocations.

1.6 PERMITS

A. Furnish necessary permits for construction of Work.

1.7 SPECIFICATION CONVENTIONS

A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

1.8 UTILITIES CONSTRUCTED WITHIN PUBLIC STREETS

A. Conform to requirements of the City, County, Township, Village, MDOT or authority having jurisdiction over the road.

B. Obtain and pay for construction permits form the authority having jurisdiction in order to work in the public road right-of-way.

C. Notify the Authority 2 working days in advance of the intention to cross a roadway.

D. Install and maintain traffic control devices.

E. Contractor shall be liable for all accidents and damage occasioned in any way by his acts or neglect or by the acts or neglect of his sub-contractors, agents, employees or workmen.

1.9 UTILITIES CONSTRUCTED WITHIN MDOT RIGHTS-OF-WAY

A. Conform to MDOT requirements and MDOT standard specifications.

B. Obtain and pay for construction permit from MDOT for performing work within the State Highway right-of-way.

C. Notify the MDOT office having jurisdiction, 5 working days in advance of the intention to cross or work in the State Highway.

D. Install and maintain traffic control devices.

E. Contractor shall be liable for all accidents and damage occasioned in any way by his acts or neglect, or by the acts or neglect of his sub-contractors, agents, employees or workmen.

F. Protect the existing road surface. Repair damage in accordance with MDOT requirements.

G. Road crossings shall be subject to the approval of MDOT.

H. Made road crossings as indicated on the drawings.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cash allowances.

B. Application for Payment.

C. Change procedures.

D. Defect assessment.

E. Unit prices.

1.2 CASH ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; delivery to Site and applicable taxes unless stated otherwise in Allowance Schedule.

B. Costs Not Included in Cash Allowances but Included in Contract Sum/Price: Product handling at Site including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing unless stated otherwise in Allowance Schedule.

C. Engineer Responsibilities:
   1. Consult with Contractor for consideration and selection of products suppliers and installers.
   2. Select products in consultation with Owner and transmit decision to Contractor.
   3. Prepare Change Order.

D. Contractor Responsibilities:
   1. Assist Engineer in selection of products, suppliers.
   2. Obtain proposals from suppliers and installers and offer recommendations.
   3. Upon notification of selection by Engineer and Owner execute purchase agreement with designated supplier.
   4. Arrange for and process Shop Drawings, Product Data, and Samples. Arrange for delivery.
   5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

E. Differences in costs will be adjusted by Change Order.

1.3 APPLICATION FOR PAYMENT

A. Engineer will prepare progress payments in accordance with the Payment Schedule shown in the Agreement.

B. Format will follow the itemized bid in the Proposal.

C. Contractor shall submit waivers for each progress payment in accordance with the General Conditions.

D. Payment will be subject to retainage as set forth in Public Act No. 524.

1.4 CHANGE PROCEDURES

A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.

C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.

D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing a field order.

E. Engineer may issue a Bulletin or Notice of Changer including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with stipulation of overtime work required and with the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 5 days.

F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work.

G. Stipulated Sum/Price Change Order: Based on Bulletin or Notice of Change and Contractor’s price quotation and Contractor’s request for Change Order as approved by Engineer.

H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

I. Work Directive Change: Engineer may issue directive, signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

J. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.

K. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.

L. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.

M. Change Order Forms: Engineer's Form.

N. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.5 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct appropriate remedy or adjust payment.

C. Authority of Engineer and Owner to assess defects and identify payment adjustments is final.

D. Nonpayment for Rejected Products: Payment will not be made for rejected products.

1.6 UNIT PRICES

A. Authority: Measurement methods are delineated in individual Specification Sections.

B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Section govern.

C. Engineer will take measurements and compute quantities accordingly. Provide assistance in taking of measurements.

D. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.

E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.

F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

G. Measurement of Quantities:
   1. Weigh Scales: Inspected, tested, and certified by applicable State weights and measures department within past year.
   2. Platform Scales: Of sufficient size and capacity to accommodate conveying vehicle.
   3. Measurement by Weight: Concrete reinforcing steel, rolled or formed steel, or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
   4. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
   5. Measurement by Area: Measured by square dimension using mean length and width or radius.
   6. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
   7. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 22 20
MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SCOPE

A. This section describes the method of measurement and basis of payment for all items of the work included in the Contract and indicated in the Bid Proposal. Provide all labor, material, tools, equipment and services required to complete the Work included in the Contract Documents. Items described in the Specifications and indicated on the Drawings, but not shown in this specification section, are considered incidental to the Project.

B. Each bid item on the bid form includes all work items required to construct the work as shown on the drawings and indicated in the specifications, including those items not specifically stated below in this section.

C. From time to time. Contractor may receive written authorization to perform additions to or deletions from the Work, on a Unit Rate Price basis; the costs of Changes shall be calculated in accordance with the Unit Rate Pricing or “Add/Deduct” indicated on this Bid Form.

D. Unless otherwise noted, each Unit Rate includes all direct and indirect costs for labor, equipment, transportation, testing services, general work expenses, applicable taxes, overhead, and other cost required to complete the work.

1. The all-inclusive Unit Rate Prices are fixed for the duration of this Contract, and not subject to escalation.
2. The Unit Rate Prices shall include all Work the Contractor is required to perform without regard to the quantities involved, difficulty in performing the Work, materials or equipment required, and specific handling of materials and equipment.
3. All Unit Rate Prices shall apply at 100% of their value for both additions and deletions to the Scope of Work, unless mutually agreed to otherwise in accordance with the Contract Documents

1.2 MEASUREMENT AND PAYMENT

A. Section 01 20 00 – Price and Payment Procedures Contract Sum/Price.

B. PVC Water Main & Fittings:

1. Basis of Measurement: By the unit price bid per lineal foot and size as stated in the proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, excavation, hand trimming, bedding, blocking, backfilling, compaction, restoration, tracer wire and testing as stated in the specifications and as indicated on the plans for a complete installation.

C. Valve & Box:

1. Basis of Measurement: Included in the unit price bid per each and at the size as stated in the proposal.

2. Basis of Payment: Includes all associated demolition, material, labor, equipment excavation, bedding, blocking, backfill, setting plumb, compaction and restoration for a complete installation.

D. Valve Box Extensions:
1. Basis of Measurement: Included in the unit price bid per each for Gate Valves and Boxes.
2. Basis of Payment: Includes all associated labor, material and equipment, excavation, hand trimming, bedding, backfilling, restoration, etc., for a complete installation. The Owner reserves the right to increase or decrease the number of extensions without any consideration for adjustment in the bid price. Extensions will not be paid for if the valve on the plan shows a depth greater than 6'-0", or if the Contractor installs a valve other than that specified.

E. 6" Hydrant, Complete:
1. Basis of Measurement: Included in the unit price bid per each as stated in the proposal.
2. Basis of Payment: Includes all associated demolition, material, labor, equipment excavation, bedding, blocking, backfill, setting plumb, compaction and restoration for a complete installation.

F. Remove Existing Hydrant:
1. Basis of Measurement: At the unit price bid per hydrant each removed as stated in the proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, excavation, backfilling, compaction, plugging/capping at existing water main, salvage to Owner by removal of hydrant and auxiliary valve, and transportation to Owner; s designated site for a complete removal and salvage.

G. Water Service Reconnections:
1. Basis of Measurement: Included in the unit price bid per each as stated in the proposal.
2. Basis of Payment: Includes all associated demolition, material, labor, equipment, excavation, backfill, compaction and restoration for a complete installation.

H. Corp. and Saddle:
1. Basis of Measurement: Included in the unit price bid per each at the size as stated in the proposal.
2. Basis of Payment: Includes all associated material, labor, equipment, tapping, bedding, backfill, compaction for a complete installation.

I. Curb Stop & Box:
1. Basis of Measurement: Included in the unit price bid per each at the size as stated in the proposal.
2. Basis of Payment: Includes all associated material, labor, and equipment, excavation, backfill, compaction and restoration for a complete installation.

J. Copper Water Service (Long and Short):
1. Basis of Measurement: Included in the unit price bid per lineal foot and size as stated in the proposal.

2. Basis of Payment: Includes all associated material, labor, and equipment, excavation, backfill, compaction and restoration for a complete installation. All long services are to be bored perpendicular to road centerline.

K. 6" Watermain Cut and Cap:
1. Basis of Measurement: Included in the unit price bid per each as stated in the proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, excavation, fitting, adapters, hand trimming, blocking, bedding, backfill, pavement restoration, curb and gutter restoration for a complete installation.

L. Trench Rock Removal:
1. Basis of Measurement: Included in the unit price bid for utility being installed.
2. Basis of Payment: Includes all associated labor, material, equipment, preparation of rock for removal, mechanical, disintegration of rock, and removal from position, loading and removing from site. For over excavation, payment will not be made for over excavated work nor for replacement materials.

M. Pigging:
1. Basis of Measurement: Included in the lin. ft. price bid for water main pipe.
2. Basis of Payment: Includes all associated labor, material and equipment required for pigging the water main for this project.

N. Testing Water Mains:
1. Basis of Measurement: Included in the unit price bid for water main pipe.
2. Basis of Payment: Includes all associated labor, material and equipment for testing water main required for this project for a complete installation.

O. Disinfection:
1. Basis of Measurement: Included in the unit price bid per lineal foot for water main pipe as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material and equipment for cleaning and disinfecting water main required for the project for a complete installation.

P. Pipe and Fittings:
1. Basis of Measurement: Included in the unit price bid per lineal foot of water main as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material and equipment, hand-trimming, excavation, pavement removal and replacement, bedding, backfilling, restoration, pipe and fittings, tracer wire, testing and complete installation as stated in the specifications and indicated on the drawings.
3. Fittings added or deleted from the contract will be paid or deducted from contract at the invoice price from the Contractors supplier.

Q. Joint Restraints:
1. Basis of Measurement: Included in the unit price bid for water main pipe.
2. Basis of Payment: Includes all associated labor, material and equipment for joint restraint required for this project for a complete installation.

R. Site Clearing:

1. Basis of Measurement: Included in the unit price bid for utility being installed.
2. Basis of Payment: Includes clearing site, loading and removing waste materials from site, applying herbicide to designated plant life.

S. HMA Base Crushing and Shaping:
1. Basis of Measurement: Included in the unit price bid per square yard as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, and equipment for full depth crushing an existing bituminous surface, combing the crushed material with the underlying aggregate base, shaping to the proper elevation and cross section, providing butt joints when adjoining or tying into existing pavement, removal of excess material and compacting the material to the required density.

T. Cold Milling HMA Surface:
1. Basis of Measurement: Included in the unit price bid per square yard as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, and equipment for milling an existing bituminous surface, removal of chunks larger than 2", removal of excess material and compacting the material to the required density.

U. Reuse Millings as Aggregate Base:
1. Basis of Measurement: At the unit price bid per ton as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, furnishing, hauling, placing, compacting and shaping the specified material to the required grades, depth and elevations as stated in the plans and specifications.

V. Parking Lot Regrading:
1. Basis of Measurement: Included in the unit price bid per lump sum as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, and equipment, fill, compaction, etc for excavation and grading material to required elevations.

W. Shld, Cl II, _":
1. Basis of Measurement: At the unit price bid per square yard as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, furnishing, hauling, placing, compacting and shaping the specified material to the required grades, depth and elevations as stated in the plans and specifications.

X. 6" Gravel Driveway, Remove and Replace:
1. Basis of Measurement: At the unit price bid per each as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, furnishing, hauling, placing, compacting and shaping the specified material to the required grades, depth and elevations as stated in the plans and specifications.

Y. 4" HMA Driveway, Remove and Replace:
1. Basis of Measurement: At the unit price bid per each as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, mix design, supplying to site, preparing base, testing, tack coating surfaces, hand patching, placing, compacting and rolling, etc. for a complete installation.

Z.4’ Dia Drainage Structure:

1. Basis of Measurement: By the unit bid price per each as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, excavation, bedding, setting structure to grade as shown on the plans, connecting all sewer leads, backfill, frame, casting, setting rim to grade as shown on the plans for a complete installation

AA. _” RCP Storm Sewer:

1. Basis of Measurement: At the unit price bid per lineal foot as stated in the proposal
2. Basis of Payment: Includes all associated labor, materials, and equipment required for the complete removal of existing pipe and installation of proposed pipe. (Including compacted 6A crushed limestone):

BB. Grouting:

1. Basis of Measurement: Included in the other Work items of this project.
2. Basis of Payment: Includes all labor, material and equipment to install concrete, grout, and appurtenances as shown on the contract documents and as stated in the specifications.

CC. Dr. Structure Tap, _ inch

1. Basis of Measurement: By the unit bid price per each as stated in the Proposal.
2. Basis of Payment: Includes all associated material, labor and equipment, providing and preparing existing structure for tap, removing debris, placing proposed pipe, providing grout and accessories, grouting, finishing, curing, and backfilling for a complete installation.

DD. HMA, 4EL:

1. Basis of Measurement: At the unit price bid per ton as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, mix design, supplying to site, preparing base, testing, tack coating surfaces, hand patching, placing, compacting and rolling, etc. for a complete installation.

EE. HMA, 5EL:

1. Basis of Measurement: At the unit price bid per ton as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material, equipment, mix design, supplying to site, preparing base, testing, tack coating surfaces, hand patching, placing, compacting and rolling, etc. for a complete installation.

FF. HMA Approach:

1. Basis of Measurement: Included in the unit price bid for HMA, 4EL and HMA, 5EL.
2. Basis of Payment: Includes all associated labor, material, equipment, mix design, supplying to site, preparing base, testing, tack coating surfaces, hand patching, placing, compacting and rolling, etc. for a complete installation.

GG. Concrete Curb and Gutter, Remove and Replace:

1. Basis of Measurement: By the unit bid price per linear foot as stated in the Proposal.
2. Basis of Payment: Includes all associated material, labor and equipment, providing and preparing base, placing concrete and accessories, floating and finishing, curing, and driveway openings and curb cuts for sidewalk ramps for a complete installation.

HH. Stone Retaining Wall, Rem:
1. Basis of Measurement: By the unit bid price per linear foot as stated in the Proposal.
2. Basis of Payment: Includes all associated material, labor and equipment, and material hauling for a complete removal.

II. Limestone Retaining Wall:
1. Basis of Measurement: By the unit bid price per linear foot as stated in the Proposal.
2. Basis of Payment: Includes all associated material, labor and equipment, providing and preparing base, toeing in the limestone wall, placing and stacking the limestone, including all accessories, for a complete installation.

JJ. Subgrade Undercutting Type II:
1. Basis of Measurement: At the unit price bid per cubic yard as indicated in the proposal.
2. Basis of Payment: Includes all material, labor, and equipment to remove poor subgrade below the proposed subgrade elevations shown on the drawings. Replace with compacted 22A limestone or MDOT Class II sand backfill as indicated or directed by the Engineer. Engineer will inspect the fill area and limits of undercutting prior to placement of fill. A minimum of 95% compaction will be required for fill material.

KK. Excavating Soil Materials:
1. Basis of Measurement: Included in the unit price bid for utility installation.
2. Basis of Payment: Includes all excavating, fill, labor, material, and equipment to required elevations, loading and removing excess from site. Over Excavating: Payment will not be made for over excavated work nor for replacement materials.

LL. Trenching:
1. Basis of Measurement: Included in the unit price bid for utility installation.
2. Basis of Payment: Includes all associated labor, materials, equipment, fill, compaction, etc. for trenching to required elevations.

MM. Dewatering:
1. Basis of Measurement: Included in the unit price bid for utility being installed.
2. Basis of Payment: Includes pump, power unit, fuel, discharge header pipe, connections, fittings, pump operation and maintenance, and all other equipment material and labor for a complete dewatering.

NN. Excavation Support Systems:
1. Basis of Measurement: Included in the unit price bid for utility installation.
2. Basis of Payment: Includes all associated labor, material equipment for excavation support system for this project.

OO. Rock Removal:
1. Basis of Measurement: Included in the unit price bid for utility being installed.
2. Basis of Payment: Includes all associated labor, material, equipment, preparation of rock for removal, mechanical disintegration of rock, and removal from position, loading and removing from site. For over excavation, payment will not be made for over excavated work nor for replacement materials.

PP. Subsoil Fill Type Municipal Subsoil:
1. Basis of Measurement: Included in the unit price bid for utility installation.
2. Basis of Payment: Includes all associated labor, materials and equipment, fill, excavation, grading required for rough grading to provide the required contours and/or return the disturbed areas back to existing conditions.

QQ. Granular Fill:
1. Basis of Measurement: Included in the unit price bid for utility installed.
2. Basis of Payment: Includes all associated labor, material, equipment, excavation, compaction of fill, fill, etc. required for backfill on this project.

RR. Structural Fill:
1. Basis of Measurement: Included in the unit price bid for utility installed.
2. Basis of Payment: Includes all associated labor, materials, equipment, excavation, compaction of fill, fill etc. required for backfill on this project.

SS. Reconnecting Tiles, Sump Lead, and Service Leads:
1. Basis of Measurement: Included in the other pay items for this project.
2. Basis of Payment: Includes all associated labor, material, and equipment to replace, reconnect, or investigate all tiles, sump leads, storm sewer leads, sanitary sewer leads, service leads, etc., for the project whether shown on the plans or located in the field for a complete installation for the project.

TT. Construction Facilities and Temporary Controls:
1. Basis of Measurement: Included in the unit price bid for utility installation.
2. Basis of Payment: Includes all associated labor, material and equipment required for Construction Facilities and Temporary Controls required for this project for a complete installation.

UU. Mobilization, Bonds, Insurance:
1. Basis of Measurement: At the lump sum price bid as stated in the Proposal.
2. Basis of Payment: Includes all costs for mobilization, bonding, and insurance costs as stated in the proposal and indicated on the plans to complete the project.

VV. Pavement Markings:
1. Basis of Measurement: Included in the lump sum price bid for Pavement Markings and Signing.
2. Basis of Payment: Includes furnishing, installing, inspecting and maintaining pavement markings, first and second applications as required, in accordance with MDOT Standard Specifications and Michigan Manual of Uniform Traffic Control Devices.

WW. Signing:
1. Basis of Measurement: Included in the lump sum price bid for Pavement Markings and Signing.
2. Basis of Payment: Includes furnishing, installing, and inspecting permanent signing in accordance with MDOT Standard Specifications and Michigan Manual of Uniform Traffic Control Devices.

XX. Maintaining Traffic:
1. Basis of Measurement: At the lump sum price bid for Traffic Control, as stated in the Proposal.
2. Basis of Payment: Includes all required traffic regulations to meet the requirements of authority having jurisdiction, and all labor, material, and equipment necessary to furnish and operate all traffic devices, barricades, plastic drums, signs and traffic regulations for this project in order to maintain traffic control. Also includes material, equipment and labor necessary to provide temporary support and bracing to maintain integrity of traffic lanes during construction. Railroad traffic control is included.

YY. Dr. Structure Cover, Adj, Case 1:
1. Basis of Measurement: By the unit bid price per each as stated in the Proposal.
2. Basis of Payment: Includes all associated material, labor and equipment, providing and preparing base, placing adjustments and accessories, pavement repair, etc. for a complete installation adjusting elevation to proposed finished grade.

ZZ. Dr. Structure Casting and Cover:
1. Basis of Measurement: By the unit bid price per each as stated in the Proposal.
2. Basis of Payment: Includes all associated material, labor and equipment, etc. for a complete installation of a new casting and cover at an elevation of proposed finished grade.

AAA. Soil Erosion and Sedimentation Control:
1. Basis of Measurement: Included in the lump sum price bid as stated in the Proposal.
2. Basis of Payment: Includes all associated labor, material and equipment, permit fees, etc. required for soil erosion prevention and sedimentation control required for this project. Additional control measures shall be employed as required by site conditions and applicable enforcing agency having project jurisdiction at no additional cost.

BBB. Filter Fabric:
1. Basis of Measurement: Included in the other pay items of the project.
2. Basis of Payment: Includes all associated labor, material, and equipment required for filter fabric for this project for a complete installation.

CCC. Cleanup:
1. Basis of Measurement: At the lump sum price bid as stated in the proposal.
2. Basis of Payment: Includes all labor, material, equipment, fine grading, prepping and seeding the project, replacing mailboxes, salvaging and reinstalling signs, and restoring the project as stated in the proposal.

DDD. Landscape Grading:
1. Basis of Measurement: Included in the lump sum price bid for cleanup.
2. Basis of Payment: Includes all labor, material and equipment required for landscape grading necessary for this project.

EEE. Turf Establishment, Performance:
1. Basis of Measurement: Included in the lump sum price bid for cleanup.

2. Basis of Payment: Includes all excavation, labor, materials, fertilizer, mulch, landscape, grading, topsoil, subsoil, seeding, watering and maintenance to provide for uniform grass growth and any re-seeding and erosion repair to provide for a uniform grass growth at the completion of the project.

FFF. Inspection (Minimum):

1. Basis of Measurement: At the unit price bid per day as stated in the Proposal.
2. Basis of Payment: All inspection on this project will be performed by the PROFESSIONAL. A required minimum number of inspection has been shown in the proposal. The Total inspection day's fee bid will be part of the total contract price and will be considered to determine the low bidder on the project.

An inspection day shall be an 8-hour day, Monday thru and including Friday and not a holiday day when an inspector or resident project representative is required to observe the following type of work.

a. When any pay item is being installed
b. Laying pipe and appurtenances.
c. Digging bore pits
d. Boring operations.
e. Installing concrete sidewalk or driveways.
f. Backfilling trenches.
g. Exploratory Excavation/Utility location.
h. Cutting a roadway to grade.
i. Undercutting.
j. Installing subbase, base and wearing courses for a roadway.
k. Installing any manholes or catchbasins.
l. Setting of castings on manholes and catchbasins.
m. Installing/Reconnecting water or sewer services.
n. Making a road crossing and repairing a road crossing.

This is not intended to be an all-inclusive list, but rather a mere sample.

The amount bid for inspection days shall not change through the course of the project unless by Change Order to the Contract for additional work and shall be prepared by the PROFESSIONAL.

Each progress payment shall include a section where the Contractor is paid the number of inspection days used up to the bid amount unless additional days have been added. The progress payment shall also have a section where the actual number of inspection days used shall be deducted from the Contractor's progress payment.

If the project is completed at the Inspection (Minimum) amount or under, the Inspection (Minimum) amount shall be deducted from the Contract **and the remainder will be credited to the Contractor.**

The person doing the inspection and observation shall be known as the Resident Project Representative (RPR) whose limitations of authority and responsibilities are generally described in paragraph 9.13 of the General Conditions.

The CONTRACTOR shall be responsible for coordinating with the PROFESSIONAL the starting and stopping times of each workday. Any work performed by the CONTRACTOR without the

Resident Project Representative will not be paid or shall be exposed, uncovered and witnessed that it was properly installed before recommendation for payment will be made.

Hours worked in excess of the **8** hour-day, a **40**-hour work week; hours on Saturday, Sunday, or hours on a Holiday shall be charged at 1 ½ times **$168.00** per hour.

Show-up time for the Resident Project Representative will be charge at a minimum of two hours per day.

The inspector's daily report (IDR) shall reflect the exact hours to be charged to the Contractor for that particular day. The contractor shall receive copies of the weeks IDR the following Monday morning.

GGG. Additional Inspection (Additional Days Estimated by Contractor):

1. Basis of Measurement: At the unit price bid per day as stated in the Proposal.
2. Basis of Payment: All Inspection on this project will be performed by the PROFESSIONAL. The Contractor shall state in the proposal the number of inspection days required for the completion of this project. The Total inspection day's fee bid will be part of the total contract project and will be considered to determine the low bidder on the project. An inspection day shall be an 8-hour day, Monday thru and including Friday and not a holiday day when an inspector or resident project representative is required to observe the following type of work:
   a. When any pay item is being installed
   b. Laying pipe and appurtenances.
   c. Digging bore pits
   d. Boring operations.
   e. Installing concrete sidewalk or driveways.
   f. Backfilling trenches.
   g. Exploratory Excavation/Utility location.
   h. Cutting a roadway to grade.
   i. Undercutting.
   j. Installing subbase, base and wearing courses for a roadway.
   k. Installing any manholes or catchbasins.
   l. Setting of castings on manholes and catchbasins.
   m. Installing/Reconnecting water or sewer services.
   n. Making a road crossing and repairing a road crossing.

This is not intended to be an all-inclusive list, but rather a mere sample.

The amount bid for inspection days shall not change through the course of the project unless by Change Order to the Contract for additional work and shall be prepared by the PROFESSIONAL.

Each progress payment shall include a section where the Contractor is paid the number of inspection days used up to the bid amount unless additional days have been added. The progress payment shall also have a section where the actual number of inspection days used shall be deducted from the Contractor's progress payment.

If the project is completed at the Additional Inspection (Additional Days Estimated by Contractor) amount or under, the amount actually used, shall be deducted from the contract and **the remainder will be credited to the Contractor.**

The person doing the inspection and observation shall be known as the Resident Project Representative (RPR) whose limitations of authority and responsibilities are generally described in paragraph 9.13 of the General Conditions.

The CONTRACTOR shall be responsible for coordinating with the PROFESSIONAL the starting and stopping times of each workday. Any work performed by the CONTRACTOR without the Resident Project Representative will not be paid or shall be exposed, uncovered and witnessed that it was properly installed before recommendation for payment will be made.

Hours worked in excess of the **8** hour-day, a **40**-hour work week; hours on Saturday, Sunday, or hours on a Holiday shall be charged at 1 ½ times **$168.00** per hour.

Show-up time for the Resident Project Representative will be charge at a minimum of two hours per day.

The inspector's daily report (IDR) shall reflect the exact hours to be charged to the Contractor for that particular day. The contractor shall receive copies of the weeks IDR the following Monday morning.

END OF SECTION

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality assurance.

B. Product options.

C. Product substitution procedures.

1.2 QUALITY ASSURANCE

A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.

B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.

C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT OPTIONS

A. See Section 01 60 00 - Product Requirements.

1.4 PRODUCT SUBSTITUTION PROCEDURES

A. Engineer will consider requests for substitutions only within 15 days after date of Owner-Contractor Agreement.

B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.

C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:
   1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.
   2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
   3. Reference to Article and Paragraph numbers in Specification Section.
   4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
   5. Changes required in other Work.
   6. Availability of maintenance service and source of replacement parts as applicable.
   7. Certified test data to show compliance with performance characteristics specified.

8. Samples when applicable or requested.
9. Other information as necessary to assist Engineer's evaluation.

D. A request constitutes a representation that Contractor:
   1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
   2. Will provide same warranty for substitution as for specified product.
   3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
   6. Will reimburse Owner for review or redesign services associated with reapproval by authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.

F. Substitution Submittal Procedure:
   1. Submit requests for substitutions.
   2. Submit three copies of Request for Substitution for consideration. Limit each request to one proposed substitution.
   3. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
   4. Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and Project conditions.

B. Field Engineering

C. Cutting and Patching

D. Preconstruction meeting.

E. Site mobilization meeting.

F. Progress meetings.

G. Preinstallation meetings.

H. Closeout meeting.

I. Alteration procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various Sections of Owner Contract Agreement to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.

C. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.

D. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

E. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

A. Contractor to locate and protect survey control and reference points, land monuments, and property corner.

B. Control datum for survey is that established by Owner provided survey shown on Drawings.

C. Engineer will provide construction staking. Call the Engineer to request staking at least 3 working days in advance of the time needed for the work.

D. Construction stakes removed or damaged by Contractor shall be replaced at Contractor's expense.

E. When finished surfaces are cut so that a smoother transition and new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.

F. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Engineer review and request instructions from Engineer.

G. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

H. Finish surfaces as specified in individual product sections.

I. Where there are changes in open drain cross sections, excavate a 20-foot smooth transition between sections.

1.4 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements which affects:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual quantities of sight-exposed elements.
   5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.

D. Execute work by methods which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

E. Cut rigid materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

I. Identify any hazardous substance or condition exposed during the Work to the Engineer for decision or remedy.

1.5 PRECONSTRUCTION MEETING

A. Engineer will schedule and preside over meeting after Notice of Award.

B. Attendance Required: Engineer, Owner, appropriate governmental agency representatives, applicable public and private utility companies and Contractor, subcontractors to be utilized on the project.

C. Minimum Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
5. Designation of personnel representing parties in Contract, along with contact phone number and Engineer.
6. Communication procedures.
7. Procedures and processing of requests for interpretations, field decisions field orders, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.
9. Critical Work sequencing.
10. Scheduling activities.
11. Utility Representatives comments and requirements.

D. Engineer will record minutes and distribute copies to participants after meeting.

1.6 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work.

B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.

C. Attendance Required: Job superintendent, major Subcontractors, Contractors and suppliers, and Engineer, Owner, as appropriate to agenda topics for each meeting.

D. Minimum Agenda:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittal schedule and status of submittals.

6. Review of off-Site fabrication and delivery schedules.
7. Maintenance of Progress Schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on Progress Schedule and coordination.
13. Other business relating to Work.

1.7 PREINSTALLATION MEETINGS

A. When required in individual Specification Sections, convene preinstallation meetings at Project Site before starting Work of specific Section.

B. Require attendance of parties directly affecting, or affected by, Work of specific Section.

C. Notify Engineer four days in advance of meeting date.

D. Prepare agenda and preside over meeting:
1. Review conditions of installation, preparation, and installation procedures.
2. Review coordination with related Work.

E. Record minutes and distribute copies to participants within two days after meeting, with two copies each to Engineer, Owner, and those affected by decisions made.

1.8 CLOSEOUT MEETING

A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.

B. Attendance Required: Contractor, Subcontractors, Engineer, Owner, and others appropriate to agenda.

C. Notify Engineer four days in advance of meeting date.

D. Minimum Agenda:
1. Start-up of facilities and systems.
2. Operations and maintenance manuals.
3. Testing, adjusting, and balancing.
4. System demonstration and observation.
5. Operation and maintenance instructions for Owner's personnel.
6. Contractor's inspection of Work.
7. Contractor's preparation of an initial "punch list."
8. Procedure to request Engineer inspection to determine date of Substantial Completion.
9. Completion time for correcting deficiencies.
10. Inspections by authorities having jurisdiction.
11. Certificate of Occupancy and transfer of insurance responsibilities.
12. Partial release of retainage.
13. Final cleaning.

14. Preparation for final inspection.
15. Closeout Submittals:
    a. Project record documents.
    b. Operating and maintenance documents.
    c. Operating and maintenance materials.
    d. Affidavits.
16. Final Application for Payment.
17. Contractor's demobilization of Site.
18. Maintenance.

E. Record minutes and distribute copies to participants within two days after meeting, with two copies each to Engineer, Owner, and those affected by decisions made.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION – Not Used

END OF SECTION

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittals.

B. Review and evaluation.

C. Updating schedules.

D. Distribution.

1.2 SUBMITTALS

A. 5 days prior to the pre-construction meeting the Contractor shall submit a construction work schedule laying out the proposed sequence of the project for the Engineer's review.

B. Submit updated network schedules periodically as requested by the Engineer.

C. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.

D. Submit a horizontal bar chart with separate line for each major section of Work or operation, identifying first work day of each week.

E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and later finish, float dates, and duration.

F. Indicate estimated percentage of completion for each item of Work at each submission.

G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

H. Schedule Updates:
   1. Overall percent complete, projected and actual.
   2. Completion progress by listed activity and subactivity, to within five days prior to submittal.
   3. Changes in Work scope and activities modified since submittal.
   4. Delays in submittals or resubmittals, deliveries, or Work.
   5. Adjusted or modified sequences of Work.
   6. Other identifiable changes.
   7. Revised projections of progress and completion.

1.3 REVIEW AND EVALUATION

A. Participate in joint review and evaluation of schedules with Engineer at each submittal.

B. Evaluate Project status to determine Work behind schedule and Work ahead of schedule.

C. After review, revise schedules incorporating results of review, and resubmit within 10 days.

1.4 UPDATING SCHEDULES

A. Maintain schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity. Update schedules to depict current status of Work.

C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

D. Upon approval of a Change Order, include the change in the next schedule submittal.

E. Indicate changes required to maintain Date of Substantial and Total Completion.

F. Submit sorts as required to support recommended changes.

G. Prepare narrative report to define problem areas, anticipated delays, and impact on schedule. Report corrective action taken or proposed and its effect.

1.5 DISTRIBUTION

A. Following joint review, distribute copies of updated schedules to Contractor's Project site file, to Subcontractors, suppliers, Engineer, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Definitions.

B. Submittal procedures.

C. Construction progress schedules.

D. Proposed product list.

E. Product data.

F. Shop Drawings.

G. Samples.

H. Other submittals.

I. Test reports.

J. Certificates.

K. Manufacturer's instructions.

L. Manufacturer's field reports.

M. Erection Drawings.

N. Contractor review.

O. Engineer review.

P. MDOT Mix Design.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.

B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Transmit each submittal with Engineer-accepted form.

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.

E. Schedule submittals to expedite Project, and deliver to Engineer. Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

G. Revise and resubmit submittals as required, identify all changes made since previous submittal.

H. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.

I. Allow space on submittals for Contractor and Engineer review stamps.

J. When revised for resubmission, identify changes made since previous submission.

K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

L. Submittals not requested will not be recognized nor processed.

M. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

N. Substitution Submittal Procedure:
   1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
   3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.
   4. Review time cost of any proposed changes will be charged to the Contractor at the discretion of the Owner.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Comply with Section 01 32 16 - Construction Progress Schedule.

1.5 PROPOSED PRODUCT LIST

A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

C. Substitutions will not be considered when they are indicated or implied on shop drawings or product data submittal, without separate written request, or when acceptance will require revision to the Contract Documents.

D. A request constitutes a representation that the Contractor:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other work which may be required for the work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.

1.6 PRODUCT DATA

A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.

B. Submit number of copies Contractor requires, plus three copies Engineer will retain.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SHOP DRAWINGS

A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.

1. Include signed and sealed calculations to support design.
2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
3. Make revisions and provide additional information when required by authorities having jurisdiction.

D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.

E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 SAMPLES

A. Samples: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Samples for Selection as Specified in Product Sections:
1. Submit to Engineer for aesthetic, color, and finish selection.
2. Submit Samples of finishes, textures, and patterns for Engineer selection.

C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.

D. Include identification on each Sample, with full Project information.

E. Submit number of Samples specified in individual Specification Sections; Engineer will retain one Sample.

F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.

G. Samples will not be used for testing purposes unless specifically stated in Specification Section.

H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.9 OTHER SUBMITTALS

A. Closeout Submittals: Comply with Section 01 70 00 - Execution and Closeout Requirements.

B. Informational Submittal: Submit data for Engineer's knowledge as Contract administrator or for Owner.

C. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.

B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

A. Informational Submittal: Submit certification when specified in individual specification sections from manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

A. Informational Submittal: Submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.

B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer in quantities specified for Product Data.

C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.

B. Submit report in duplicate within 5 days of observation to Engineer for information.

C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

D. Identify conflicts between manufacturer’s instructions and Contract Documents.

1.14 ERECTION DRAWINGS

A. Informational Submittal: Submit Drawings for Engineer's knowledge as Contract administrator or for Owner.

B. Submit Drawings for information assessing conformance with information given and design concept expressed in Contract Documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

1.15 CONTRACTOR REVIEW

A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer.

B. Contractor: Responsible for:
1. Determination and verification of materials including manufacturer's catalog numbers.
2. Determination and verification of field measurements and field construction criteria.
3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
4. Determination of accuracy and completeness of dimensions and quantities.
5. Confirmation and coordination of dimensions and field conditions at Site.
6. Construction means, techniques, sequences, and procedures.
7. Safety precautions.
8. Coordination and performance of Work of all trades.

C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.

D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.

1.16 ENGINEER REVIEW

A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner and Contractor.

B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.

C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.

D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order.

1.17 MDOT MIX DESIGNS

A. Transmit Mix design for HMA and Concrete to the Engineer.

B. Engineer will submit the mix design to the Engineer for their review.

C. The Engineer will review then submit back to the Contractor. Engineer's final approval shall be contingent on Engineer's review.

D. The Contractor shall revise and resubmit as required, identify all changes made since precious submittal.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control.

B. Tolerances.

C. References.

D. Field Samples.

E. Labeling.

F. Mock-Up Requirements

G. Testing and inspection services.

H. Bench marks and control elevations.

I. Manufacturers' field services.

1.2 QUALITY CONTROL

A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.

B. Comply fully with manufacturers’ instructions, including each step in sequence.

C. Should manufacturer’s instructions conflict with Contract Documents, requires clarification form Engineer before proceeding.

D. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work using persons qualified to produce required and specified quality.

F. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.

G. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

H. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.

C. Obtain copies of standards and maintain on Site when required by product Specification Sections.

D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 FIELD SAMPLES

A. Acceptable samples represent a quality level for the Work.

1.6 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this Section and identified in individual product Specification Sections.

B. Assemble and erect specified or indicated items with specified or indicated attachment and anchorage devices, flashings, seals and finishes.

C. Accepted mockups shall be comparison standard for remaining Work.

D. Where mockup has been accepted by Engineer and is specified in product Specification Sections to be removed, remove mockup and clear area when directed to do so by Engineer.

1.7 LABELING

A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.

B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
   1. Model number.
   2. Serial number.
   3. Performance characteristics.

C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.8 TESTING AND INSPECTION SERVICES

A. Owner will appoint, employ, and pay for services of Engineer to perform materials inspection and testing including compaction.

B. Then Engineer will perform inspections, tests, and other services specified in individual specification sections and as required.

C. Reports will be submitted by Engineer, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

D. Cooperate with the Engineer; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
   1. Notify General Contractor 2 working days prior to expected time for operations requiring services.
   2. Make arrangements with the Engineer and pay for additional samples and tests required for Contractor’s use.

E. Retesting required because of non-conformance to specified requirements shall be performed by the Engineer. Payment for testing will be charged to the Contractor by deducting inspection or testing charges from the Contract Sum/Price.

1.9 BENCHMARKS AND CONTROL ELEVATIONS

A. Elevations for proposed work shall be from bench marks established for this project.

B. Verify elevations of existing features against project benchmarks.

C. Notify Engineer of conflicts in elevations, which affect the proposed work.

1.10 MANUFACTURER'S FIELD SERVICES

A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment commissioning and as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer is subject to approval of Engineer.

C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Unit Price – Measurement and Payment.

B. Temporary Utilities:
   1. Temporary water service.
   2. Temporary driveways.

C. Construction Facilities:
   1. Vehicular access.
   2. Parking.
   3. Progress cleaning and waste removal.

D. Temporary Controls:
   1. Barriers.
   2. Enclosures and fencing.
   3. Security.
   4. Water control.
   5. Dust control.
   6. Erosion and sediment control.
   7. Noise control.
   8. Pollution control.

E. Removal of utilities, facilities, and controls.

F. Protection of Installed Work.

G. Protection of Existing.

H. Progress Cleaning.

I. Traffic Regulations:
   1. Traffic Control
   2. Haul routes
   3. Traffic signs and signals
   4. Removal

1.2 TEMPORARY WATER SERVICE

A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations.

1.3 TEMPORARY DRIVEWAY

A. Temporary driveways shall be constructed to provide safe, stable, and smooth access.

B. Driveways shall be finished and accepted by Owner before 100% completion of Work is accepted.

1.4 VEHICULAR ACCESS

A. Construct temporary access roads from public thoroughfares to serve construction area, of width and load-bearing capacity to accommodate unimpeded traffic for construction purposes.

B. Construct temporary bridges and culverts to span low areas and allow unimpeded drainage.

C. Extend and relocate vehicular access as Work progress requires and provide detours as necessary for unimpeded traffic flow.

D. Locate as approved by Architect/Engineer.

E. Provide unimpeded access for emergency vehicles. Maintain 20 foot wide driveways with turning space between and around combustible materials.

F. Provide and maintain access to fire hydrants and control valves free of obstructions.

G. Provide means of removing mud from vehicle wheels before entering streets.

H. Use designated existing on-Site roads for construction traffic.

1.5 PARKING

A. Arrange for temporary parking areas to accommodate construction personnel.

B. Locate as approved by Architect/Engineer.

C. If Site space is not adequate, provide additional off-Site parking.

D. Use of designated areas of existing on-Site streets and driveways used for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.

E. Use of designated areas of existing parking facilities used by construction personnel is permitted.

F. Do not allow heavy vehicles or construction equipment in parking areas.

G. Do not allow vehicle parking on existing pavement.

H. Permanent Pavements and Parking Facilities:
1. Before Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.
2. Avoid traffic loading beyond paving design capacity. Tracked vehicles are not allowed.
3. Use of permanent parking structures is permitted.

I. Maintenance:
1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, ice, and the like.

2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original condition.

J. Removal, Repair:
1. Remove temporary materials and construction at Substantial Completion.
2. Remove underground Work and compacted materials to depth of 2 feet fill and grade Site as indicated.
3. Repair existing and permanent facilities damaged by use, to original condition.

K. Mud from Site vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.6 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain Site in clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, before enclosing spaces.

C. Broom and vacuum clean interior areas before starting surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from Site and dispose of off-Site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.7 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way and for public access to existing building.
1. Barricade Construction: As indicated on Drawings.
2. Covered Walkway Construction: As indicated on Drawings.

C. Tree and Plant Protection: Preserve and protect existing trees and plants designated to remain.
1. Protect areas within drip lines from traffic, parking, storage, dumping, chemically injurious materials and liquids, ponding, and continuous running water.
2. Provide 6 foot-high barriers around drip line, with access for maintenance.
3. Replace trees and plants damaged by construction operations.

D. Protect non-owned vehicular traffic, stored materials, Site, and structures from damage.

E. Provide access to all adjacent buildings for use during construction.

1.8 ENCLOSURES AND FENCING

A. Construction: Commercial-grade chain-link fence.

B. Provide 6-foot-high fence around construction Site; equip with vehicular and pedestrian gates with locks.

C. Exterior Enclosures:
   1. Provide temporary insulated weathertight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual Specification Sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

D. Interior Enclosures:
   1. Provide temporary partitions and ceilings as indicated on Drawings to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
   2. Construction: Framing and plywood sheet materials with closed joints and sealed edges at intersections with existing surfaces.
      a. Insulated to R-19.
      b. STC rating of 35 according to ASTM E 90.
      c. Surface-Burning Characteristics: Maximum 200/450 flame-spread/smoke-developed index when tested according to ASTM E 84.
   3. Paint surfaces exposed to view from Owner-occupied areas.

1.9 SECURITY

A. Security Program:
   1. Protect Work on existing premises and Owner's operations from theft, vandalism, and unauthorized entry.
   2. Initiate program in coordination with Owner's existing security system at Project mobilization.
   3. Maintain program throughout construction period until directed by Architect/Engineer.

1.10 WATER CONTROL

A. Grade Site to drain. Maintain excavations free of water. Provide, operate, and maintain necessary pumping equipment.

B. Protect Site from puddles or running water. Provide water barriers as required to protect Site from soil erosion.

C. Trenches shall be dewatered to provide a stable base for structures and piping.

1.11 DUST CONTROL

A. Execute Work by methods that minimize raising dust from construction operations.

B. Provide positive means to prevent airborne dust from dispersing into atmosphere and into Owner-occupied areas.

1.12 EROSION AND SEDIMENT CONTROL

A. As specified in 31 25 00.

1.13 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by construction operations.

1.14 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances and pollutants produced by construction operations.

B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials before Substantial Completion inspection.

B. Remove underground installations to minimum depth of 4 feet. Grade Site as indicated on Drawings.

C. Clean and repair damage caused by installation or use of temporary Work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

E. A sufficient sum of money to remove and replace or repair any utilities damaged or relocated during the construction of the project shall be included in total contract amount.

1.16 PROTECTION OF INSTALLED WORK

A. Protect installed work and provide special protection where specified in individual specification Sections.

B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

C. Prohibit traffic from landscaped areas.

1.17 PROTECTION OF EXISTING

A. CALL “MISS DIG” 811 or (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO CONSTRUCTION.

B. Obtain a copy of Positive Response. Contact Miss Dig for additional assistance if there are any utilities not marked or cleared through the Positive Response System.

C. Contact Miss Dig for additional assistance if there is a discrepancy in the field from the Positive Response System.

D. Contact Miss Dig for additional assistance if utility is not found within the applicable “approximate locations” marked in the field.

E. Protect landscaped areas. Damaged areas shall be replaced in kind.

F. Protect utilities encountered during the work. Replace or repair damaged utilities.

G. Protect drives, roadways, and sidewalks. Repair as required in following sections.

H. Protect mailboxes. Relocate temporarily until mailboxes can be returned to original location. All mail boxes and posts must be returned to their original condition or better at no additional cost to the project.

I. Protect trees, shrubs, and bushes:
   1. Where trees, shrubs, and bushes are too large to be replaced in kind, the proposed utility shall be installed in a boring or tunneling operation unless written consent is given by the property owner for removal. Owner and Engineer shall each be given one copy of consent letters.
   2. Where requested by the Property Owner, timber from removed trees shall be cut into 6 foot lengths and stockpiled along the work or as specified in the consent letter.
   3. Proper disposal of removed trees or sections of removed trees not wanted by the property owner shall become the responsibility of the Contractor.
   4. Trees, shrubs, and bushes that are removed and replaced shall be transplanted by an established nursery.

J. Utilities must remain in service. If it becomes necessary to interrupt a utility service, the utility authority must be notified immediately and steps taken to restore temporary or permanent service as soon as possible.

K. Maintain outlets for drains. Provide temporary pumping if necessary.

L. Expose utility mains and services by hand in the trench.

M. Where utility and drainage piping crosses the trench, support he piping according to the utility authority’s standards and backfill to the top with compacted sand.

1.18 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Clean road surface daily to the Owner's and/or Engineer's satisfaction.

C. Complete leveling, remove excess material and debris and restore drainage not more than 1000 feet behind construction.

D. A sufficient sum of money to remove and replace or repair any utilities damaged or relocated during the construction of the project shall be included in total contract amount.

1.19 TRAFFIC REGULATION

A. See MDOT Special Provisions for Maintaining Traffic.

B. Haul Routes:
   1. Consult with authorities having jurisdiction and establish public thoroughfares to be used for haul routes and Site access.
   2. Confine construction traffic to designated haul routes.
   3. Provide traffic control at critical areas of haul routes to regulate traffic and to minimize interference with public traffic.

C. Traffic Signs and Signals:
   1. Provide signs at approaches to Site and on Site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
   2. Provide, operate, and maintain automatic traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control and areas affected by Contractor's operations.
   3. Relocate signs and signals as Work progresses, to maintain effective traffic control.
   4. At approaches to site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
   5. All temporary signs used on this project shall be fabricated utilizing prismatic retro-reflective sheeting.
   6. All diamond shaped warning signs shall be 48”x48”. All temporary signs shall be mounted at a minimum seven-foot bottom height. All temporary signs used for detour, except those at Type III Barricades, shall be installed on temporary sign supports shall conform to MDOT special detail WZD-125-E.
   7. Temporary signs which are to remain in place for fourteen (14) days or more shall be installed on driven posts as directed by the Engineer. All other temporary signs (excluding detour signs) may be installed on portable supports. See WZD-100-A, and WZD-125E for means and methods of sign support.

D. Removal:
   1. Remove equipment and devices when no longer required.
   2. Repair damage caused by installation.
   3. Remove post settings to depth of two feet (2’).

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

1.2 PRODUCTS

A. At minimum, comply with specified requirements and reference standards.

B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.

C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.

D. Domestic Products: Except where specified otherwise, domestic products are required and interpreted to mean products mined, manufactured, fabricated, or produced in United States or its territories.

E. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.

F. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Comply with delivery requirements in Section 01 74 19 - Construction Waste Management and Disposal.

B. Transport and handle products according to manufacturer's instructions.

C. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

D. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products according to manufacturer's instructions.

B. Store products with seals and labels intact and legible.

C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.

D. For exterior storage of fabricated products, place products on sloped supports aboveground.

E. Provide off-Site storage and protection when Site does not permit on-Site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 - Substitution Procedures.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Field engineering.

B. Closeout procedures.

C. Final Cleaning.

D. Project record documents.

E. Product warranties and product bonds.

F. Maintenance service

G. Warranties

H. Progress Payments.

I. Examination.

J. Preparation.

K. Execution.

L. Cutting and patching.

M. Protecting installed construction.

1.2 FIELD ENGINEERING

A. Owner will locate and Contractor shall protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.

B. Control datum for survey is established by Owner-provided survey indicated on Drawings.

C. Prior to beginning Work, verify and establish floor elevations of existing facilities to ensure that new Work will meet existing elevations in smooth and level alignment except where specifically detailed or indicated otherwise.

D. Verify setbacks and easements; confirm Drawing dimensions and elevations.

E. Field engineering services provided by Engineer includes: Establish elevations, lines, and levels using recognized engineering survey practices.

F. Maintain complete and accurate log of control and survey Work as Work progresses.

G. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.

H. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.

I. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

1.3 CLOSEOUT PROCEDURES

A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
   1. Submit maintenance manuals, Project record documents, digital images of construction photographs**,** and other similar final record data in compliance with this Section.
   2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified in compliance with this Section.
   3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
   4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
   5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
   6. Make final change-over of locks eliminating construction master-key system and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
   7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
   8. Perform final cleaning according to this Section.

B. Substantial Completion Inspection:
   1. When Contractor considers Work to be substantially complete, submit to Engineer
      a. Written certificate that Work, or designated portion, is substantially complete.
      b. List of items to be completed or corrected (initial punch list).
   2. Within seven days after receipt of request for Substantial Completion, Engineer will make inspection to determine whether Work or designated portion is substantially complete.
   3. Should Engineer determine that Work is not substantially complete:
      a. Engineer will promptly notify Contractor in writing, stating reasons for its opinion.
      b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Engineer.
      c. Engineer will reinspect Work.
      d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer's inspection.
   4. When Engineer finds that Work is substantially complete, Engineer will:

a. Prepare Certificate of Substantial Completion on AIA G704 - Certificate of Substantial Completion or EJCDC C-625 - Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified and amended by Engineer and Owner (final punch list).
b. Submit Certificate to Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.

5. After Work is substantially complete, Contractor shall:
   a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.
   b. Complete Work listed for completion or correction within time period stipulated.
6. Owner will occupy portions of building as specified in Section 01 10 00 - Summary.

C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.
   1. When Contractor considers Work to be complete, submit written certification that:
      a. Contract Documents have been reviewed.
      b. Work has been examined for compliance with Contract Documents.
      c. Work has been completed according to Contract Documents.
      d. Work is completed and ready for final inspection.
   2. Submittals: Submit following:
      a. Final punch list indicating all items have been completed or corrected.
      b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
      c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
      d. Accounting statement for final changes to Contract Sum.
      e. Contractor's affidavit of payment of debts and claims.
      f. Contractor affidavit of release of liens on AIA G706A - Contractor's Affidavit of Release of Liens.
      g. Consent of surety to final payment.
   3. Perform final cleaning for Contractor-soiled areas according to this Section.

D. Final Completion Inspection:
   1. Within seven days after receipt of request for final inspection, Engineer will make inspection to determine whether Work or designated portion is complete.
   2. Should Engineer consider Work to be incomplete or defective:
      a. Engineer will promptly notify Contractor in writing, listing incomplete or defective Work.
      b. Contractor shall remedy stated deficiencies and send second written request to Engineer that Work is complete.
      c. Engineer will reinspect Work.
      d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer's inspection.

1.4 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Remove sediment from storm sewers, and catch basins.

C. Clean site; sweep paved areas, rake clean landscaped surfaces.

D. Remove waste and surplus materials, rubbish, and construction facilities from the site.

E. Landscape areas as required in documents.

F. Restore roads, driveways, parking areas, lawns, drainage, and other items disturbed during construction to original condition or as required by the documents.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed Shop Drawings, product data, and Samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates used.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
   1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
   2. Include locations of concealed elements of the Work.
   3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
   4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
   5. Identify and locate existing buried or concealed items encountered during Project.
   6. Measured depths of foundations in relation to finish first floor datum.
   7. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   9. Field changes of dimension and detail.

10. Details not on original Drawings.

G. Submit marked-up paper copy documents to Engineer before Substantial Completion.

1.6 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible Subcontractors, suppliers, and manufacturers within ten days after completion of applicable item of Work.

B. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include table of contents and assemble in three D side ring binder with durable plastic cover.

F. Submit prior to final Application for Payment.

G. Time of Submittals:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
2. Make other submittals within ten days after date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.7 MAINTENANCE SERVICE

A. Furnish service and maintenance of components indicated in Specification Sections for 1 year from date of Substantial Completion.

B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.

D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

1.8 WARRANTIES

A. Execute and assemble documents from Sub-contractors, suppliers, and manufacturers.

B. Provide Table of Contents and assemble in three D size ring three ring binder with durable plastic cloth cover.

C. Submit prior to final Application for Payment.

D. Warranty all work for a period of one year from the date of the final progress payment.

1.9 PROGRESS PAYMENTS

A. The Owner may request from the Contractor waivers for proof of payment to all sub-contractors and suppliers utilized on this project prior to issuing payments.

B. The Owner may request from the Contractor a Sworn Statement listing all sub-contractors and suppliers, their involvement with the project, their subcontracted amount, amount paid to date, and balance due prior to issuing payment.

C. Failure to provide this information may result in not receiving payments or payments not being issued in a timely manner.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual Specification Sections.

D. Verify that utility services are available with correct characteristics and in correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 EXECUTION

A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
   1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
   2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
   3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Engineer for final decision.

E. Allow for expansion of materials and building movement.

F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
   1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
   2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.

G. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.
   1. Refer questionable mounting heights choices to Engineer for final decision.
   2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.

H. Adjust operating products and equipment to ensure smooth and unhindered operation.

I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.4 CUTTING AND PATCHING

A. Employ skilled and experienced installers to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements affecting:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight-exposed elements.
   5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill to complete Work and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and nonconforming Work.

4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products according to requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

J. Identify hazardous substances or conditions exposed during the Work to Engineer for decision or remedy.

3.5 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual Specification Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

3.6 FINAL CLEANING

A. Execute final cleaning prior to final Project assessment.
   1. Employ experienced personnel or professional cleaning firm.

B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces; and vacuum carpeted and soft surfaces.

C. Clean equipment and fixtures to sanitary condition with appropriate cleaning materials.

D. Replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean Site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from Site.

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Reinforcing bars.
2. Welded wire fabric.
3. Reinforcement accessories.

B. Related Requirements:
1. Section 03 10 00 - Concrete Forming and Accessories: Form materials, waterstops, and accessories required to form cast-in-place concrete.

1.2 REFERENCE STANDARDS

A. American Concrete Institute:
1. ACI 301 - Specifications for Structural Concrete.

B. American Welding Society:
1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.ASTM International:
2. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.ASTM A706 - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.ASTM A775 - Standard Specification for Epoxy-Coated Steel Reinforcing Bars.ASTM A934 - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.Concrete Reinforcing Steel Institute:
3. CRSI 10-MSP - Manual of Standard Practice.
4. CRSI 10PLACE - Placing Reinforcing Bars.

1.3 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work of this Section with placement of formwork, formed openings, and other Work.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Certify products meet or exceed specified requirements for MDOT Standard Specifications for Construction, current edition.

1.5 QUALITY ASSURANCE

A. Perform Work according to MDOT Standard Specifications for Construction, current edition.

B. Prepare Shop Drawings according to ACI SP-66.

C. Maintain one copy of each standard affecting Work of this Section on Site.

1.6 QUALIFICATIONS

A. Welders: AWS qualified within previous 12 months for employed weld types.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Store materials according to manufacturer instructions.

D. Protection:
   1. Protect materials from moisture by storing in clean, dry location remote from construction operations areas.
   2. Provide additional protection according to manufacturer instructions.

1.8 EXISTING CONDITIONS

A. Field Measurements:
   1. Verify field measurements prior to fabrication.
   2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 REINFORCEMENT

A. Reinforcing Steel:
   1. Comply with ASTM A615.
   2. Yield Strength: In accordance to the requirements of MDOT Standard Specifications for Construction, current edition.
   3. Billet Bars: In accordance to the requirements of MDOT Standard Specifications for Construction, current edition
   4. Finish: In accordance to the requirements of MDOT Standard Specifications for Construction, current edition
   5. All reinforcing steel bars and mesh shall comply with American Iron and Steel requirements.

B. Deformed and Plain Reinforcement:
   1. Material: Steel bars.

2. Comply with ASTM A706.
3. Yield Strength: In accordance to the requirements of MDOT Standard Specifications for Construction, current edition
4. Finish: In accordance to the requirements of MDOT Standard Specifications for Construction, current edition

2.2 FABRICATION

A. Fabricate concrete reinforcement according to MDOT Standard Specifications for Construction, current edition.

B. Form standard hooks according to MDOT Standard Specifications for Construction, current edition.

C. Form reinforcement bends with minimum diameters according to MDOT Standard Specifications for Construction, current edition.

D. Fabricate column reinforcement with offset bends at reinforcement splices.

E. Form spiral column reinforcement from minimum 3/8-inch-diameter continuous deformed bar or wire.

F. Form ties and stirrups from following:
1. Bars No. 10 and Smaller: In accordance to MDOT Standard Specifications for Construction, current edition.
2. Bars No. 11 (36) and Larger: In accordance to MDOT Standard Specifications for Construction, current edition.
3. Weld reinforcement: In accordance to MDOT Standard Specifications for Construction, current edition.

G. Reinforcement: Clean surfaces, weld, and re-protect welded joint according to MDOT Standard Specifications for Construction, current edition.

H. Splicing:
1. If not indicated on Drawings, locate reinforcement splices at point of minimum stress.

2.3 SHOP FINISHING

A. Epoxy-Coated Finish for Steel Bars: Comply with ASTM A775 A934 and MDOT Standard Specifications for Construction, current edition.

2.4 ACCESSORY MATERIALS

A. Tie Wire: In accordance to MDOT Standard Specifications for Construction, current edition.

B. Chairs, Bolsters, Bar Supports, and Spacers:
1. Size and Shape: To strengthen and support reinforcement during concrete placement conditions.

C. Special Chairs, Bolsters, Bar Supports, and Spacers Adjacent to Weather-Exposed Concrete Surfaces:
   1. Material: In accordance to MDOT Standard Specifications for Construction, current edition.
   2. Size and Shape: To meet Project conditions.

D. Reinforcing Splicing Devices:
   1. Type: Exothermic welding type; In accordance to MDOT Standard Specifications for Construction, current edition.

E. Epoxy Coating Patching Material: Type as recommended by coating manufacturer.

2.5 SOURCE QUALITY CONTROL

A. Provide shop inspection and testing of completed assembly.

B. Section 01 40 00 - Quality Requirements: Requirements for testing, inspection, and analysis.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Place, support, and secure reinforcement against displacement.

B. Do not deviate from required position beyond specified tolerance.

C. Do not weld crossing reinforcement bars for assembly engineer.

D. Do not displace or damage vapor retarder.

E. Accommodate placement of formed openings.

F. Spacing:
   1. Space reinforcement bars with minimum clear spacing in accordance with MDOT Standard Specifications for Construction, current edition.
   2. If bars are indicated in multiple layers, place upper bars directly above lower bars.

G. Maintain concrete cover around reinforcement according to MDOT Standard Specifications for Construction, current edition

3.2 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Requirements for tolerances.

B. Install reinforcement in accordance with MDOT Standard Specifications for Construction, current edition.

C. Foundation Walls: In accordance with MDOT Standard Specifications for Construction, current edition.

3.3 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.

END OF SECTION

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete for the following:
   1. Slabs on grade.
   2. Equipment pads.
   3. Thrust blocks.
   4. Manholes.

B. Related Sections:
   1. Section 03 10 00 - Concrete Forming and Accessories:

1.2 REFERENCES

A. American Concrete Institute:
   1. ACI 301 - Specifications for Structural Concrete.
   2. ACI 305 - Hot Weather Concreting.
   3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
   4. ACI 308.1 - Standard Specification for Curing Concrete.
   5. ACI 318 - Building Code Requirements for Structural Concrete.

B. ASTM International:
   1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   2. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
   3. ASTM C33 - Standard Specification for Concrete Aggregates.
   4. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   5. ASTM C42/C42M - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
   6. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
   7. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
   8. ASTM C150 - Standard Specification for Portland Cement.
   9. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
   10. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
   11. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
   12. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
   13. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
   14. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
   15. ASTM C595 - Standard Specification for Blended Hydraulic Cements.

16. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
17. ASTM C685/C685M - Standard Specification for Concrete Made By Volumetric Batching and Continuous Mixing.
18. ASTM C845 - Standard Specification for Expansive Hydraulic Cement.
19. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
20. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
21. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
22. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
23. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
24. ASTM C1157 - Standard Performance Specification for Hydraulic Cement.
25. ASTM C1218/C1218M - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
26. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures.
27. ASTM D994 - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
28. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
29. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
30. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
31. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
32. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
33. ASTM E1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.
34. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

C. Michigan Department of Transportation:
   1. 2020 Standard Specifications for Construction.

1.3 REGULATORY REQUIREMENTS

A. Perform construction within public road right-of-way to meet the requirements of the authority having jurisdiction.

B. Obtain construction permits as required by the authority having jurisdiction over the Work in the public right-of-way. Notify the authority 48 hours prior to working within the road right-of-way.

C. Maintain traffic control as required by the authority having jurisdiction.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Design Data:
   1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
      a. Hot and cold weather concrete work.
      b. Air entrained concrete work.
   2. Identify mix ingredients and proportions, including admixtures.
   3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.

1.5 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 301.

B. Conform to ACI 305 when concreting during hot weather.

C. Conform to ACI 306.1 when concreting during cold weather.

D. Acquire cement and aggregate from one source for Work.

E. Perform Work in accordance with State of Michigan Department of Transportation Standard Specifications for Construction.

F. Maintain one copy of each document on site.

1.7 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents: Accurately record actual locations of embedded utilities and components concealed from view in finished construction.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.

B. Maintain concrete temperature after installation at minimum 50 degrees F for minimum 7 days.

C. Maintain high early strength concrete temperature after installation at minimum 50 degrees F for minimum 3 days.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

A. Cement: ASTM C150, Type IA - Air Entraining Portland type; manufactured by.

B. Expansive Hydraulic Cement: ASTM C845.

C. Coarse Aggregates: ASTM C33.
   1. In accordance with MDOT 6AA.

D. Fine Aggregate: ASTM C33.
   1. In accordance with MDOT 2NS.

E. Water: ACI 318; potable, without deleterious amounts of chloride ions.

2.2 ADMIXTURES

A. Furnish materials according to State of Michigan Department of Transportation standard specification for construction.

B. Air Entrainment: ASTM C260.

C. Chemical: ASTM C494/C494M.
   1. Type A - Water Reducing.
   2. Type B - Retarding.
   3. Type C - Accelerating.
   4. Type F - Water Reducing, High Range.

D. Fly Ash: ASTM C618 Class C.

E. Plasticizing: ASTM C1017/C1017M Type I, plasticizing.

2.3 ACCESSORIES

A. Bonding Agent: Two component modified epoxy resin.
   1. Manufacturers:
      a. Sikadur 32, Hi-Mod LV manufactured by Sika Corp; concessive 1001 LPL, 3007.
      b. Substitutions: Or equal manufactured by structural bonding company.

B. Non-Shrink Grout: ASTM C1107/C1107M; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days.
   1. Manufacturers:
      a. Five Star Grout as manufactured by U.S. Grout Company.
      b. Or equal.

C. Epoxy Adhesive: Two components epoxy resin adhesive; Sikadur 35, Hi-Mod LV manufactured by Sika Corporation, Glendale Hts., IL 708-924-7900.

D. Adhesive Anchors: Hilti HVA adhesive anchoring system. Hilti adhesive anchors shall be comprised on an HEA capsule with an ASTM A193, Grade B & HAS stainless steel rod assembly with stainless steel ASTM F594 nuts and ANSI B 18.221 (1965), Type A, plain washers under the turned element. Install per manufacturer's specifications.

2.4 JOINT DEVICES AND FILLER MATERIALS

A. Joint Filler Type A: ASTM D1751; Asphalt impregnated fiberboard or felt, 1/4 to 1 inch thick; tongue and groove profile; manufactured by A.C.D. International or equal.

B. Construction Joint Devices: ANSI/ASTM D1751 type; 1/4 inch to 1 inch thick, manufactured by A.C.D. International or equal.

C. Expansion and Contraction Joint Devices: Supply materials in accordance with MDOT 2020 standard specifications for construction.

D. Sealant: ASTM D6690, Type I; Son-No-Mar, manufactured by Sonneborn Building Products or equal.

2.5 CONCRETE MIX

A. Select proportions for normal weight concrete in accordance with ACI 301 Method 2.

B. Select proportions for concrete in accordance with ACI 318 without trial mixtures or field experience when approved by Engineer.

C. Provide concrete to the following criteria:

Concrete Grade: MDOT P1/S2

Material and Property	Measurement
Flexural Strength (7 day)	550 psi
Flexural Strength (28 day)	650 psi
Compressive Strength (7 day)	2,600 psi
Compressive Strength (28 day)	3,500 psi
Cement Type	Type A or IA
Cement Content (minimum)	6.0 sacks
Coarse Aggregate Type	6AA
Coarse Aggregate	72 percent by bulk volume (Dry, loose)
Fine Aggregate	2NS
Air Content	6.5 percent plus or minus 1.5 percent
Slump	4 inches plus or minus 1 inch

D. Admixtures: Include admixture types and quantities indicated in concrete mix designs only when approved by Engineer.
   1. Use accelerating admixtures in cold weather. Use of admixtures will not relax cold weather placement requirements.
   2. Do not use calcium chloride nor admixtures containing calcium chloride.
   3. Use set retarding admixtures during hot weather.
   4. Add air entrainment admixture to concrete mix for work exposed to freezing and thawing.
   5. For concrete exposed to deicing chemicals, limit fly ash, pozzolans, silica fume, and slag content as required by applicable ACI code.

E. Average Compressive Strength Reduction: Permitted in accordance with ACI 318.

F. Ready Mixed Concrete: Mix and deliver concrete in accordance with ASTM C94/C94M.

G. Site Mixed Concrete: Mix concrete in accordance with ACI 318.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify requirements for concrete cover over reinforcement.

C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Remove laitance, coatings, and unsound materials.

B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

C. Remove debris and ice from formwork, reinforcement, and concrete substrates.

D. Remove water from areas receiving concrete before concrete is placed.

3.3 PLACING CONCRETE

A. Place concrete in accordance with ACI 301 and MDOT Standard Specifications for Construction.

B. Notify testing laboratory and Engineer minimum 24 hours prior to commencement of operations.

C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.

D. Deposit concrete at final position. Prevent segregation of mix.

E. Place concrete in continuous operation for each panel or section determined by predetermined joints.

F. Consolidate concrete after placing by means of mechanical vibrators or other suitable tools approved by the Engineer.

G. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

H. Place concrete continuously between predetermined expansion, control, and construction joints.

I. Do not interrupt successive placement; do not permit cold joints to occur.

J. Saw cut joints within 24 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.

K. Concrete transported in a truck mixer, agitator or other transportation device shall be discharged at the job within 1 1/2 hours after the cement has been added to the water or aggregates.

L. When hand mixing is authorized, it shall be done on a watertight platform and in such a manner as to ensure a uniform distribution of the materials throughout the mass. Mixing shall continue until a homogeneous mixture of the required consistency is obtained.

M. Retempering of partially hardened concrete or mortar will not be permitted.

3.4 CONCRETE FINISHING

A. Formed Surfaces:
   1. As a minimum of formed surfaces shall receive a plain finish and rubbed finish.
   2. Plain Finish: Immediately after removal of forms, all fins and loose material shall be removed and all holes, voids, aggregate pockets and depressions shall be cut out to solid concrete. All such defective areas shall be cleaned and wetted thoroughly and immediately be brushed and net cement and filled with Portland Cement grout finished, flush with the adjacent surfaces. Patch work shall be damp cured for a period of 48 hours and, when exposed, it shall be finished to match adjacent surfaces.
   3. Rubbed Finish: All form marks and other such irregularities shall be removed by rubbing the surface with a Carborundum stone and water as soon as practical after form removal.
   4. Bagged Finish: All formed surfaces which are not earth backfilled shall receive a bagged finish. All air and water voids shall be finished flush with the wall surface. The wall shall first be moistened with water. Portland cement grout matching the color of the base concrete shall be worked into the voids using burlap or sponge rubber finishing pads.

B. Unformed Surface Finishes
   1. Troweled Finish: After a floated finish, provide a smooth surface, free of defects with a steel trowel. Follow the first troweling with a second troweling after the concrete has hardened sufficiently to produce a ringing sound as the towel is moved over the surface. The

finish surface shall be essentially free of trowel marks, uniform in texture and appearance and shall be plane to 1/8” in 10 ft. tolerance.

2. Broomed Finish: After receiving the floated and troweled finishes, apply a broomed finish with a fiber-bristle brush in a direction transverse to the line of traffic.
3. Floated Finish: Place, consolidate, strike off and level concrete. After the concrete has stiffened sufficiently, floating shall begin using a hard float, power trowel and float shoes or powered disc float. Cut down high spots and fill low spots to 1/4” in 10 ft. tolerance. Float to a uniform sandy texture.
4. Scratched Finish: After the concrete has been placed consolidated, struck off and leveled to a 1/4” in 2 ft. tolerance, roughen with stiff brushes or rakes before the final set.

C. Finish concrete floor surface in accordance with ACI 301.

D. Provide a troweled finish for base slabs.

E. Provide a floated finish for slabs as directed by the Engineer.

F. Provide a broom finish for exterior slabs, sidewalks, pavements and where directed by the Engineer.

G. Provide a scratched finish where concrete is specified to receive a subsequent concrete topping.

H. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at one inch per 10 feet unless otherwise indicated on drawings.

I. Maximum variation of surface flatness for exposed concrete floors 1/8 inch in 10 feet.

3.5 CURING AND PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Cure concrete in accordance with MDOT Standard Specification for Construction.

D. Membrane Curing Compound: Apply curing compound in accordance with manufacturer’s instructions. Curing compound shall not contain any ingredients which might stain or otherwise injure the concrete or prevent a good bond for subsequent coatings or finishing’s.

3.6 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Field inspection and testing will be performed by Owner’s testing laboratory in accordance with MDOT Standard Specification for Construction.

C. Provide free access to Work and cooperate with appointed firm.

D. Submit proposed mix design of each class of concrete to Engineer for review prior to commencement of Work.

E. Concrete Inspections:
   1. Continuous Placement Inspection: Inspect for proper installation procedures.
   2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.

F. Strength Test Samples:
   1. Sampling Procedures: ASTM C172.
   2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
   3. Sample concrete and make one set of three cylinders for every 75 cu yds or less of each class of concrete placed each day and for every 5,000 sf of surface area for slabs and walls.
   4. When volume of concrete for any class of concrete would provide less than 5 sets of cylinders, take samples from five randomly selected batches, or from every batch when less than 5 batches are used.
   5. Make one additional cylinder during cold weather concreting, and field cure.

G. Field Testing:
   1. Slump Test Method: ASTM C143/C143M.
   2. Air Content Test Method: ASTM C231.
   3. Temperature Test Method: ASTM C1064/C1064M.
   4. Measure slump and temperature for each compressive strength concrete sample.
   5. Measure air content in air entrained concrete for each compressive strength concrete sample.

H. Cylinder Compressive Strength Testing:
   1. Test Method: ASTM C39/C39M.
   2. Test Acceptance: In accordance with MDOT Standard Specification for Construction.
   3. Test one cylinder at 7 days.
   4. Test two cylinders at 28 days.
   5. Dispose remaining cylinders when testing is not required.

I. Core Compressive Strength Testing:
   1. Sampling and Testing Procedures: ASTM C42/C42M.
   2. Test Acceptance: In accordance with MDOT Standard Specification for Construction.
   3. Drill three cores for each failed strength test from concrete represented by failed strength test.

J. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.

3.7 PATCHING

A. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.

B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.

C. Patch imperfections as directed by Engineer in accordance with MDOT Standard Specification for Construction.

3.8 PROTECTION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Immediately after placement, protect concrete from mechanical injury for 3 days.

3.9 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by Engineer.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

END OF SECTION

SECTION 03 60 00
GROUTING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Portland cement grout.
   2. Rapid curing epoxy grout.
   3. Non-shrink cementitious grout.

B. Related Sections:
   1. Section 03 30 00 - Cast-In-Place Concrete.

1.2 REFERENCES

A. American Concrete Institute:
   1. ACI 301 - Specifications for Structural Concrete.
   2. ACI 318 - Building Code Requirements for Structural Concrete.

B. American Society of Testing and Materials:
   1. ASTM C33 - Standard Specification for Concrete Aggregates.
   2. ASTM C40 - Test Method for Organic Impurities in Fine Aggregates for Concrete.
   3. ASTM C150 - Standard Specification for Portland Cement.
   4. ASTM C191 - Test Method for Time of Setting of Hydraulic Cement by Vicat Needle.
   5. ASTM C307 - Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacings.
   6. ASTM C531 - Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.
   7. ASTM C579 - Test Method for Compressive Strength of Chemical-Resistant Mortars, Grouts, monolithic Surfacings and Polymer Concretes.
   8. ASTM C827 - Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures.

C. MDOT
   1. Standard Specification for Construction.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit product data on grout and bonding agent.

C. Manufacturer's Installation Instructions: Submit manufacturer’s instructions for mixing, handling, surface preparation and placing epoxy type and non-shrink type grouts.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with MDOT Standard Specification for Construction.

B. Maintain one copy of each document on site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Deliver grout in manufacturer's unopened containers with proper labels intact.

C. Store grout in a dry shelter, protect from moisture.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.

B. Do not perform grouting if temperatures exceed 90 degrees F.

C. Maintain minimum temperature of 40 degrees F before, during, and after grouting, until grout has set.

PART 2 PRODUCTS

2.1 PORTLAND CEMENT GROUT MATERIALS

A. Portland Cement: ASTM C150, Type I and II.

B. Water:
   1. Potable; containing no impurities, suspended particles, algae or dissolved natural salts in quantities capable of causing:
      a. Corrosion of steel.
      b. Volume change increasing shrinkage cracking.
      c. Efflorescence.
      d. Excess air entraining.

C. Fine Aggregate:
   1. Washed natural sand.
   2. Gradation in accordance with ASTM C33 and represented by smooth granulometric curve within required limits.
   3. Free from injurious amounts of organic impurities as determined by ASTM C40.

D. Mix:
   1. Portland cement, sand and water. Do not use ferrous aggregate or staining ingredients in grout mixes.

2.2 RAPID CURING EPOXY GROUT

A. Manufacturers:
   1. BASF MasterEmaco T 1060 Rapid Cement.
   2. Or equal.

B. Furnish materials in accordance with State of Michigan Department of Transportation Standard Specification for Construction.

C. Rapid Curing Epoxy Grout: High strength, three component epoxy grout formulated with thermosetting resins and inert fillers. Rapid-curing, high adhesion, and resistant to ordinary chemicals, acids and alkalies.

Property	Test	Result
Tensile Strength	ASTM C307	2,000 psi minimum
Coefficient of Expansion	ASTM C531	$30x10^{-6}$ in per degree F
Shrinkage	ASTM C827	None

2.3 NON-SHRINK CEMENTITIOUS GROUT

A. Furnish materials in accordance with MDOT Standard Specification for Construction.

B. Non-shrink Cementitious Grout: Pre-mixed ready for use formulation requiring only addition of water; non-shrink, non-corrosive, non-metallic, non-gas forming, no chlorides.

C. Properties: Certified to maintain initial placement volume or expand after set and meet the following minimum properties when tested in accordance with CRD-C621, for Type D non-shrink grout:

Property	Test	Time	Result
Setting Time	ASTM C191	Initial	2 hours (Approx)
		Final	3 hours (Approx)
Expansion			0.10% - 0.4% Maximum

2.4 FORMWORK

A. Refer to Section 03 10 00 for formwork requirements.

2.5 CURING

A. Prevent rapid loss of water from grout during first 48 hours by use of approved membrane curing compound or with use of wet burlap method.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify areas to receive grout.

3.2 PREPARATION

A. Remove defective concrete, laitance, dirt, oil, grease and other foreign material from concrete surfaces by brushing, hammering, chipping or other similar means until sound, clean concrete surface is achieved.

B. Rough concrete lightly, but not enough to interfere with placement of grout.

C. Remove foreign materials from metal surfaces in contact with grout.

D. Align, level and maintain final positioning of components to be grouted.

E. Saturate concrete surfaces with clean water; remove excess water, leave none standing.

3.3 INSTALLATION - FORMWORK

A. Construct leakproof forms anchored and shored to withstand grout pressures.

B. Install formwork with clearances to permit proper placement of grout.

3.4 MIXING

A. Portland Cement Grout:
   1. Use proportions of 2 parts sand and 1 part cement, measured by volume.
   2. Prepare grout with water to obtain consistency to permit placing and packing.
   3. Mix water and grout in two steps; pre-mix using approximately 2/3 of water; after partial mixing, add remaining water to bring mix to desired placement consistency and continue mixing 2 to 3 minutes.
   4. Mix only quantities of grout capable of being placed within 30 minutes after mixing.
   5. Do not add additional water after grout has been mixed.

B. Mix and prepare rapid curing epoxy grout in accordance with manufacturer's instructions.

C. Mix and prepare non-shrink cementitious grout in accordance with manufacturer's instructions.

D. Mix grout components in proximity to work area and transport mixture quickly and in manner not permitting segregation of materials.

3.5 PLACING GROUT

A. Place grout material quickly and continuously.

B. Do not use pneumatic-pressure or dry-packing methods.

C. Apply grout from one side only to avoid entrapping air.

D. Do not vibrate placed grout mixture, or permit placement when area is being vibrated by nearby equipment.

E. Thoroughly compact final installation and eliminate air pockets.

F. Do not remove leveling shims for at least 48 hours after grout has been placed.

3.6 CURING

A. Immediately after placement, protect grout from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. After grout has attained its initial set, keep damp for minimum of 3 days.

3.7 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Field inspection and testing will be performed in accordance with MDOT Standard Specification for Construction with and under provisions of Section 01 40 00 - Quality Requirements.

C. Submit proposed mix design of each class of grout to the Engineer for review prior to commencement of Work.

D. Tests of grout components may be performed to ensure conformance with specified requirements.

E. Grout shall have a minimum compressive strength of 3,000 psi in 28 days.

END OF SECTION

SECTION 31 05 13

SOILS FOR EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Subsoil materials.
   2. Topsoil materials.

B. Related Sections:
   1. Section 31 05 16 - Aggregates for Earthwork.
   2. Section 31 22 13 - Rough Grading.
   3. Section 31 23 17 - Trenching.
   4. Section 31 23 23 - Fill.
   5. Section 32 91 19 - Landscape Grading.
   6. Section 32 92 19 - Seeding and Soil Supplements.
   7. Section 31 25 00 - Erosion and Sedimentation Controls

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
   1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
   1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
   2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
   3. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Samples: May be requested for submittal by the Engineer for testing. Submit, in air-tight containers, 10 lb. sample of each type of fill to testing laboratory.

C. Materials Source: Submit name of imported materials source.

D. Manufacturer's Certificate: Certify soils meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Furnish each subsoil and topsoil material from single source throughout the Work. A second source maybe requested for approval by the Engineer.

B. Perform Work in accordance with MDOT Standard Specifications for Construction, current edition.

PART 2 - PRODUCTS

2.1 MATERIALS

A. MDOT Class II granular material – for dry excavation, compacted to 95 percent of maximum density.

B. Acceptable Native Subsoil: Reused, free of gravel larger than 3 inch size, and debris, compacted to 95 percent of maximum density.

C. Topsoil: Material conforming to MDOT Standard Specifications for Construction.

D. Native Topsoil:
   1. Graded.
   2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
      a. Screening: Double screened.

2.2 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing and Inspection Services Testing and analysis of soil material.

B. Testing and Analysis of Subsoil Material: Perform in accordance with AASHTO T180.

C. Testing and Analysis of Topsoil Material: Perform in accordance with AASHTO T180.

D. When tests indicate materials do not meet specified requirements, change material and retest.

E. Furnish materials of each type from same source throughout the Work.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Excavate subsoil and topsoil as required for utility and/or road installation. Strip topsoil to full depth of topsoil for complete installation.

B. Stockpile excavated material meeting requirements for subsoil materials and topsoil materials.

C. Remove excess excavated materials subsoil and topsoil not intended for reuse, from site.

D. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from site.

3.2 STOCKPILING

A. Stockpile materials on site at locations approved by the Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Stockpile topsoil 8 feet high maximum.

E. Prevent intermixing of soil types or contamination.

F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

G. Stockpile unsuitable or hazardous materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.3 STOCKPILE CLEANUP

A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 31 05 16
AGGREGATES FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Coarse aggregate materials.
2. Fine aggregate materials.

B. Related Sections:
1. Section 31 05 13 - Soils for Earthwork.
2. Section 31 22 13 - Rough Grading.
3. Section 31 23 17 - Trenching.
4. Section 32 11 23 - Aggregate Base Courses.
5. Section 32 91 19 - Landscape Grading.
6. Section 33 31 00 - Sanitary Utility Sewerage Piping.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO M147 - Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base and Surface Courses.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ANSI/ASTM C117 – Test Method for Materials finer than 75 mm (No. 200) Sieve in Mineral Aggregates by Washing.
2. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
3. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
5. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
6. ASTM D2992 – Test Methods of Density of Soil and Soil – Aggregate in Place by the Nuclear Method (Shallow Depth).
7. ASTM D4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
8. Test method for density of soil in place with loss by wash less than 15% - One Point Michigan Cone Test.
9. Test method for density of soil in place with loss by was greater than 15% - One Point T-99 Test.
10. MDOT Standard Specifications for Construction.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Samples: May be requested for submittal by the Engineer for testing.

C. Materials Source: Submit name of imported materials suppliers.

D. Manufacturer's Certificate: Certify Products meet or exceed MDOT specification for coarse aggregate and fine aggregate.

1.4 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work in accordance with MDOT Standard Specification for Construction.

C. Maintain one copy of each document on site.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

A. Coarse Aggregate Type MDOT 6A Compacted Crushed Limestone: Conforming to MDOT Standard Specification for Construction.

B. Coarse Aggregate Type MDOT 22A Crushed Limestone: Conforming to MDOT Standard Specification for Construction.

C. Coarse Aggregate Type MDOT 23A Compacted Crushed Limestone: Conforming to MDOT Standard Specification for Construction.

2.2 FINE AGGREGATE MATERIALS

A. Fine Aggregate Type MDOT Class II (Sand): Conforming to MDOT Standard Specification for Construction.
   1. Except for use in granular blankets, Class IIA may be substituted for Class II granular material for projects in the following counties: Arenac, Bay, Genesee, Gladwin, Huron, Lapeer, Macomb, Midland, Monroe, Oakland, Saginaw, Sanilac, Shiawassee, St. Clair, Tuscola, and Wayne.

B. Fine Aggregate Type MDOT Class III A Sand: Conforming to MDOT Standard Specification for Construction (used for sanitary sewer backfill – 1’ over top of pipe only).

2.3 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing and inspection services.

B. Coarse Aggregate Material - Testing and Analysis: Perform in accordance with MTM 109 and MTM 108 and other applicable MDOT testing standards.

C. Fine Aggregate Material - Testing and Analysis: Perform in accordance with MTM 109 and MTM 108 and other applicable MDOT testing standards.

D. When tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 STOCKPILING

A. Stockpile materials on site at locations approved by the Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

E. Stockpile hazardous materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.2 STOCKPILE CLEANUP

A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

SECTION 31 22 13

ROUGH GRADING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating topsoil.
a. Strip and stockpile topsoil.
b. Strip and remove wetland topsoil.
2. Excavating subsoil.
a. Surficial sand excavation.
3. Cutting, grading, filling, rough contouring, compacting, rough grading, and shaping the site for site structures, building pads, embankment construction, residential lot, roadway embankment and cut, clay liner, scarify, blend, and compact subgrade, and spoil deposition.

B. Related Sections:
1. Section 31 10 00 - Site Clearing
2. Section 31 23 16 - Excavation
3. Section 31 23 17 - Trenching
4. Section 31 23 23 - Fill
5. Section 32 91 19 - Landscape Grading

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
5. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
6. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
7. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
8. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

9. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

C. Michigan Department of Transportation (MDOT)
1. MDOT Density Control Handbook, current addition.
2. MDOT Standard Specifications for Construction, current addition.
3. Test Method for Density of Soil in Place with loss by wash less than 15 percent - One Point Michigan Cone Test.
4. Test Methods for Density of Soil with loss by wash greater than 15 percent - One Point T-99 Test.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Samples: Submit, in air-tight containers, 10 lb. sample of each type of fill to testing laboratory.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.5 QUALITY ASSURANCE

A. MDOT Density Control Handbook, current edition.

B. MDOT Standard Specifications for Construction, current edition.

C. Test Method for Density of Soil in Place with loss by wash less than 15 percent – One Point Michigan Cone Test.

D. Test Method for Density of Soil with loss by wash greater than 15 percent – One Point T-99 Test.

E. ASTM D2922 – Test Methods of Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

PART 2 - PRODUCTS

2.1 MATERIALS

A. See Section 31 23 23 Fill

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting Work.

B. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.

C. Verify that fill materials to be used are acceptable.

3.2 PREPARATION

A. Call Miss Dig service not less than three Working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Notify utility company to remove and relocate utilities.

D. Protect utilities indicated to remain from damage.

E. Protect plant life, lawns, rock outcropping and other features remaining as portion of final landscaping.

F. Protect bench marks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion.

D. Do not remove topsoil from site.

3.4 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded.

B. Do not excavate wet subsoil or excavate and process wet material to obtain optimum moisture content.

C. When excavating through roots, perform Work by hand and cut roots with sharp axe.

D. Stockpile excavated material in area designated on site in accordance with the drawings.

E. Benching Slopes: Horizontally bench existing slopes greater than 1: 4 to key placed fill material to slope to provide firm bearing.

F. Stability: Replace damaged or displaced subsoil as specified for fill.

G. Spoil leveling shall be done in accordance with Section 31 23 16 – Excavation.

3.5 FILLING

A. Fill areas to contours and elevations with unfrozen materials.

B. Place fill material in continuous layers and compact.

C. Place material in continuous layers as follows:
1. Subsoil Fill: Maximum 12 inches compacted depth.
2. Structural Fill: Maximum 8 inches compacted depth.
3. Granular Fill: Maximum 8 inches compacted depth.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Slope grade away from building minimum 5 percent slope for minimum distance of 10 ft, unless noted otherwise.

F. Make grade changes gradual. Blend slope into level areas.

G. Repair or replace items indicated to remain damaged by excavation or filling.

3.6 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

B. Perform laboratory material tests in accordance with AASHTO T180.

C. Perform in place compaction tests in accordance with the following:
1. Density Tests: ASTM D1556 or ASTM D2922.
2. Moisture Tests: ASTM D3017.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
1. Remove Work, replace and retest at no cost to Owner.

E. Frequency of Tests: As required to ensure installation meets specifications.

3.8 SCHEDULES

A. Fill under Grass Areas: Subsoil Type D fill, to 6 inches below finish grade.

B. Fill Under Asphalt Paving: Type B fill, to subgrade elevation.

C. Fill Under Concrete Building Pads, Concrete Pads, Concrete Curb and Gutter and Sidewalks:
   1. Type B fill, to within 4" of underside of concrete slab.

D. Backfill for Utility Trenches:
   1. Bedding as specified in individual utility specification section.
   2. Backfill material as specified in Section 31 23 17 - Trenching and as defined here in for typed fill.

E. Fill for Subgrade and Undercutting:
   1. Type B fill to proposed subgrade elevation, in dry areas.
   2. Type A in wet areas and for undercutting backfill, unless otherwise directed by the Engineer.

END OF SECTION

SECTION 31 23 16
EXCAVATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Soil densification.
2. Excavating for paving, roads, and parking areas.
3. Excavating for slabs-on-grade.
4. Excavating for structures.

B. Related Sections:
1. Section 31 05 13 - Soils for Earthwork: Stockpiling excavated materials.
2. Section 31 05 16 - Aggregates for Earthwork: Stockpiling excavated materials.
3. Section 31 22 13 - Rough Grading: Topsoil and subsoil removal from site surface.
4. Section 31 23 17 - Trenching: Excavating for utility trenches.
5. Section 33 11 16 - Site Water Utility Distribution Piping.
6. Section 33 05 13 - Public Manholes and Structures.
7. Section 31 25 00 – Erosion and Sedimentation Controls.

1.2 REFERENCES

A. MISS DIG System, Inc.

B. Act No. 174, Public Acts of 2013, latest revision.

C. Special provisions made by local utility having jurisdiction.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.

C. Shop Drawings: Indicate soil densification grid for each size and configuration footing requiring soils densification.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with State of Michigan Department of Transportation standard specifications for construction.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

A. Call MISS DIG at 811 not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Notify utility company when specified to remove and relocate utilities.

D. Identify known underground, above ground, and aerial utilities, stake, and flag locations.

E. Protect above and below ground utilities indicated to remain from damage.

F. Protect plant life, lawns, rock outcroppings and other features remaining as portion of final landscaping.

G. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

H. Protect grade and slope stakes.

3.2 EXCAVATION

A. Underpin adjacent structures which may be damaged by excavation work.

B. Excavate subsoil to accommodate building foundations, paving and site structures, construction operations, and utility trenches.

C. Slope banks with machine to angle of repose or less until shored.

D. Do not interfere with 45 degree bearing splay of foundations.

E. Grade top perimeter of excavation to prevent surface water from draining into excavation.

F. Trim excavation. Remove loose matter.

G. Remove lumped subsoil, boulders, and rock up to 0.5 cu ft measured by volume. Remove larger material as specified in Section 31 23 23.

H. Notify Engineer of unexpected subsurface conditions.

I. Correct areas over excavated with structural fill Type MDOT 22A Compacted Crushed Limestone as directed by Engineer.

J. Remove excess and unsuitable material from site.

K. Repair or replace items indicated to remain damaged by excavation.

3.3 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Request visual inspection of bearing surfaces by Engineer before installing subsequent work.

3.4 PROTECTION

A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

3.5 DUST CONTROL

A. The Contractor shall implement measures to minimize dust, especially near residents, upon the Engineers request.

END OF SECTION

SECTION 31 23 16.26
ROCK REMOVAL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Removing identified and discovered rock during excavation.
   2. Expansive tools to assist rock removal.

B. Related Sections:
   1. Section 31 00 00 - Site Clearing
   2. Section 31 22 13 - Rough Grading.
   3. Section 31 23 16 - Excavation
   4. Section 31 23 17 - Trenching

1.2 DEFINITIONS

A. Trench Rock: Solid mineral material with volume in excess of 0.5 cu ft or solid material that cannot be removed with 1/2 cu yd capacity excavator without drilling or blasting.

1.3 SCHEDULING

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Schedule Work to avoid disruption to occupied buildings nearby.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify site conditions and note subsurface irregularities affecting Work of this section.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum.

3.3 ROCK REMOVAL BY MECHANICAL METHOD

A. Excavate and remove rock by mechanical method.
   1. Drill holes and use wedges or mechanical disintegration compound to fracture rock.

B. Cut away rock at bottom of excavation to form level bearing.

C. Remove all lumped subsoil, boulders, and rocks 6 inches below bottom of pipe.

D. In utility trenches, excavate to 6 inches below invert elevation of pipe and 18 inches wider than pipe diameter.

E. Remove excavated materials from site.

F. Correct unauthorized rock removal in accordance with backfilling and compacting requirements of Section 31 23 17.

3.4 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Request visual inspection of utility bearing surfaces by Engineer before bedding, install, and backfilling utility.

END OF SECTION

SECTION 31 23 17
TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating trenches for utilities within municipal right-of-way or easement.
2. Compacted fill from top of utility bedding to subgrade elevations.
3. Backfilling and compaction.

B. Related Sections:
1. Section 03 30 00 - Cast-In-Place Concrete
2. Section 31 05 13 - Soils for Earthwork
3. Section 31 05 16 - Aggregates for Earthwork
4. Section 31 22 13 - Rough Grading
5. Section 31 23 16 - Excavation
6. Section 31 23 18 - Rock Removal
7. Section 31 23 23 - Fill
8. Section 32 91 19 - Landscape Grading

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM A-328 – Standard Specifications for Sheet Piling.
2. ASTM A-572 – Grades 60, High Strength.
3. ASTM A-690 – High Strength Corrosion Resistant.
4. ASTM C117 – Test Method for Materials Finer than 75mm (No. 200) Sieve in Mineral Aggregates by Washing.
5. ASTM C12 – Standard Practice for Installing Vitrified Clay Pipe Lines.
6. ASTM D-245-62T – Timber and lumber requirement.
7. ASTM C136 – Method for Sieve Analysis of Fine and Coarse Aggregates.
8. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
9. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
10. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
11. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
12. ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity – Flow Applications.
13. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

14. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 DEFINITIONS

A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 REGULATORY REQUIREMENTS

A. Conform to applicable OSHA regulations.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.

C. Product Data: Submit data for geotextile fabric indicating fabric and construction.

D. Samples: Submit, in air-tight containers, 10 lb sample of each type of fill to testing laboratory.

E. Materials Source: Submit name of imported fill materials suppliers.

F. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with Municipal standards.

1.7 QUALIFICATIONS

A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Michigan.

B. Installer: Company specializing in performing work in this section with minimum three years documented experience.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Subsoil Fill: Municipal Subsoil as specified in Section 31 05 13. Soils for Earthwork.

B. Structural Fill: MDOT 6A and MDOT 22A Compacted Crushed Limestone as specified in Section 31 05 16. Aggregates for Earthwork.

C. Granular Fill: MDOT Class II Sand as specified in Section 31 05 16. Aggregates for Earthwork.

D. Concrete: Structural concrete as specified in Section 03 30 00 Cast-in-Place Concrete with compressive strength of 3500 psi.

2.2 EXCAVATION SUPPORT MATERIALS

A. Timber and lumber for shoring and bracing shall be new, merchantable pine. Douglas Fir or Spruce, unless otherwise shown or specified. Secondhand timber or lumber shall not be used where strength and/or appearance are important considerations.

B. Steel for sheeting, shoring, and bracing shall be as per the referenced ASTM specifications.

C. Temporary Sheeting: Select section modulus, embedment depth and bracing required to complete the work.

PART 3 EXECUTION

3.1 LINES AND GRADES

A. Lay pipes to lines and grades indicated on Drawings.
   1. Engineer and Owner reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.

B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

A. Call MISS DIG at 811 not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum locations.

C. Protect plant life, lawns, rock outcropping and other features remaining as portion of final landscaping.

D. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

E. Maintain and protect above and below grade utilities indicated to remain.

F. Establish temporary traffic control and detours when trenching is performed in public right-of-way. Relocate controls and reroute traffic as required during progress of Work.

3.3 TRENCHING

A. Excavate subsoil required for utilities as shown on the plan, and as stated in the proposal.

B. Excavate subsoil for utility piping and accessories as indicated on the drawings.

C. Excavate on the required line to the depth required below the pipe grade for bedding thickness required.

D. Remove lumped subsoil, boulders, and rock up of 1/6 cubic yard, measured by volume. Remove larger material as specified in Section 31 23 18.

E. Do not advance open trench more than one pipe length ahead of installed pipe.

F. Cut trenches to width indicated on Drawings. Remove water or materials that interfere with Work.

G. Excavate bottom of trenches in accordance with trench details or specifications.

H. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and utilities being installed.

I. Excavate trench widths exceed the maximum specified above, the Owner’s representative may require special bedding or the use of extra strength pipe at the Contractor’s expense.

J. Do not interfere with 45 degree bearing splay of foundations.

K. When Project conditions permit, slope side walls of excavation starting 1 feet above top of pipe. When side walls can not be sloped, provide sheeting and shoring to protect excavation as specified in this section.

L. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered.

M. Cut out soft areas of subgrade not capable of compaction in place. Backfill with MDOT 6A Crushed Limestone and compact to density equal to or greater than requirements for subsequent backfill material.

N. Trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.

O. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.

P. Remove excess subsoil not intended for reuse, from site.

Q. Grade top perimeter of excavation to prevent surface water from draining into excavation.

R. Notify Owner’s representative of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

S. Protect excavation by methods required to prevent cave-in or loose soil from failing into excavation.

T. Provide, operate, and maintain pumping equipment to keep trench free of water.

U. Use trench boxes or other form of temporary protection when required by OSHA Standards or when protection of existing utilities is necessary.

V. Stockpile excavated material in area designated on site in accordance with Section 31 05 13.

3.4 SHEETING AND SHORING

A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.

B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

C. Design sheeting and shoring to be removed at completion of excavation work.

D. The Contractor is responsible for the design and location of all sheeting, shoring, and bracing.

E. When required to properly support the surfaces of excavations and to protect the construction work and workmen, sheeting, bracing and shoring shall be provided.

F. If the Owner's representative is of the opinion that at any point sufficient or proper supports have not been provided, he may order additional supports at the expense of the Contractor, but neither the placing of such additional supports by the order of the Owner's representative nor the failure of the Owner's representative to order such additional supports placed shall release the Contractor from his responsibility for the sufficiency of such supports and the integrity of the work.

G. Damage to new or existing structures occurring through settlements due to failure or lack of sheeting or bracing shall be repaired by the Contractor at his own expense.

H. Conflict of opinion as to whether the settlement is due to the work of the Contractor or to any other cause will be determined by the Owner's representative.

I. In general, the sheeting and bracing shall be removed, as the trench or excavation is refilled, in such a manner as to avoid the caving in of the work.

J. Fill voids left by the withdrawal of the sheeting by ramming, or otherwise as directed.

K. Obtain permission of the Owner's representative prior to the removal of any shoring, sheeting or bracing.

L. When sheeting and bracing is removed, the Contractor shall assume full responsibility for injury to structures or to other property or persons arising from failure to leave in place such sheeting or bracing.

M. For the purpose of preventing injury to the structures, or to other property or to persons, the Contractor shall leave in place any sheeting or bracing shown on the plans or ordered in writing by the Owner's representative.

N. Cutoff sheeting left in place at the elevation ordered but not be less than 18" below the final ground surface.

O. Bracing remaining in place shall be driven up tight.

P. Measurements and payment for sheeting and bracing ordered left in place will be made as extra work, unless noted otherwise.

Q. The right of the Owner's representative to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders.

R. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.

S. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

A. Verify all materials to be reused as acceptable.

B. Backfill trenches to proposed contours and elevations with unfrozen fill materials.

C. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

D. Place material in continuous layers as follows:
1. Subsoil Fill: Maximum 8 inches compacted depth.
2. Structural Fill: Maximum 6 inches compacted depth.
3. Granular Fill: Maximum 8 inches compacted depth.

E. Place geotextile fabric over Type MDOT 6A Compacted Crushed Limestone fill bedding prior to placing last lift of bedding.

F. Employ placement method that does not disturb or damage, utilities in trench, pavement, sidewalk, and driveways.

G. Maintain optimum moisture content of fill materials to attain required compaction density.

H. Do not leave more than 20 feet of trench open at end of working day.

I. Protect open trench to prevent danger to Owner.

J. Backfill against supported foundation walls.

K. Make grade changes gradual. Blend slope into level areas.

L. Slope fill away from structures a minimum 2 inches in 10 feet.

M. Leave fill material stockpile areas completely free of excess fill materials.

N. Employ a compaction method for trench backfill that does not disturb or damage installed utilities and existing utilities in the trench. Compact backfill to specified density. If required compaction is not achieved and verified using mechanical methods, settling or spiking the trench with water may be used as a compaction method in conformance with ASTM C13 and D2321, as approved by the Engineer.

O. Backfill simultaneously around all sides of structures, manholes and catch basins.

3.6 TOLERANCES

A. Top Surface of Backfilling under Paved Areas: Plus or minus 1/2 inch from required elevations.

B. Top surface of fill for building pads plus or minus 1/4 inch form required elevations.

C. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.7 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01 40 00.

B. Tests and analysis of fill material will be performed in accordance with MDOT Standard Requirements and with Section 01 40 00.

C. Compaction testing will be performed in accordance with MDOT Standard Requirements and with Section 01 40 00.

D. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

E. Frequency of Tests: As directed by Soils Engineer.

F. Proof roll compacted fill surfaces under paving.

3.8 PROTECTION OF FINISHED WORK

A. Protect finished Work under provisions of Section 01 50 00 Temporary Facilities and Controls and Section 01 70 00 - Execution and Closeout Requirements: Protecting finished work.

B. Reshape and re-compact fills subjected to vehicular traffic during construction.

3.9 SCHEDULE

A. Fill Under Grass Area:
   1. Municipal Subsoil, to 6 inches below finish grade, compacted to 95 percent maximum dry density as determined by MDOT Standard Requirements.

B. Fill Under Asphalt Paving:
   1. MDOT Class II Sand to underside of aggregate base course elevation, compacted to 95 percent maximum dry density as determined by MDOT Standard Requirements.

C. Fill Under Concrete Building Pads, Concrete Pads, Concrete Curb and Gutter and Sidewalks:
   1. MDOT Class II Sand to within 4” of underside of concrete slab. All fill to be compacted to 95 percent maximum dry density as determined by MDOT Standard Requirements.

D. Backfill for Utility Trenches:
   1. Bedding as specified in individual water and sewer utility standard detail sheets.

E. Fill for Subgrade and Undercutting:
   1. MDOT Class II Sand fill to proposed subgrade elevation, compacted to 95 percent maximum dry density as determined by MDOT Standard Requirements.

F. Fill for Trench Undercutting:
   1. Type MDOT 6A Compacted Crushed Limestone to proposed pipe bedding grade compacted to 95% percent maximum dry density as determined by MDOT Standard Requirements.

END OF SECTION

SECTION 31 23 19
DEWATERING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Dewatering system.
   2. System operation and maintenance.
   3. Water disposal.

B. Related Sections:
   1. Section 31 05 16 - Aggregates for Earthwork
   2. Section 31 23 16 - Excavation
   3. Section 31 23 17 - Trenching
   4. Section 31 25 00 - Erosion and Sedimentation Controls

1.2 REFERENCES

A. ASTM International:
   1. ASTM C33 - Standard Specification for Concrete Aggregates.

1.3 DEFINITIONS

A. Dewatering includes the following:
   1. Lowering of ground water table, intercepting horizontal water seepage, and water from utilities to prevent water from entering excavations trenches.
   2. Disposing of removed water.

B. Surface Water Control: Removal of surface water within open excavations.

1.4 SYSTEM DESCRIPTION

A. Provide dewatering and surface water control systems to permit Work to be completed on dry and stable subgrade.

1.5 PERFORMANCE REQUIREMENTS

A. Design dewatering systems to:
   1. Lower water table within areas of excavation to below bottom of excavation to permit Work to be completed on dry and stable subgrade.
   2. Relieve hydrostatic pressures in confined water bearing strata below excavation to eliminate risk of uplift or other instability of excavation.
   3. Prevent damage to adjacent properties, buildings, structures, utilities, and facilities from construction operations.
   4. Prevent loss of fines, quick condition, or softening of foundation subgrade.
   5. Maintain stability of sides and bottoms of excavations and trenches.

B. Design surface water control systems to:
   1. Collect and remove surface water and seepage entering excavation.

1.6 QUALITY ASSURANCE

A. Comply with authorities having jurisdiction for the following:
   1. Water discharge and disposal from pumping operations.

B. Obtain permit from EPA under National Pollutant Discharge Elimination System (NPDES), for storm water discharge from construction sites.

C. Perform Work in accordance with Municipal, State and Federal Standards.

1.7 QUALIFICATIONS

A. Installer: Company specializing in performing work of this section with minimum 3 years' experience and responsible for design, operation, and maintenance of dewatering system.
   1. Assume sole responsibility for dewatering and surface water control systems and for loss or damage resulting from partial or complete failure of protective measures and settlement or resultant damage caused by ground water control operations.

1.8 SEQUENCING

A. Section 01 10 00 - Summary: Requirements for sequencing.

B. Sequence work to obtain required permits before start of dewatering operations.

C. Sequence work to install and test dewatering and surface water control systems minimum 1 day before starting excavation trenching.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate work to permit the following construction operations to be completed on dry stable substrate.
   1. Excavation for structures specified in Section 31 23 16.
   2. Trenching for utilities specified in Section 31 23 17.

PART 2 PRODUCTS

2.1 DEWATERING EQUIPMENT

A. Select dewatering equipment to meet specified performance requirements.

2.2 ACCESSORIES

A. Filter Sand: Granular Material MDOT Class II Sand as specified in Section 31 05 16.

B. Filter Aggregates: Course aggregate MDOT 6A Crushed Limestone as specified in Section 31 05 16.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Conduct additional borings and investigations to supplement subsurface investigations identified in Section 00 31 00 as required to complete dewatering system design.

C. Call Local Utility Line Information service at 811 not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

3.2 PREPARATION

A. Protect existing adjacent buildings, structures, and improvements from damage caused by dewatering operations.

B. Maintain monitoring wells until groundwater is allowed to return to normal level.

3.3 DEWATERING SYSTEM

A. Install dewatering system as required to complete work stated in the proposal.

B. Locate system components to allow continuous dewatering operations without interfering with installation of permanent Work and existing public rights-of-way, sidewalks, and adjacent buildings, structures, and improvements.

C. Install sand filter and aggregate surrounding the pump as required for dewatering.

D. Use pumps in accordance with manufacturer’s instructions.

E. Connect pumps to discharge header. Install valves to permit pump isolation.

3.4 SURFACE WATER CONTROL SYSTEM

A. Provide ditches, berms, and other devices to divert and drain surface water from excavation area as specified in Section 31 25 00.

B. Divert surface water and seepage water within excavation areas into sumps and pump water into drainage channels storm drains settling basins in accordance with requirements of agencies having jurisdiction.

C. Control and remove unanticipated water seepage into excavation.

3.5 SYSTEM OPERATION AND MAINTENANCE

A. Operate dewatering system continuously until backfill is minimum 2 feet above normal ground water table elevation.

B. Provide 24-hour supervision of dewatering system by personnel skilled in operation, maintenance, and replacement of system components.

C. Conduct daily observation of dewatering system and monitoring system. Make required repairs and perform scheduled maintenance.

D. Fill fuel tanks before tanks reach 25 percent capacity.

E. Start emergency generators at least twice each week to check operating condition.

F. When dewatering system cannot control water within excavation, notify Architect/Engineer and stop excavation work.
   1. Supplement or modify dewatering system and provide other remedial measures to control water within excavation.
   2. Demonstrate dewatering system operation complies with performance requirements before resuming excavation operations.

G. Modify dewatering and surface water control systems when operation causes or threatens to cause damage to new construction, existing site improvements, adjacent property, or adjacent water wells.

H. Correct unanticipated pressure conditions affecting dewatering system performance.

I. Do not discontinue dewatering operations without Engineer’s approval.

3.6 WATER DISPOSAL

A. Discharge water into existing storm sewer system drainage channels settling basins specified in Section 31 25 00.

3.7 SYSTEM REMOVAL

A. Remove dewatering and surface water control systems after dewatering operations are discontinued.

B. Repair damage caused by dewatering and surface water control systems or resulting from failure of systems to protect property.

3.8 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. After dewatering system is installed, perform pumping test to determine when selected pumping rate lowers water level in well below pump intake. Adjust pump speed, discharge volume, or both to ensure proper operation of each pump.

C. Submit weekly monitoring reports including the following:
   1. Dewatering flow rates.
   2. Piezometer readings.
   3. Test reports of discharge water analysis.
   4. Maintenance records for dewatering and surface water control systems.

END OF SECTION

SECTION 31 23 23.33

FLOWABLE FILL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Flowable fill for:
      a. Filling abandoned utilities.

B. Related Requirements:
   1. Section 31 23 16 - Excavation
   2. Section 31 23 17 - Trenching
   3. Section 32 91 19 - Landscape Grading
   4. Section 33 11 13 - Public Water Utility Distribution Piping

C. Utility: Any buried pipe, duct, conduit, manhole, tank, or cable.

D. Excavatable Flowable Fill: Lean cement concrete fill used where future excavation may be required, such as fill for utility trenches, bridge abutments, and culverts.

E. Non-excavatable Flowable Fill: Lean cement concrete fill used where future excavation is not anticipated, such as fill below structure foundations and filling abandoned utilities.

1.2 REFERENCE STANDARDS

A. ASTM International:
   1. ASTM C33 - Standard Specification for Concrete Aggregates.
   2. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
   3. ASTM C150 - Standard Specification for Portland Cement.
   4. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
   5. ASTM C403/C403M - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
   6. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
   7. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
   8. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
   9. ASTM C1040 - Standard Test Methods for Density of Unhardened and Hardened Concrete in Place By Nuclear Methods.
   10. ASTM D4832 - Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

C. Field Quality-Control Submittals:
   1. Mix Design:
      a. Furnish flowable fill mix design for each specified strength.
      b. Furnish separate mix designs when admixtures are require for the following:
         1) Flowable fill Work during hot and cold weather.
         2) Air entrained flowable fill Work.
      c. Identify design mix ingredients, proportions, properties, admixtures, and tests.
   2. Furnish test results to certify flowable fill mix design properties meet or exceed specified requirements.

D. Delivery Tickets:
   1. Furnish duplicate delivery tickets indicating actual materials delivered to Project Site.

E. Qualifications Statements:
   1. Submit qualifications for supplier.

1.4 QUALITY ASSURANCE

A. Perform Work according to Saginaw County Road Commission standards.

1.5 QUALIFICATIONS

A. Supplier:
   1. Company specializing in supplying products specified in this Section with minimum three years' documented experience.
   2. Product source approved by authority having jurisdiction.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Section 01 50 00 - Temporary Facilities and Controls specifies ambient condition control facilities for product storage and installation.

B. Minimum Conditions: Do not install flowable fill during inclement weather or when ambient temperature is less than 40 degrees F.

1.7 FIELD MEASUREMENTS

A. Verify field measurements before installing flowable fill to establish quantities required to complete the Work.

PART 2 - PRODUCTS

2.1 FLOWABLE FILL

A. Furnish materials according to State of Michigan Department of Transportation specifications for construction standards.

B. Flowable Fill: Excavatable type and non-excavatable type.

2.2 MATERIALS

A. Portland Cement: ASTM C150 Type I - Normal; or Type IA - Air Entraining.

B. Fine Aggregates: ASTM C33**.**

C. Water: Clean and not detrimental to concrete.

2.3 ADMIXTURES

1. Furnish materials according to State of Michigan Department of transportation specifications for construction standards.

B. Air Entrainment: ASTM C260.

C. Chemical Admixture: ASTM C494/C494M.
1. Type A - Water Reducing.
2. Type B - Retarding.
3. Type C - Accelerating.
4. Type D - Water Reducing and Retarding.
5. Type F - Water Reducing, High Range.

D. Fly Ash: ASTM C618 Class C.

E. Plasticizing: ASTM C1017/C1017M Type I, plasticizing.

2.4 MIXES

A. Mix and deliver flowable fill according to ASTM C94/C94M, Option C.

B. Flowable Fill Design Mix:

ITEM	EXCAVATABLE	NON-EXCAVATABLE
Cement Content	75 to 100 lb/cu yd	100 to 150 lb/cu yd
Fly Ash Content	150-160 pcf	150-600 pcf
Water Content	As specified	As specified
Air Entrainment	5 to 35 percent	5 to 15 percent
28-Day Compressive Strength	Maximum 100 psi.	Minimum 125 psi
Unit Mass (Wet)	80 to 110 pcf	100 to 125 pcf

Temperature, Minimum at Point of Delivery	50 degrees F	50 degrees F

C. Provide water content in design mix to produce self-leveling, flowable fill material at time of placement.

D. Design mix air entrainment and unit mass are for laboratory design mix and source quality control only.

2.5 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

B. Test and analyze properties of flowable fill design mix and certify results for the following:
   1. Design mix proportions by weight of each material.
   2. Aggregate: ASTM C33 for material properties and gradation.
   3. Properties of plastic flowable fill design mix including:
      a. Temperature.
      b. Slump.
      c. Air entrainment.
      d. Wet unit mass.
      e. Yield.
      f. Cement factor.
   4. Properties of hardened flowable fill design mix including:
      a. Compressive strength at 1 day, 7 days, and 28 days. Report compressive strength of each specimen and average specimen compressive strength.
      b. Unit mass for each specimen and average specimen unit mass at time of compressive strength testing.

C. Prepare delivery tickets containing the following information:
   1. Project designation.
   2. Date.
   3. Time.
   4. Class and quantity of flowable fill.
   5. Actual batch proportions.
   6. Free moisture content of aggregate.
   7. Quantity of water withheld.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting Work.

B. Verify excavation specified in Section 31 23 16 trenching specified in Section 31 23 17 is complete.

C. Verify utility installation as specified in Section 33 11 13 Public Water Utility Distribution Piping is complete and tested before placing flowable fill.

D. Verify excavation is dry and dewatering system is operating.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Support and restrain utilities to prevent movement and flotation during installation of flowable fill.

C. Protect structures and utilities from damage caused by hydraulic pressure of flowable fill before fill hardens.

D. Protect utilities and foundation drains to prevent intrusion of flowable fill.

3.3 INSTALLATION - FILL, BEDDING, AND BACKFILL

A. Place flowable fill by chute, pumping or other methods approved by Engineer.
   1. When required, place flowable fill under water using tremie procedure.
   2. Do not place flowable fill through flowing water.

B. Place flowable fill in lifts to prevent lateral pressures from exceeding structural capacity of structures and utilities.

C. Place flowable fill evenly on both sides of utilities to maintain alignment.

D. Place flowable fill to elevations indicated on Drawings without vibration or other means of compaction.

3.4 INSTALLATION - FILLING ABANDONED UTILITIES

A. Verify pipes and conduits are not clogged and are sufficiently empty to permit gravity installation of flowable fill for entire length indicated to be filled.

B. Seal lower end of pipes and conduits by method to contain flowable fill and to vent trapped air caused by filling operations.

C. Place flowable fill using method to ensure there are no voids.
   1. Fill pipes and conduits from high end.
   2. Fill manholes, tanks, and other structures from grade level access points.

D. After filling pipes and conduits seal both ends.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.

B. Perform inspection and testing according to ASTM C94/C94M.

1. Take samples for tests for every 150 cu yd of flowable fill, or fraction thereof, installed each day.
2. Sample, prepare and test four compressive strength test cylinders according to ASTM D4832. Test one specimen at 3 days, one at 7 days, and two at 28 days.
3. Measure temperature at point of delivery when samples are prepared.

C. Defective Flowable Fill: Fill failing to meet the following test requirements or fill delivered without the following documentation.
1. Test Requirements:
   a. Minimum temperature at point of delivery.
   b. Compressive strength requirements for each type of fill.
2. Documentation: Duplicate delivery tickets.

3.6 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Remove spilled and excess flowable fill from Project Site.

C. Restore facilities and Site areas damaged or contaminated by flowable fill installation to existing condition before installation.

END OF SECTION

SECTION 31 25 00
EROSION AND SEDIMENTATION CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Erosion Control Blanket.
2. Sediment Ponds.
3. Sediment Traps.
4. Sit Stabilization.
5. Silt Fence.
6. Filter Fabric for Ground Water Infiltration.

B. Related Sections:
1. Section 03 10 00 - Concrete Forming and Accessories.
2. Section 03 20 00 - Concrete Reinforcing.
3. Section 03 30 00 - Cast-In-Place Concrete.
4. Section 31 05 13 - Soils for Earthwork.
5. Section 31 05 16 - Aggregates for Earthwork.
6. Section 31 10 00 - Site Clearing.
7. Section 31 23 16 - Excavation.
8. Section 31 23 23 - Fill.
9. Section 32 13 13 - Concrete Paving.
10. Section 32 91 19 - Landscape Grading.
11. Section 32 92 19 - Seeding and Soil Supplements.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T88 - Standard Specification for Particle Size Analysis of Soils.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM C127 - Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
6. ASTM D-4632 – Test Method for Tensile Strength and Elongation.
7. ASTM D-3786 – Test Method for Mullen Burst.

8. ASTM D-4533 – Test Method for Puncture Strength.
9. ASTM D-4751 – Test Method for Apparent Opening Size.
10. ASTM D-4491 – Test Method for Coefficient of Permeability.

1.3 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with the Soil Erosion and Sedimentation Control, Part 91 of Act 451 of 1994, and corresponding rules of the Michigan Department of Environment, Great Lakes, and Energy.

B. **CONTRACTOR** shall obtain Act 451 Permit.

C. **CONTRACTOR** shall obtain soil erosion permit.

D. Maintain one copy of each document on site.

1.5 REGULATORY REQUIREMENTS

A. Contractor shall obtain all permits and pay all fees for plan review and inspection as required by applicable enforcing agency having jurisdiction.

B. Submit installation time schedule for temporary and permanent soil erosion and sedimentation control measures to applicable enforcing agency having jurisdiction, as well as to Engineer. Make submittals prior to start of construction.

1.6 METHOD OF PAYMENT

A. All fees required by applicable enforcing agency shall be paid as stated in the Proposal.

PART 2 PRODUCTS

2.1 SOIL EROSION AND SEDIMENT CONTROLS

A. Permanent Measures: In accordance with applicable Section for specified materials.

B. Temporary Measures: In accordance with standards and specifications for soil erosion and sediment control with approved plans and requirements of applicable enforcing agency.

2.2 FILTER FABRIC

A. Mechanically-bonded, non-woven, long-chain polymetric fibers or yarns.
   1. Filter fabric for groundwater infiltration (French drains, trench drains, pipe joint wrap, bag rip-rap headwalls, gabions, etc.) shall have, at minimum, the following properties:
      Tensile Strength 100 lbs

Tensile Elongation (max)	100 %
Mullen Burst	210 psi
Trapezoidal Tear Strength	40 lbs
Puncture Strength	65 lbs
Apparent Opening Size (max)	0.210 mm
Coef. of Permeability	0.15 cm/sec

2. Filter fabric for cobblestone grade and bank protection shall have, at minimum the following properties:

Tensile Strength	120 lbs
Tensile Elongation (max)	100%
Mullen Burst	230 psi
Trapezoidal Tear Strength	45 lbs
Puncture Strength	70 lbs
Apparent Opening Size (Max)	0.210 mm
Coef. Of Permeability	0.15cm/sec

3. Filter fabric for plain rip-rap grade and bank protection shall have, a minimum, the following properties:

Tensile Strength	155 lbs
Tensile Elongation (max)	100%
Mullen Burst	315 psi
Trapezoidal Tear Strength	65 lbs
Puncture Strength	95 lbs
Apparent Opening Size (max)	0.210 mm
Coef. Of Permeability	0.15 cm/sec
Open Area	

4. Filter fabric for heavy rip-rap grade and bank protection to have. At minimum, the following properties:

Tensile Strength	200 lbs
Tensile Elongation (max)	100%
Mullen Burst	350 psi
Trapezoidal Tear Strength	75 lbs
Puncture Strength	100 lbs
Apparent Opening Size (max)	0.210 mm
Coef. Of Permeability	0.15 cm/sec
Open Area	

5. Filter fabric for rock ford crossings to have, at minimum, the following properties:

Tensile Strength	265 lbs
Tensile Elongation (max)	120%
Mullen Burst	470 psi
Trapezoidal Tear Strength	130 lbs
Puncture Strength	160 lbs
Apparent Opening Size (max)	0.149 mm
Coef. Of Permeability	0.25 cm/sec
Open Area	

2.3 PLANTING MATERIALS

A. Seeding and Soil Supplements: Material, as specified in Section 32 92 19 Seeding.

B. Mulch: Material, as specified in Section 32 92 19 Seeding.

2.4 SOURCE QUALITY CONTROL (AND TESTS)

A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

B. Perform tests as required to ensure conformance with specified requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify compacted subgrade is acceptable and ready to support devices and imposed loads.

C. Verify gradients and elevations of required lines, levels, contours, and datum are correct.

D. Field locate known utilities locations. Notify Engineer of conflicts and attain removal or relocation instructions prior to continuing installation activities.

E. Maintain and protect existing utilities to remain.

F. Verify the correct fabric is specified for the specific site.

G. Beginning of installation means acceptance of existing conditions.

H. Remove large stones or other debris which could damage the filter fabric and other erosion control material.

3.2 PROTECTION OF ADJACENT WORK

A. Protect adjacent structures, and property, which may be damaged by execution of work.

B. Protect existing trees, shrubs, landscaping, and lawn areas designated to remain.

3.3 STORAGE

A. All geotextile material shall be stored in a wrap that protects it from ultraviolet radiation and abrasion.

3.4 SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION AND MAINTENANCE

A. Construct soil erosion and sedimentation control measures in accordance with approved plans and requirements of applicable enforcing agency.

B. Schedule planned control measures with construction operations to limit the area of any disturbed land to the shortest possible period of exposure.

C. Permanent and minimum temporary control measures as scheduled on Drawings.

D. Additional temporary measures (over and above those scheduled on Drawings) due to site grading/construction activities that any way differs from that shown on drawings.

E. Conduct all earth changes so as to effectively reduce accelerated soil erosion and resulting sedimentation.

F. Remove all sediment from runoff water before it leaves the site.

G. Inspect, maintain, and repair temporary control measures until permanent control measures are implemented.

3.5 FILTER FABRIC INSTALLATION

A. Install according to manufacturer's instructions.

B. All joints/overlaps in material shall be a minimum of 12 inches.

C. Repair damaged material by placing a piece of fabric that is sufficiently large to cover the damaged area plus 2 feet of adjacent undamaged geotextile in all directions.

D. Finish according to specific use requirements.

E. Maintain permanent control measures until final acceptance by Owner.

F. Install silt fences around all catch basin inlets, to be removed after final inspection of the project.

3.6 EROSION CONTROL BLANKET

A. Repair washouts in area to be seeded.

B. Prepare side slopes as shown on plans.

C. Over excavate area equal to thickness of required topsoil and protection.

D. Place topsoil as shown on plans.

E. Rake in fertilizer; apply at the rate of 15 lbs per 1,000 sq. ft.

F. Seed topsoil with ditch bank seeding mix at a rate of 6 lbs per 1,000 sq. ft.

G. Place erosion control blanket over seeded areas.

H. Place metal pins over seeded areas 2.0 ft on centers. As approved by Engineer.

3.7 SEDIMENTATION POND

A. Clear and grub storage area and embankment foundation area site as specified in Section 31 10 00.

B. Excavate key trench for full length of dam. Excavate emergency spillway in natural ground.

C. Install pipe spillway, with anti-seep collar attached, at location indicated.

D. Place forms, and reinforcing for concrete footing at bottom of riser pipe with trash rack and anti-vortex device, as specified in Section 03 10 00, and Section 03 20 00. Construction of embankment and trench prior to placing pipe is not required.

E. Mix, place, finish, and cure concrete, as specified in Section 03 30 00.

F. Do not use coarse aggregate as backfill material around pipe. Backfill pipe with suitable embankment material to prevent dam leakage along pipe.

G. Construct rock basin at outlet end of pipe, as specified in this Section. Place embankment material, as specified in Section 31 23 23. When required, obtain borrow excavation for formation of embankment, as specified in Section 31 23 23.

H. On entire sedimentation pond area, apply soil supplements and sow seed as specified in Section 32 92 19.

I. Mulch seeded areas with hay as specified in Section 32 92 19.

3.8 SEDIMENT TRAPS

A. Clear site, as specified in Section 31 10 00.

B. Construct trap by excavating and forming embankments as specified in Section 31 23 16, and Section 31 23 23.

C. Place coarse aggregate or rock at outlet as indicated on Drawings.

D. Place geotextile fabric, as specified for rock energy dissipater.

E. When required, obtain borrow excavation for formation of embankment, as specified in Section 31 23 16.

F. On entire sediment trap area, apply soil supplements and sow seed as specified in Section 32 92 19.

G. Mulch seeded areas with hay as specified in Section 32 92 19.

3.9 SITE STABILIZATION

A. Incorporate erosion control devices indicated on the Drawings into the Project at the earliest practicable time.

B. Construct, stabilize and activate erosion controls before site disturbance within tributary areas of those controls.

C. Stockpile and waste pile heights shall not exceed 35 feet. Slope stockpile sides at 2: 1 or flatter.

D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 days.
   1. During non-germinating periods, apply mulch at recommended rates.
   2. Stabilize disturbed areas which are not at finished grade and which will be disturbed within one year in accordance with Section 32 92 19.
   3. Stabilize disturbed areas which are either at finished grade or will not be disturbed within one year in accordance with Section 32 92 19 permanent seeding specifications.

E. Stabilize diversion channels, sediment traps, and stockpiles immediately.

3.10 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.

C. Field test concrete in accordance with Section 03 30 00.

D. Compaction Testing: As specified in Section 31 23 23.

E. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.11 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.

C. Do not damage structure or device during cleaning operations.

D. Do not permit sediment to erode into construction or site areas or natural waterways.

E. Clean channels when depth of sediment reaches approximately one half channel depth.

3.12 PROTECTION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Protect temporary soil erosion control from elements, flowing water, or other disturbance until construction is complete.

3.13 SCHEDULES

A. Erosion Control Schedule Example:

Erosion Control Element	Location	Size
Diversion Channel		
Rock Energy Dissipater		
Paved Energy Dissipater		
Rock Basin		
Sediment Pond		
Rock Barrier		
Sediment Trap		

END OF SECTION

SECTION 32 01 16.70

COLD MILLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Cold milling machine.
   2. Bituminous Removal.

B. Related Sections:
   1. Section 31 23 16 – Excavation
   2. Section 31 23 23 – Fill
   3. Section 32 14 53 – Pavement Repair

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Cold Milling HMA Surface:
   1. Basis of Measurement: By the unit price bid per square yard of bituminous street surface to be cold milled.
   2. Basis of Payment: Includes all equipment and labor to complete cold milling for this project at the depth and grade as shown on drawings.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 COLD MILLING MACHINE

A. Have continuously variable depth control adjustments and be capable of removing 4 inches of bituminous material in a single pass.

B. Capable of reducing pavement to a maximum thickness of 2 inches.

C. Possess enclosed cutting drums and have a sprinkling system for pollution control.

D. Must have an effective means for removing excess material from the surface and for preventing dust from the operation from escaping into the air.

3.2 BITUMINOUS REMOVAL

A. Remove bituminous surface to the depth, width, grade and cross-section as shown on the drawings, or as directed by the engineer.

B. Where material is removed below the grade specified, due to poor cold milling practices, replace the resultant holes or depressions by hand patching in accordance with MDOT Standards, at no cost to the Owner.

C. Clean surface immediately after cold milling.

END OF SECTION

SECTION 32 11 23

AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Aggregate subbase.
2. Aggregate base course.

B. Related Sections:
1. Section 31 22 13 - Rough Grading
2. Section 31 23 17 - Trenching
3. Section 31 23 23 - Fill
4. Section 31 37 00 - Riprap
5. Section 32 91 19 - Landscape Grading
6. Section 33 05 13 - Manholes and Structures

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
2. AASHTO M147-65 – Materials for Aggregates and Soil-Aggregate.

B. ASTM International:
1. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
3. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
4. ASTM D2940 - Standard Specification for Graded Aggregate Material For Bases or Subbases for Highways or Airports.
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
6. ASTM D4313 – Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
7. ASTM C136 – Sieve Analysis of Fine and Coarse Aggregates.

C. Michigan Department of Transportation (MDOT) Standard Specifications for Construction, Current Edition.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data:
   1. Submit data for geotextile fabric.

C. Samples: Submit, in air-tight containers, 10 lb. sample of each type of aggregate fill to testing laboratory.
   1. As directed by the Engineer.

D. Materials Source: Submit name of aggregate materials suppliers.

E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout the Work.

B. Perform Work in accordance with MDOT Standard Specifications for Construction, current edition.

PART 2 - PRODUCTS

2.1 AGGREGATE MATERIALS

A. MDOT 22A Crushed Limestone for base course under Hot Mix Asphalt surfaces and Class I shoulders and approaches, compacted to 98% of the maximum unit weight at no greater than optimum moisture content. MDOT 23A Crushed Limestone for Class II shoulders and approaches, and temporary and permanent gravel surfaces, compacted to 95% of the maximum unit weight at no greater than optimum moisture content, compacted in layers not to exceed 12 inches loose depth.

2.2 ACCESSORIES

A. Geotextile Fabric: AASHTO M288; non-woven, polypropylene.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify compacted substrate is dry and ready to support paving and imposed loads.
   1. Proof roll substrate with minimum two passes to identify soft spots.
   2. Remove soft substrate and replace with compacted fill as specified in Section 31 23 23.

C. Verify substrate has been inspected, gradients and elevations are correct.

3.2 PREPARATION

A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.

B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

A. Install geotextile fabric over subgrade in accordance with manufacturer's instructions.
   1. Lap ends and edges minimum 6 inches.
   2. Anchor fabric to subgrade when required to prevent displacement until aggregate is installed.

B. Spread aggregate over prepared substrate to total compacted thickness indicated on Drawings.

C. Roller compact aggregate to 95 percent maximum density.
   1. As determined by Michigan one point cone method.

D. Level and contour surfaces to elevations, profiles, and gradients indicated.

E. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.

F. Maintain optimum moisture content of fill materials to attain specified compaction density.
   1. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

G. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

H. Place aggregate to the width as shown on the drawings and compact as specified for the aggregate material being placed according to the Michigan one point cone method.

3.4 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Flat Surface: 3/8 inch measured with 10 foot straight edge.

C. Maximum Variation From Thickness: 1/4 inch.

D. Maximum Variation From Elevation: 1/2 inch.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements and 017000 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.

B. Compaction testing will be performed in accordance with MDOT standard requirements.

C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to the Owner.

D. Frequency of tests: as directed by the Engineer.

E. Graduation of Aggregate: In accordance with ASTM C136.

F. Furnish material certification from Supplier as required by the Engineer.

END OF SECTION

SECTION 32 12 16

ASPHALT PAVING

1.1 SUMMARY

A. Section Includes:
1. Asphalt materials.
2. Asphalt paving base course, binder course, and wearing course.
3. Asphalt paving overlay for existing paving.

B. Related Requirement:
1. Section 31 22 13 - Rough Grading
2. Section 31 23 17 – Trenching
3. Section 32 11 23 - Aggregate Base Courses
4. Section 33 05 13 - Manholes and Structures

1.2 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:
1. AASHTO M17 - Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
2. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
3. AASHTO M140 - Standard Specification for Emulsified Asphalt.
4. AASHTO M208 - Standard Specification for Cationic Emulsified Asphalt.
5. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
6. AASHTO M320 - Standard Specification for Performance-Graded Asphalt Binder.
7. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
8. AASHTO MP1a - Standard Specification for Performance-Graded Asphalt Binder.

B. Asphalt Institute:
1. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot- Mix Types.
2. AI MS-19 - Basic Asphalt Emulsion Manual.
3. AI SP-2 - Superpave Mix Design.

C. ASTM International:
1. ASTM C1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
2. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
3. ASTM D242 - Standard Specification for Mineral Filler For Bituminous Paving Mixtures.
4. ASTM D692 - Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
5. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction.
6. ASTM D977 - Standard Specification for Emulsified Asphalt.

7. ASTM D1073 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
8. ASTM D1188 - Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
9. ASTM D2027 - Standard Specification for Cutback Asphalt (Medium-Curing Type).
10. ASTM D2397 - Standard Specification for Cationic Emulsified Asphalt.
11. ASTM D2726 - Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures.
12. ASTM D2950 - Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods.
13. ASTM D3381 - Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.
14. ASTM D3515 - Standard Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
15. ASTM D3549 - Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
16. ASTM D3910 - Standard Practices for Design, Testing, and Construction of Slurry Seal.
17. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
18. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
19. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
20. ASTM E1918 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
21. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
22. Michigan Department of Transportation (MDOT) Standard Specifications for Construction, Current Edition.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data:
   1. Submit product information for asphalt and aggregate materials.
   2. Submit mix design with laboratory test results supporting design.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements for MDOT Standard Specifications for Construction.

1.4 QUALITY ASSURANCE

A. Mixing Plant: Conform to MDOT Standard Specifications for Construction.

B. Obtain materials from same source throughout.

C. Perform Work in accordance with MDOT Standard Specifications for Construction.

D. Maintain one copy of each document on site.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable local codes for paving work.

1.6 QUALIFICATIONS

A. Installer: Company specializing in performing work of this section with minimum 3 years documented experience.

1.7 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Ambient conditions control facilities for product storage and installation.

B. Do not place asphalt mixture when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.

C. Place asphalt mixture when temperature is not more than 15 degrees F less than initial mixing temperature.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Asphalt Cement: In accordance with MDOT Standard Specifications for Construction.

B. Aggregate for Leveling Course Mix: In accordance with MDOT Standard Specifications for Construction.

C. Aggregate for Wearing Course Mix: In accordance with MDOT Standard Specifications for Construction.

D. Fine Aggregate: In accordance with MDOT Standard Specifications for Construction.

E. Mineral Filler: In accordance with MDOT Standard Specifications for Construction.

2.2 ACCESSORIES

A. Primer: Homogeneous, medium curing, liquid asphalt in accordance with MDOT Standard Specifications for Construction.

B. Tack Coat: Homogeneous, medium curing, liquid asphalt in accordance with MDOT Standard Specifications for Construction.

2.3 ASPHALT PAVING MIX

A. Use dry material to avoid foaming. Mix uniformly.

B. Base Course: Provide mix in accordance with MDOT uniformity tolerances for bituminous mixtures.

C. Leveling Course: provide mix in accordance with MDOT uniformity tolerances for bituminous mixtures.

D. Wearing Course: provide mix in accordance with MDOT uniformity tolerances for bituminous mixtures.

2.4 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

B. Submit proposed mix design of each class of mix for review prior to beginning of Work.

C. Submit MDOT approved job mix formula (JMF) of each mix for review 14 days prior to commencement of work.

D. Test samples in accordance with AI MS-2 and MDOT Standard Specifications for Construction.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.

C. Verify compacted subgrade and subbase is dry and ready to support paving and imposed loads.
1. Proof roll subbase with a minimum of two passes to identify soft spots.
2. Remove soft subbase and replace with compacted fill as specified in Section 31 11 23.

D. Verify gradients and elevations of base are correct.

E. Verify drainage structure frames and casting, and valve boxes are installed in correct position and elevation.

3.2 PREPARATION

A. Prepare subbase in accordance with MDOT Standard Specifications for Construction.

3.3 DEMOLITION

A. Saw cut and notch existing paving, saw cutting shall be paid for as part of pavement removal.

B. Clean existing paving to remove foreign material, excess joint sealant and crack filler from paving surface.

C. Repair surface defects in existing paving to provide uniform surface to receive new paving.

3.4 INSTALLATION

A. Subbase:
   1. Aggregate Subbase: Install as specified in Section 32 11 23.

B. Primer:
   1. Apply primer in accordance with AI MS-2. MDOT Standard Specifications for Construction.
   2. Use clean sand to blot excess primer.

C. Tack Coat:
   1. Apply bond coat on existing, abutting asphalt and concrete surfaces according to manufacturer's instructions and MDOT Standard Specifications for Construction.
   2. Apply bond coat to contact surfaces of curbs, gutters, building walls and sidewalks. Prevent overspray from reaching adjacent surfaces.
   3. Coat surfaces of manhole and catch basin frames with oil to prevent bond with asphalt pavement. Do not bond coat these surfaces.
   4. Use clean sand to blot excess primer.

D. Single Course Asphalt Paving:
   1. Install Work in accordance with MDOT Standard Specifications for Construction.
   2. Place asphalt within 24 hours of applying primer or tack coat.
   3. Place asphalt wearing course to compacted thickness as indicated on the drawings and stated in the proposal.
   4. Compact paving by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
   5. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

E. Double Course Asphalt Paving:
   1. Place asphalt binder course within 24 hours of applying primer or tack coat.
   2. Place binder course to compacted thickness indicated on drawings and as stated in the proposal.
   3. Place wearing course within 24 hours of placing and compacting binder course. When binder course is placed more than 24 hours before placing wearing course, clean surface and apply tack coat before placing wearing course.
   4. Place wearing course to compacted thickness indicated on drawings and as stated in the proposal.
   5. Install drainage structures and frames, manhole frames, valve and monument boxes in correct position and elevation.
   6. Compact each course by rolling to specified density. Do not displace or extrude paving from position. Hand compact in areas inaccessible to rolling equipment.
   7. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.5 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

C. Scheduled Compacted Thickness: Within 1/4 inch.

D. Variation from Indicated Elevation: Within 1/4 inch.

3.6 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting, testing.

B. Take samples and perform tests in accordance with MDOT Standard Specifications for Construction.

C. Asphalt Paving Mix Temperature: Measure temperature at time of placement.

D. Asphalt Paving Thickness: ASTM D3549; test one core sample from every 1000 square yards compacted paving.

E. Asphalt Paving Density: ASTM D2950 nuclear method; density testing shall be performed at the discretion of the Engineer.

3.7 PROTECTION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Immediately after placement, protect paving from mechanical injury for 3 days.

END OF SECTION

SECTION 32 13 13

CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Concrete paving for:
      a. Concrete curbs and gutters.

B. Related Requirements:
   1. Section 31 22 13 - Rough Grading: Preparation of site for paving and base.
   2. Section 32 11 23 - Aggregate Base Courses.
   3. Section 32 91 19 - Landscape Grading: Preparation of subsoil at pavement perimeter.
   4. Section 33 05 13 - Manholes and Structures: Manholes including frames.

1.2 PRICE AND PAYMENT PROCEDURES

A. Section 01 20 00 - Price and Payment Procedures Contract Sum/Price

B. Concrete Curb and Gutter, Remove and Replace:
   1. Basis of Measurement: By the unit price bid per linear foot for concrete curb and gutter remove and replacement as stated in the proposal.
   2. Basis of Payment: Includes all associated material, labor and equipment, saw cutting, removal and disposal, providing and preparing base, placing concrete and accessories, joints, expansion joint fillers, joint seals or sealants, floating and finishing, curing, and driveway openings and curb cuts for sidewalk ramps. Engineer will mark sections in the field to be removed and replaced.

C. Concrete Curb and Gutter, Remove and Replacement:
   1. Basis of Measurement: By the unit price bid per square yard for 4” concrete sidewalk, remove and replace as stated in the proposal.
   2. Basis of Payment: Includes all associated material, labor and equipment, saw cutting, removal and disposal, providing and preparing base, placing concrete and accessories, joints, expansion joint fillers, joint seals or sealants, floating and finishing, curing, and driveway openings and curb cuts for sidewalk ramps as indicated on the plans.

D. 6” Sidewalk Ramp with Detectable Warning, Remove and Replacement:
   1. Basis of Measurement: By the unit price bid per square yard for 6” sidewalk ramp with detectable warning, remove and replace as stated in the proposal.
   2. Basis of Payment: Includes all associated material, labor and equipment, saw cutting, removal and disposal, providing and preparing base, placing concrete and accessories, joints, expansion joint fillers, joint seals or sealants, floating and finishing, curing, detectable warning surface, and curb cuts for sidewalk ramps as indicated on the plans.

E. Concrete Driveway, Remove and Replacement:
   1. Basis of Measurement: By the unit price bid per each for concrete driveway, remove and replace as stated in the proposal.
   2. Basis of Payment: Includes all associated material, labor and equipment, saw cutting, removal and disposal, providing and preparing base, placing concrete and accessories, joints,

expansion joint fillers, joint seals or sealants, floating and finishing, curing, and driveway openings as indicated on the plans.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:
   1. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

B. American Concrete Institute:
   1. ACI 301 - Specifications for Structural Concrete.
   2. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.

C. ASTM International:
   1. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
   2. ASTM A185/A185M - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
   3. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
   4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   5. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
   6. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
   7. ASTM A775/A775M - S Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
   8. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
   9. ASTM A934/A934M - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
   10. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
   11. ASTM C33 - Standard Specification for Concrete Aggregates.
   12. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
   13. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
   14. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
   15. ASTM C150 - Standard Specification for Portland Cement.
   16. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
   17. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
   18. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
   19. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
   20. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
   21. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
   22. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
   23. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
   24. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.

25. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
26. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
27. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
28. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
29. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
30. ASTM C1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
31. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
32. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
33. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
34. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
35. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
36. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
37. ASTM E1918 - Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field.
38. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data:
   1. Submit data on concrete materials, joint filler and admixtures curing compounds.

C. Design Data:
   1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
      a. Hot and cold weather concrete work.
   2. Identify mix ingredients and proportions, including admixtures.
   3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.

D. Source Quality Control Submittals: Indicate results of shop tests and inspections.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 301.

B. Obtain cementitious materials from same source throughout.

C. Perform Work in accordance with MDOT Standard Specifications for Construction.

D. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum 3 years documented experience.

1.7 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Ambient conditions control facilities for product storage and installation.

B. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 - PRODUCTS

2.1 AGGREGATE BASE COURSE

A. Aggregate Base Course: As specified in Section 32 11 23.

2.2 CONCRETE PAVING

A. Performance / Design Criteria:
   1. In accordance with Municipal, State, and Federal standards.

B. Form Materials:
   1. Form Materials: As specified in Section 03 10 00.
   2. Wood or Steel form material, profiled to suit conditions.
   3. Joint Filler: ASTM D1751; Asphalt impregnated fiberboard or felt, 1/2 inch thick.
   4. ANSI/ASTM D1751, performed type; 1/2 inch thick, full depth of concrete manufactured by ACD International, W.R. Meadows or equal.

C. Reinforcement:
   1. Reinforcing Steel and Wire Fabric: Conform to Municipal, State and Federal Standards. All reinforcement steel shall be epoxy coated.

D. Concrete Materials:
   1. Concrete Materials: As specified in Section 03 30 00.

2.3 MIXES

A. Concrete Mix - By Performance Criteria:
   1. Mix concrete in accordance with ACI 304. Deliver concrete in accordance with ASTM C94/C94M.
   2. Select proportions for normal weight concrete in accordance with ACI 301 Method 2.
   3. Provide concrete to the following criteria:
      a. As specified in 03 30 00 Concrete Cast in Place.

4. Limit the following cementitious materials to maximum percentage by mass of all cementitious materials:
   a. As specified in 03 30 00.
5. Use accelerating admixtures in cold weather only when approved by the Architect/Engineer in writing. Use of admixtures will not relax cold weather placement requirements.
6. Use set retarding admixtures during hot weather only when approved by the Engineer in writing.

2.4 FINISHES

A. Shop Finishing - Reinforcement:
   1. Galvanized Finish for Steel Bars: ASTM A767/A767M, Class I, hot dip galvanized after fabrication.
   2. Epoxy Coated Finish for Steel Bars: ASTM A775/A775M.

B. Epoxy Coated Finish for Steel Wire: ASTM A884/A884M; Class A, using ASTM A775/A775M.

2.5 ACCESSORIES

A. Curing Compound: ASTM C309, Type 1, FS TT-C-800, 30 percent solids manufactured by ACD International or equal.

B. Liquid Surface Sealer: Son-No-Mar manufactured by Sonneborn Building Products or equal.

C. Joint Sealers: Type II or Type III; hot applied type.

2.6 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing and Inspection Services.

B. Submit proposed mix design of each class of concrete to appointed firm for review prior to commencement of work. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.

C. Test samples in accordance with ACI 301.

D. Provide certification that materials conform with specified requirements.

2.7 DETECTABLE WARNING SURFACES

A. Manufacturers: From the MDOT Material Source Guide Qualified Product list.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify compacted subgrade and granular subbase is dry and ready to support paving and imposed loads.
   1. Remove soft subbase and replace with compacted fill as specified in Section 32 11 23.

C. Verify gradients and elevations of base are correct.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Moisten substrate to minimize absorption of water from fresh concrete.

C. Coat surfaces of manhole and catch basin frames with oil to prevent bond with concrete paving.

D. Verify correct line and grade of base.

E. Firmly stake forms to the required line and grade and provide for a finish transverse slope of 1/4 inch per foot towards the center of the road.

F. Notify Engineer minimum 48 hours prior to commencement of concreting operations.

G. Form sub-grade by excavating or filling with approved granular material, Type G or H as directed by Engineer to the required line and grade for bottom of concrete.

H. Remove unstable material from sub-grade and replace with approved granular material, Type G or H as directed by Engineer.

I. Compact sub-grade to insure stability.

3.3 INSTALLATION

A. Subbase:
   1. Aggregate Subbase: Install as specified in Section 32 11 23.

B. Forms:
   1. Place and secure forms and screeds to correct location, dimension, profile, and gradient.
   2. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

C. Removal:
   1. Provide curb cut by saw-cutting and removing the full curb section and gutter pan at locations where the proposed sidewalk adjoins existing curb and gutter at roadways and drives.
   2. Remove concrete curb full depth as shown on the drawings.
   3. Remove rubble, place compacted granular fill to correct line and grade.
   4. Leave existing reinforcement to extend 6 inches into proposed gutter pan.

D. Reinforcement:
   1. Place two #4 bars the entire length of the proposed gutter pan, lapped and tied to the existing reinforcement.
   2. Dowel proposed #4 bars 12 inches into existing gutter pan where existing bars were cut off or are absent.
   3. Place reinforcing at mid-height of paving.
   4. Interrupt reinforcing at contraction expansion joints.
   5. Place dowels to achieve paving and curb alignment as detailed.
   6. Provide doweled joints as specified in MDOT Standard Specifications for Construction.
   7. Repair damaged galvanizing or epoxy coating to match shop finish.

E. Placing Concrete:
   1. Place concrete using the slip form technique.
   2. Ensure reinforcing, inserts, embedded parts, and formed joints are not disturbed during concrete placement.
   3. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
   4. Thickness:
      a. Sidewalks: 4 inches normal and 6 inches at driveways, ramps, and parking areas.
      b. Curb cut and Gutter: Match existing.
   5. Width:
      a. Sidewalks: Match existing (minimum of 4').
      b. Cut curb and Gutter: As shown on the drawings.
   6. Place concrete in accordance with the MDOT current Standards for Construction.

F. Joints
   1. Place joint filler between paving components and building or other appurtenances.
   2. Place expansion joints between abutting buildings, sidewalk approaches, back of curb or gutter, or edge of pavement with the top flush with the finished surface of the sidewalk.
   3. Contraction Joints: Divide sidewalk into square unit areas of not more than 36 square feet nor less than 16 square feet.
   4. Construct joint groove in expansion joints according to MDOT Standard Plans for joint construction.
   5. Flush loose concrete and slurry from the groove and the immediate area.
   6. If the required seal is not installed within seven days of final sawing, temporarily seal the joint groove with approved material or device to prevent the infiltration of foreign material.
   7. Install either permanent seal or temporary seal before allowing vehicles to travel over the full width joint grooves.
   8. Saw joints in two stages, in accordance with the following:
      a. Place relief cut directly over the center of the load transfer assembly or over the preformed joint filler. Make the relief cut after the concrete hardens and will not excessively ravel or spall, but before random cracks develop in the concrete pavement. Immediately stop sawing if sawing operation causes excessive raveling or spalling, and continue to monitor the concrete hardness before resuming sawing operations. Do not allow traffic cover the expansion join relief cuts.
      b. Center the joint groove over the relief cut. Adjust the groove width to compensate for change in the relief cut due to pavement contraction. Immediately stop sawing if sawing operation causes excessive raveling or spalling, and continue to monitor the concrete hardness before resuming sawing operations. Maintain the curing of the concrete near the joint, and if required, install the permanent joint sealant or place temporary cover material. Give second stage sawing of expansion joints priority over second stage contraction joint sawing, if higher pavement temperatures are forecast.
   9. If proposing an alternative method for sawing, submit a plan to the Engineer for approval.
   10. The Engineer will not allow spalling, raveling, and random cracks in the concrete pavement. Repair raveling or spalling in accordance with MDOT Standard Specifications for Construction. Remove and replace random cracked panels as directed by the Engineer.
   11. Locations of transverse joints in the pavement, shoulder, curb and gutter, valley gutter and base course shall be in accordance with MDOT Standard Plans.
   12. Place load transfer assemblies if required by MDOT Standard Plans.
   13. Place expansion joint filler in accordance with MDOT Standard Plans.

G. Finishing:

1. After concrete has been struck off to finish grade, float surface with a steel float to produce a smooth surface.
2. Area Paving: Light broom.
3. Sidewalk Paving: Light broom.
4. Median Barrier: Light broom.
5. Curbs and Gutters: Light broom.
6. Direction of Texturing: Lightly broom transversely across the surface to create a slightly rough surface. Round edges and joint to a radius of 1/4 inch with an approved finishing tool.
7. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

H. Curing and Protection
1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
3. During cold weather, protect concrete from freezing for a period of 3 days.
4. Protect concrete from traffic for a minimum of 7 days.

I. Finish Grading
1. Place surplus excavation in outlawn and level to existing contours.
2. Remove excess excavation unable to be used in outlawn.
3. Spread 4 inches minimum topsoil over entire disturbed area.
4. Furnish and install embankment in accordance with MDOT Standard Specifications for Construction, Section 2.08.11.

J. Detectable Warning Surface
1. Install in accordance with Manufacturer's specifications and MDOT Standard Plan R-28 Series.

3.4 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.

C. Maximum Variation From True Position: 1/4 inch.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting, testing.

B. Engineer will take cylinders and perform slump and air entrainment tests in accordance with ACI 301. The frequency the tests are taken, shall be at the Engineer's discretion.

C. Strength Test Samples:
1. Sampling Procedures: ASTM C172.
2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
3. Sample concrete and make one set of three cylinders for every 75 cu yds. or less of each class of concrete placed each day.
4. Make one additional cylinder during cold weather concreting, and field cure.

D. Field Testing:
   1. Slump Test Method: ASTM C143/C143M.
   2. Air Content Test Method: ASTM C173/C173M.
   3. Temperature Test Method: ASTM C1064/C1064M.
   4. Measure slump and temperature for each compressive strength concrete sample.
   5. Measure air content in air entrained concrete for each compressive strength concrete sample.

E. Cylinder Compressive Strength Testing:
   1. Test Method: ASTM C39/C39M.
   2. Test Acceptance: In accordance with MDOT Standards.
   3. Test one cylinder at 7 days.
   4. Test two cylinders at 28 days.
   5. Dispose remaining cylinders when testing is not required.

F. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.6 PROTECTION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.

C. Do not permit pedestrian vehicular traffic over paving for 7 days minimum after finishing.

END OF SECTION

SECTION 32 15 41

PULVERIZING

PART 1 - GENERAL

1.1 SECTION INCLUDES:

A. Pulverizing the existing bituminous surface.

B. Re-grading the mixture to the proposed grade, section thickness, and compaction of the mixture to the required density.

C. Hauling excess pulverized material to a site designated by Owner.

1.2 RELATED SECTIONS:

1. Section 01 40 00 - Quality Requirements.

1.3 REFERENCES:

A. Michigan Department of Transportation (MDOT) 2020 Standard Specifications and Drawings.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 EQUIPMENT

A. The crushing equipment shall be an approved rotary reduction machine having positive depth control which is continually adjustable. The machine shall be of a type designed by the manufacturer specifically for the reduction of pavement material, in place, and be capable of reducing the pavement material to the specified size. The cutting drums shall be enclosed and shall use a sprinkling system around the reduction chamber for pollution control. The rate of forward speed must be positively controlled in order to ensure consistent size of reduced material. The machine must be equipped with an accurate tachometer which is mounted in full view of the operator. The crushing equipment shall meet the approval of the Engineer. The rolling equipment shall include both a rubber tired roller and a steel drum roller. The rubber tired roller shall be loaded to 20 ton. The steel drum roller shall be loaded to 20 ton. Verify that prepared soil base is ready to receive the Work of this section.

B. An approved bituminous paving machine or grader equipped with an automated slope control device capable of providing finished grade with a uniform cross slope of 2% to the width and depth specified.

3.2 CONSTRUCTION METHODS

A. The existing roadway shall be pulverized in accordance with Section 305 of the 2020 Michigan Standard Specifications for Construction.

B. The material shall be uniformly pulverized to a maximum size of 1.5 inches, except 5 percent of the material may be oversized, provided that the oversized material is not so large as to adversely affect the stability and structural integrity of the mixture nor hamper the shaping operations.

C. Excess pulverized material shall be relocated off site.

END OF SECTION

SECTION 32 91 13
SOIL PREPARATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Preparation of subsoil.
2. Soil testing.
3. Placing topsoil.

B. Related Sections:

1. Section 31 05 13 – Soils for Earthwork: Topsoil material.
2. Section 31 22 13 - Rough Grading: Rough grading of site.
3. Section 31 23 17 - Trenching: Rough grading over cut.
4. Section 32 91 19 - Landscape Grading: Preparation of subsoil and placement of topsoil in preparation for the Work of this section.
5. Section 32 92 19 – Seeding.

1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Submit minimum 10 lb sample of topsoil proposed. Forward sample to approved testing laboratory in sealed containers to prevent contamination.

C. Test Reports: Indicate topsoil nutrient and pH levels with recommended soil supplements and application rates.

D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

E. Disregard sample submission of recent test results are available for type of fill.

1.3 QUALITY ASSURANCE

A. Perform Work in accordance with State of Michigan Department of Transportation’s Standard.

B. Maintain one copy of each document on site.

PART 2 PRODUCTS

2.1 PROTECTION

A. Protect landscaping and other features remaining as final work.

B. Protect existing structures, fences, roads, sidewalks, paving, mailboxes, and curbs.

2.2 SOIL MATERIALS

A. Topsoil Minimum 4” Compacted Depth: As specified in Section 32 05 13 Type S3.

B. Topsoil: Imported, fabric loam; free of subsoil, roots, grass, excessive amount of weeds, stone, and foreign matter; acidity range (pH) of 5.5 to 7.5; containing a minimum of 4 percent and a maximum of 25 percent organic matter.

C. Topsoil: Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, taken from drained site; free of subsoil, clay or impurities, plants, weeds and roots; pH value of minimum 5.5 and maximum 7.5.

2.3 ACCESSORIES

A. Mulching Material: Conwed Verdoyl #2000.

B. Fertilizer: FS O-F-241, Commercial Grade with 12-12-12 analysis.

C. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.

D. Erosion Fabric: Jute matting, open weave.

E. Stakes: softwood lumber, chisel pointed.

2.4 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

C. Provide recommendation for fertilizer and lime application rates for specified seed mix as result of testing.

D. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify prepared soil base is ready to receive the Work of this section.

3.2 PREPARATION OF SUBSOIL

A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.

C. Eliminate uneven areas and low spots. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove subsoil contaminated with petroleum products.

D. Scarify subsoil to depth of 3 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.3 PLACING TOPSOIL

A. Spread topsoil to minimum compacted depth of 4 inches over area to be seeded. Rake until smooth.

B. Place topsoil during dry weather and on dry unfrozen subgrade.

C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.

D. Fine grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

E. Install edging at periphery of seeded areas in straight lines to consistent depth.

F. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.

G. Manually spread topsoil around trees and plants to prevent damage.

H. Lightly compact. Roll placed topsoil.

I. Remove surplus subsoil and topsoil from site.

J. Leave stockpile area and site clean and raked, ready to receive landscaping.

K. Place required trees shrubs, fences, and mail boxes in their proper locations.

L. Reconstruct and place guard rails in proper locations to meet MDOT and Municipal specifications. END OF SECTION

SECTION 32 91 19
LANDSCAPE GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Final grade topsoil for finish landscaping.

B. Related Sections:
   1. Section 31 05 13 – Soils for Earthwork.
   2. Section 31 22 13 - Rough Grading: Site contouring.
   3. Section 31 23 17 - Trenching: Backfilling trenches.
   4. Section 31 23 23 - Fill: Backfilling at building areas.
   5. Section 32 92 19 - Seeding and Soil Supplements: Finish ground cover.
   6. Section 32 93 00 - Plants: Topsoil fill for trees, plants and ground cover.

1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures

B. Samples: If necessary by the Engineer, submit, in air-tight containers, 10 lb sample of each type of fill to testing laboratory.

C. Materials Source: Submit name of imported materials source.

D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.3 QUALITY ASSURANCE

A. Furnish each topsoil material from single source throughout the Work.

B. Perform Work in accordance with State of Michigan Department of Transportation Standards.

C. Maintain one copy on site.

PART 2 PRODUCTS

2.1 MATERIAL

A. Topsoil: Fill Type S3 as specified in Section 31 05 13.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify building and trench backfilling have been inspected.

C. Verify substrate base has been contoured and compacted.

3.2 PREPARATION

A. Protect landscaping and other features remaining as final Work.

B. Protect existing structures, fences, sidewalks, utilities, paving, and curbs.

3.3 SUBSTRATE PREPARATION

A. Eliminate uneven areas and low spots.

B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove contaminated subsoil.

C. Scarify surface to depth of 3 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.4 PLACING TOPSOIL

A. Place topsoil in areas where seeding, sodding or planting, is required to minimum depth of 4 inches. Place topsoil during dry weather.

B. Fine grade topsoil to eliminate rough or low areas. Maintain profiles and contour of subgrade.

C. Remove roots, weeds, rocks, and foreign material while spreading.

D. Manually spread topsoil close to plant material, building, utilities and curbs to prevent damage.

E. Roll placed topsoil.

F. Remove surplus subsoil and topsoil from site.

G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.5 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Top of Topsoil: Plus or minus 1/2 inch.

3.6 PROTECTION OF INSTALLED WORK

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Prohibit construction traffic over topsoil.

3.7 SCHEDULES

A. Compacted topsoil thicknesses:
   1. Seeded Grass: 6 inches.
   2. Sod: 4 inches.
   3. Shrub Beds: 18 inches.
   4. Flower Beds: 12 inches.
   5. Planter Boxes: To within 3 inches of box rim.

END OF SECTION

SECTION 32 92 19
SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Fertilizing.
2. Seeding.
3. Hydroseeding.
4. Mulching.
5. Maintenance.

B. Related Sections:

1. Section 31 05 13 – Soils for Earthwork: Topsoil material.
2. Section 31 22 13 - Rough Grading: Rough grading of site.
3. Section 31 23 17 - Trenching: Rough grading over cut.
4. Section 32 05 13 - Soils for Exterior Improvements: Topsoil material.
5. Section 32 91 13 - Soil Preparation
6. Section 32 91 19 - Landscape Grading: Preparation of subsoil and placement of topsoil in preparation for the Work of this section.
7. Section 32 92 23 - Sodding.
8. Section 32 93 00 - Plants.

1.2 REFERENCES

A. ASTM International:
1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

B. FS 0-F-241 – Fertilizers, Mixed, Commercial.

1.3 DEFINITIONS

A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.

C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Operation and Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.

1.6 QUALITY ASSURANCE

A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

B. Perform Work in accordance with State of Michigan Department of Transportation Standards.

C. Provide signed affidavit stating the amount and type of seed, fertilizer, and mulch applied per acre.

D. Maintain one copy of each document on site.

1.7 REGULATOR REQUIREMENTS

A. Comply with regulatory agencies for fertilizer and herbicide composition.

1.8 QUALIFICATIONS

A. Seed Supplier: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum 3 years documented experience.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.10 MAINTENANCE SERVICE

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance service.

B. Maintain seeded and sodded areas immediately after placement until grass is well established, exhibits a vigorous growing condition and is accepted by Owner. Guarantee replacement of dead material for one year from date of substantial completion.

C. Contractor shall be responsible for maintaining adequate seedbed moisture until the sodbed is established.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Furnish materials in accordance with Municipal, Federal and State Standards.

B. Seed Mixture:

Kentucky Blue Grass	30 percent
Creeping Red Fescue Grass	40 percent
Perennial Rye Grass (Manhattan)	30 percent

2.2 ACCESSORIES

A. Mulching Material: Conwed Verdoyl #2000.

B. Fertilizer: FS 0-F-241, Commercial Grade A with 12 12 12 analysis.

C. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.

D. Lime: ASTM C602, Class T agricultural limestone containing a minimum 80 percent calcium carbonate equivalent.

E. Erosion Fabric: Jute matting, open weave.

F. Stakes: Softwood lumber, chisel pointed.

G. String: Inorganic fiber.

2.3 SOURCE QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing, inspection and analysis requirements.

B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

C. Provide recommendation for fertilizer and lime application rates for specified seed mix as result of testing.

D. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

E. Notify Engineer 72 hours prior to hydroseeding and fertilizing for approval to proceed.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify prepared soil base is ready to receive the Work of this section.

C. Landscape Seeding: Verify that prepared soil base is read to receive the work of this section. See Section 32 91 19 – Landscape Grading.

3.2 FERTILIZING

A. Apply fertilizer at application rate 500 lbs per acre.

B. Apply after smooth raking of topsoil and prior to roller compaction.

C. Do not apply fertilizer at same time or with same machine used to apply seed.

D. Mix fertilizer thoroughly into upper 2 inches of topsoil.

E. Lightly water soil to aid dissipation of fertilizer. Irrigate top level of soil uniformly.

3.3 SEEDING

A. Apply seed at rate of 500 lbs per acre evenly in two intersecting directions. Rake in lightly.

B. Do not seed areas in excess of that which can be mulched on same day.

C. Planting Season: May 1 to October 10 unless otherwise approved by the Engineer.

D. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.

E. Roll seeded area with roller not exceeding 112 lbs/linear foot.

F. Immediately following seeding and compacting, apply mulch to thickness of 1/8 inches. Maintain clear of shrubs and trees.

G. Apply water with fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

3.4 HYDROSEEDING

A. Apply seed, fertilizer and mulch slurry with a hydraulic seeder at a rate of 200 lbs. per acre of seed, 500 lbs per acre of fertilizer and 14000 lbs per acre of mulch, evenly on prepared seedbed. Do not apply slurry on shrubs or trees.

B. Apply water with fine spray immediately after each area has been hydroseeded. Saturate to 3 inches of soil and maintain moisture levels two to four inches.

C. Planting Season: May 1, to October 10, unless otherwise approved by the Engineer.

3.5 SEED PROTECTION

A. Cover seeded slopes where grade is 6 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.

C. Secure outside edges and overlaps at 36 inch intervals with stakes.

D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.6 MAINTENANCE

A. Immediately reseed areas which show bare spots.

B. Repair any eroded areas and reseed immediately.

C. Contractor shall guarantee a uniform grass growth over the entire project and shall reseed bare and thin areas until this is accomplished at no additional cost to the project.

D. Water to prevent grass and soil from drying out.

E. Roll surface to remove minor depressions or irregularities.

F. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.

G. Immediately reseed areas showing bare spots.

H. Repair washouts or gullies.

I. Protect seeded areas with warning signs during maintenance period.

END OF SECTION

SECTION 33 05 13

MANHOLES AND STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Cast-in-place concrete manholes and structures with transition to cover frame, covers, anchorage, and accessories.
2. Modular precast concrete manholes and structures with tongue-and-groove joints and transition to cover frame, covers, anchorage, and accessories.
3. Masonry manhole and structure sections with masonry transition to cover frame, covers, anchorage, and accessories.
4. Doghouse manhole connections to existing storm sewer lines.
5. Bedding and cover materials.
6. Pile support systems.

B. Related Sections:
1. Section 03 30 00 - Cast-in-Place Concrete: Concrete type for manhole and structure foundation slab construction.
2. Section 31 23 16 - Excavation: Excavating for manholes, structures, and foundation slabs.
3. Section 31 23 23 - Fill: Backfilling after manhole and structure installation.
4. Section 33 41 13 - Public Storm Utility Drainage Piping: Piping connections to manholes and structures.

1.2 REFERENCE STANDARDS

A. American Association of State Highway Transportation Officials:
1. AASHTO M91 - Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale).
2. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
3. AASHTO M306 - Standard Specification for Drainage, Sewer, Utility, and Related Castings.

B. American Concrete Institute:
1. ACI 530/530.1 - Building Code Requirements and Specification for Masonry Structures.

C. ASTM International:
1. ASTM A48 - Standard Specification for Gray Iron Castings.
2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM C32 - Standard Specification for Sewer and Manhole Brick (Made From Clay or Shale).
4. ASTM C55 - Standard Specification for Concrete Building Brick.
5. ASTM C361 - Standard Specification for Reinforced Concrete Low-Head Pressure Pipe.
6. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.

7. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
8. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
9. ASTM C923 - Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals.

1.3 SUBMITTALS

A. Product Data: Submit data for manhole covers, component construction, features, configuration, dimensions.

B. Shop Drawings:
   1. Indicate structure locations and elevations.
   2. Indicate sizes and elevations of piping, conduit, and penetrations.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.

E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

F. Qualifications Statements:
   1. Submit qualifications for manufacturer and installer.
   2. Submit manufacturer's approval of installer.

1.4 QUALITY ASSURANCE

A. Perform Work according to MDOT Standard Specifications for Construction, current edition.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Comply with precast concrete manufacturer's instructions and ASTM C913 for unloading, storing, and moving precast manholes and drainage structures.

D. Storage:

1. Store precast concrete manholes and drainage structures to prevent damage to Owner's property or other public or private property.
2. Repair property damaged from materials storage.

1.7 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Cold Weather Requirements: Comply with ACI 530/530.1.

PART 2 - PRODUCTS

2.1 COVERS

A. Castings as indicated on the Drawings.

2.2 RISER RINGS

A. Manufacturers:
1. Furnish materials in accordance to MDOT Standard Specifications for Construction, current edition.
2. Comply with ASTM C478

2.3 ACCESSORIES

A. Geotextile Filter Fabric per Section 31 32 21 – Filter Fabric.

B. Bedding/Backfill Materials: See Section 31 23 23 – Fill.

2.4 REINFORCING

A. Steel reinforcing bars and mesh must comply with American Iron and Steel requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that items provided by other Sections of Work are properly sized and located.

C. Verify that built-in items are in proper location and are ready for roughing into Work.

D. Verify correct size of manhole and structure excavation.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers as indicated on Drawings to indicate its intended use.

C. Coordinate placement of inlet and outlet pipe or duct sleeves required by other Sections.

D. Do not install manholes and structures where Site conditions induce loads exceeding structural capacity of manholes or structures.

E. Inspect precast concrete manholes and structures immediately prior to placement in excavation to verify that they are internally clean and free from damage; remove and replace damaged units.

3.3 INSTALLATION

A. Excavation and Backfill:
   1. Excavate for manholes and structures as specified in Section 31 23 16 - Excavation and in indicated locations and depths.
   2. Provide clearance around sidewalls of manhole or structure for construction operations including placing backfill and placement of geotextile filter fabric.
   3. If groundwater is encountered, prevent accumulation of water in excavations; place manhole or structure in dry trench.
   4. Where possibility exists of watertight manhole or structure becoming buoyant in flooded excavation, anchor manhole or structure to avoid flotation, as approved by Architect/Engineer.

B. Install manholes and structures supported at proper grade and alignment on crushed stone bedding as indicated on Drawings.

C. Backfill excavations for manholes and structures as specified in Section 31 23 16 – Excavation and Section 31 23 23 - Fill.

D. Place manhole or structure cylinder plumb and level, to correct dimensions and elevations.

E. Cut and fit for pipe.

F. Grout base of shaft sections to achieve slope to exit piping, trowel smooth, and contour to form continuous drainage channel as indicated on Drawings.

G. Set cover frames and covers level to correct elevations without tipping.

H. Precast Concrete Manholes and Structures:
   1. Lift precast components at lifting points designated by manufacturer.
   2. When lowering manholes and structures into excavations and joining pipe to units, take precautions to ensure that interior of pipeline and structure remains clean.

3. Set precast structures, bearing firmly and fully on crushed stone bedding, compacted as specified in Section 31 23 16 - Excavation and Section 31 23 23 - Fill or on other support system as indicated on Drawings.
4. Assembly:
   a. Assemble multi-section manholes and structures by lowering each section into excavation.
   b. Install rubber gasket joints between precast sections according to manufacturer's recommendations.
   c. Lower, set level, and firmly position base section before placing additional sections.
5. Remove foreign materials from joint surfaces and verify sealing materials are placed properly.
6. Maintain alignment between sections by using guide devices affixed to lower section.
7. Joint sealing materials may be installed on Site or at manufacturer's plant.
8. Verify that installed manholes and structures meet required alignment and grade.
9. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe; fill annular spaces with mortar.
10. Cut pipe flush with interior of structure.
11. Shape inverts through manhole and structures as indicated on Drawings.

I. Castings:
   1. Set frames using mortar and masonry as indicated on Drawings.

3.4 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.

B. Test concrete manhole and structure sections according to ASTM C497.

C. Vertical Adjustment of Existing Manholes and Structures:
   1. If required, adjust top elevation of existing manholes and structures to finished grades as indicated on Drawings.
   2. Frames, Grates, and Covers:
      a. Carefully remove frames, grates, and covers cleaned of mortar fragments.
      b. Reset to required elevation according to requirements specified for installation of castings.
   3. Reinforcing Bars:
      a. Remove concrete without damaging existing vertical reinforcing bars if removal of existing concrete wall is required.
      b. Clean vertical bars of concrete and bend into new concrete top slab or splice to required vertical reinforcement as indicated on Drawings.

END OF SECTION

SECTION 33 05 13.16
PUBLIC MANHOLES AND STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Cast-in-Place concrete manholes and structures with masonry transition to cover frame, covers, anchorage, and accessories.
2. Modular precast concrete manholes and structures with tongue-and-groove joints with masonry transition to cover frame, covers, anchorage, and accessories.
3. Masonry manhole and structure sections with masonry transition to cover frame, covers, anchorage, and accessories.
4. Doghouse manhole connections to existing sanitary and storm sewer lines.
5. Bedding and cover materials.
6. Pile support systems.

B. Related Sections:
1. Section 03 10 00 - Concrete Forming and Accessories.
2. Section 03 30 00 - Cast-In-Place Concrete
3. Section 03 60 00 - Grouting.
4. Section 31 05 13 - Soils for Earthwork
5. Section 31 05 16 - Aggregates for Earthwork
6. Section 31 23 16 - Excavation
7. Section 33 01 30.13 - Sewer and Manhole Testing.
8. Section 33 41 13 - Public Storm Utility Drainage Piping

1.2 REFERENCES

A. American Association of State Highway Transportation Officials:
1. AASHTO M288 - Geotextiles.
2. AASHTO M306 - Drainage Structure Castings.
3. AASHTO M91 - Sewer and Manhole Brick (Made from Clay or Shale).

B. American Concrete Institute:
1. ACI 530/530.1 - Building Code Requirements for Masonry Structures and Specifications for Masonry Structures.

C. ASTM International:
1. ASTM A48/A48M - Standard Specification for Gray Iron Castings.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM C32 - Standard Specification for Sewer and Manhole Brick (Made From Clay or Shale).
4. ASTM C55 - Standard Specification for Concrete Brick.
5. ASTM C361 - Standard Specification for Reinforced Concrete Low-Head Pressure Pipe.
6. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
7. ASTM C497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.

8. ASTM C913 - Standard Specification for Precast Concrete Water and Wastewater Structures.
9. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate structure locations, elevations, piping, conduit, and sizes and elevations of penetrations.

C. Product Data: Submit manhole covers, component construction, features configuration and dimensions.

1.4 DEFINITIONS

A. Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with Local, State and Federal standards.

B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum 3 years documented experience.

1.7 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Comply with precast concrete manufacturer’s instructions and ASTM C913 for unloading, storing and moving precast manholes and drainage structures.

C. Store precast concrete manholes and drainage structures to prevent damage to Owner’s property or other public or private property. Repair property damaged from materials storage.

D. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers shown on Drawings to indicate its intended use.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Maintain materials and surrounding air temperature to minimum 50 degrees F prior to, during, and 48 hours after completion of masonry work.

C. Cold Weather Requirements: ACI 530/530.1.

1.9 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 01 70 00.

B. Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations and submit to Engineer prior to closeout.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.10 REGULATORY REQUIREMENTS

A. Conform to applicable code for materials and installation of the work of this section.

B. Conform to applicable standards for pipe and fitting identification and markings.

1.11 FIELD MEASUREMENTS

A. Verify that field measurements and elevations are indicated.

1.12 COORDINATION

A. Coordinate work under provisions of Section 01 30 00.

PART 2 - PRODUCTS

2.1 MANHOLES AND STRUCTURES

A. Manufacturers:
   1. Northern Concrete Pipe or equal.
   2. Substitutions: Section 01 60 00 - Product Requirements.

B. Manhole and Structure Sections: Reinforced precast concrete in accordance with ASTM C478 with gaskets in accordance with ASTM C923.
   1. Joints for Precast Manholes and Structures: In accordance with ASTM C913; maximum leakage of 0.025 gallons per hour per foot of joint at 3 feet of head.

2.2 FRAMES AND COVERS

A. Manufacturers:
   1. East Jordan Iron Works
   2. Substitutions: Not Permitted.

2.3 COMPONENTS

A. Manhole and Structure Steps: Formed polypropylene rungs; 3/4 inch diameter. Formed integral with manhole sections.

B. Foundation Slab: Precast, leveled top surface.

2.4 CONFIGURATION

A. Shaft Construction and Eccentric Cone Top Section: Reinforced precast Concrete pipe sections, lipped male/female dry joints, sleeved to receive pipe conduit and sections.

B. Shape: Cylindrical.

C. Clear Inside Dimensions: As indicated on Drawings.

D. Design Depth: As indicated on Drawings.

E. Clear Cover Opening: As indicated on Drawings.

F. Pipe Entry: Furnish openings as indicated on Drawings.

G. Structure Joint Gaskets: ASTM C361; rubber.

H. Steps: 12 inches wide, 16 inches on center vertically, set into structure wall. As indicated on Drawings.

I. Steps: As required by code.

2.5 ACCESSORIES

A. Geotextile Filter Fabric: AASHTO M288 for Subsurface Drainage Non-biodegradable, non-woven.

B. Concrete: Specified in Section 03 30 00.

C. Grout: Specified in Section 03 60 00.

D. Expandable Pipe Plug:
1. Substitutions: Section 01 60 00 - Product Requirements.

2.6 BEDDING AND COVER MATERIALS

A. Bedding: Fill Type 6A compacted crushed limestone as specified in Section 31 05 16.

B. Cover: Fill Type MDOT Class II, as specified in Section 31 05 16.

C. Soil Backfill from Above Pipe to Finish Grade: Soil Type Native Subsoil, in green belt areas and fill type MDOT Class II anywhere within the 1 on 1 influence of the road and as specified in Section 31 05 13.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify items provided by other sections of Work are properly sized and located.

C. Verify built-in items are in proper location, and ready for roughing into Work.

D. Verify correct size of manhole and structure excavation.

3.2 PREPARATION

A. Coordinate placement of inlet and outlet pipe or duct sleeves required by other sections.

B. Do not install manholes and structures where site conditions induce loads exceeding structural capacity of manholes or structures.

C. Inspect precast concrete manholes and structures immediately prior to placement in excavation to verify manholes and structures are internally clean and free from damage. Remove and replace damaged units.

D. Cut out soft areas of subgrade not capable of insitu compaction. Backfill with 6A compacted crushed limestone fill and compact to density equal to or greater than requirements for support of pipe or structure and subsequent backfill material.

3.3 INSTALLATION - GENERAL

A. Excavation and Backfill:
   1. Excavate for manholes and structures in accordance with Section 31 23 16 in location and to depth shown. Provide clearance around sidewalls of manhole or structure for construction operations, granular backfill and placement of geotextile filter fabric.
   2. When groundwater is encountered, prevent accumulation of water in excavations. Place manholes or structures in dry trench.
   3. Where possibility exists of watertight manhole or structure becoming buoyant in flooded excavation, anchor manhole or structure to avoid flotation.

B. Place foundation slab, trowel top surface level.

C. Place manhole sections plumb and level, trim to correct elevations, anchor to foundation slab.

D. Install manholes and structures supported at proper grade and alignment with crushed stone bedding as shown on Drawings.

E. Backfill excavations for manholes and structures in accordance with Section 31 23 17.

F. Form and place manhole or structure cylinder plumb and level, to correct dimensions and elevations.

G. Cut and fit for pipe and accessories.

H. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour to form continuous drainage channel.

I. Paint interior with 2 coats of bituminous interior coating at rate of 120 square feet per gallon for each coat.

J. Set cover frames and covers level without tipping, to correct elevations.

3.4 PRECAST CONCRETE MANHOLE AND STRUCTURE INSTALLATION

A. Lift precast manholes and structures at lifting points designated by manufacturer.

B. When lowering manholes and structures into excavations and joining pipe to units, take precautions to ensure interior of pipeline and manhole or structure remains clean.

C. Set precast manholes and structures bearing firmly and fully on crushed stone bedding, compacted in accordance with provisions of Section 31 23 16 or on other support system shown on Drawings.

D. Assemble multi-section manholes and structures by lowering each section into excavation. Install rubber gasket joints between precast sections in accordance with manufacturer's recommendations. Lower, set level, and firmly position base section before placing additional sections.

E. Remove foreign materials from joint surfaces and verify sealing materials are placed properly. Maintain alignment between sections by using guide devices affixed to lower section.

F. Joint sealing materials may be installed on site or at manufacturer's plant.

G. Verify manholes and structures installed satisfy required alignment and grade.

H. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe. Fill annular space with mortar.

I. Cut pipe to finish flush with interior of manhole or structure.

J. Grout base of shaft sections to achieve slope to exit piping. Trowel smooth. Contour to form continuous drainage channel.

K. Install according to manufacturer's instructions.

L. Form bottom of excavation clean and smooth to correct elevation.

M. Place precast concrete base pad, tee sections, and sections with integral bottoms on 6 inches of MDOT 6A compacted crushed limestone bedding.

N. Level top surface of base pad or tee section to receive concrete shaft sections.

O. Establish elevations and pipe inverts for inlets and outlets as indicated.

P. Mount lid and frame level in grout, secured to top cone section or flat top to elevation indicated.

Q. Grout all joints between base pad, pipe connections, and top.

R. Install barrel sections, cone section, and frame and cover to elevation indicated.

S. Maximum height from top of cone to bottom of frame shall be 12 inches.

T. Install stubs and branch connections at locations and elevations. Close ends with approved plug.

U. Bed stubs and branch connections as indicated on the plan.

3.5 DOGHOUSE MANHOLE AND STRUCTURE INSTALLATION

A. Stake out location and burial depth of existing sewer line in area of proposed manhole or structure.

B. Carefully excavate around existing sewer line to adequate depth for foundation slab installation. Protect existing pipe from damage. Cut out soft spots and replace with granular fill compacted to 95% dry density.

C. Prepare crushed stone bedding or other support system shown on Drawings, to receive foundation slab as specified for precast manholes and structures.

D. Install pre-cast concrete manhole or structure around existing pipe in accordance with the appropriate paragraphs specified herein.

E. Grout pipe entrances in accordance with Section 03 60 00.

F. Paint interior with 2 coats of bituminous interior coating at rate of 120 square feet per gallon for each coat.

G. Block upstream flow at existing manhole or structure with expandable plug.

H. Use hydraulic saw to cut existing pipe at manhole or structure entrance and exit and along pipe length at a point halfway up the outside diameter on each side of the pipe. Bottom half of pipe shall remain as manhole flow channel. Saw cut to have a smooth finish with top half of pipe flush with interior of manhole or structure.

I. Grout base of manhole or structure to achieve slope to manhole or structure channel in accordance with Section 03 60 00. Trowel smooth.

3.6 CONNECTION TO EXISTING DRAINAGE STRUCTURES

A. Cut a minimum opening equal to the outside diameter of the inlet pipe plus 6 inches into the receiving structure.

B. Pack a minimum 3-inch mortar layer completely around the inlet pipe and strike smooth with the inner wall of the structure.

C. Repair or replace any existing drainage structure damaged during the tapping operation.

3.7 CASTINGS INSTALLATION

A. Set frames using mortar and masonry as indicated on Drawings. Install radially laid concrete brick with 1/4 inch thick vertical joints at inside perimeter. Lay concrete brick in full bed of mortar and completely fill joints. Where more than one course of concrete brick is required, stagger vertical joints.

B. Set frame and cover 2 inches above finished grade for manholes and other structures with covers located within unpaved areas to allow area to be graded away from cover beginning 1 inch below top surface of frame.

C. Core castings per the manhole cover adjustment (paved areas) detail as shown on the plans.

D. Adjust castings to final grade in areas to be paved using thermoplastic molding bolted to the manhole/catch basin top.

E. Cure concrete per section 32 13 13.

3.8 REMOVAL – EXISTING CATCHBASINS AND MANHOLES

A. Remove existing structures complete at locations indicated on the drawings.

B. Maintain continuous service in live lines.

C. Reconnect lines scheduled to remain in service, as indicated on the drawings.

3.9 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Test cast-in-place concrete in accordance with Section 03 30 00.

C. Test concrete manhole and structure sections in accordance with ASTM C497.

D. Vertical Adjustment of Existing Manholes and Structures:
   1. Where required, adjust top elevation of existing manholes and structures to finished grades shown on Drawings or determined in the field.
   2. Reset existing frames, grates and covers, carefully removed, cleaned of mortar fragments, to required elevation in accordance with requirements specified for installation of castings.
   3. Remove concrete without damaging existing vertical reinforcing bars when removal of existing concrete wall is required. Clean vertical bars of concrete and bend into new concrete top slab or splice to required vertical reinforcement, as indicated on Drawings.
   4. Clean and apply sand-cement bonding compound on existing concrete surfaces to receive cast-in-place concrete in accordance with Section 03 30 00.

3.10 INSTALLATION – END SECTIONS

A. Protect the ends of culvert by end section according to MDOT standards.

B. Use precast concrete end sections on concrete culverts.

C. Place them at the locations and elevations shown on the plans.

D. Fasten end section securely to the pipe as recommended by the manufacturer or as directed by the Engineer.

E. For concrete end sections, wrap the joint with a 36” wide geotextile blanket centered on the joint.

3.11 INSTALLATION STEEL GRATES

A. Fabricate end section grates from any grade of weldable hot-rolled steel bars, plain or deformed in accordance with MDOT Standard Specifications for Construction. Cut grate and mount to match slope of end section. Fasten grates securely to the concrete end sections.

3.12 PROTECTION

A. Protect finished work under provisions of Section 01 50 00 – Temporary Facilities and Controls.

B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

3.13 SCHEDULES

A. Manholes: Precast concrete sections, plastic coated steel steps, not less than 48 inches inside dimension, to depth indicated, with bolted lid.

END OF SECTION

SECTION 33 05 23.13
UTILITY HORIZONTAL DIRECTIONAL DRILLING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavation for approach trenches and pits.
2. Horizontal directional drilling.
3. Pipe.
4. Drilling fluid system.

B. Related Requirements:

1. Section 31 05 13 - Soils for Earthwork
2. Section 3 05 16 – Aggregates for Earthwork.
3. Section 31 23 16 - Excavation
4. Section 31 23 17 - Trenching
5. Section 33 11 13 - Public Water Utility Distribution Piping
6. Section 33 12 16 – Water Utility Distribution Valves
7. Section 33 12 19 – Water Utility Distribution Fire Hydrants
8. Section 33 13 00 – Disinfection of Water Utility Distribution

1.2 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:
1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM A126 – Gray Iron Casting for Valves, Flange and Pipe Fittings.
2. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
4. ASTM D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
5. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
6. ASTM D2239 - Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter.
7. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
8. ASTM D2464 - Standard Specification for Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
9. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.

10. ASTM D2467 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
11. ASTM D2837 - Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products.
12. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.
13. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
14. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
15. ASTM F1056 - Standard Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings.
16. ASTM F1962 - Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings.
17. ASTM F477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
18. NSF 14 – Plastic Piping System Components and Related Materials.
19. NSF 61 – Drinking Water System Components.

C. American Water Works Association:
   1. AWWA C105 – Polyethylene Easement for Ductile Iron Pipe Systems.
   2. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
   3. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. for Water Transmission and Distribution.
   4. AWWA C605 – Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe
   5. and Fittings for Water.

D. National Utility Contractors Association:
   1. NUCA - Horizontal Directional Drilling Good Practices Guidelines.

E. Uni-Bell PVC Pipe:
   1. Hand Book of PVC Pipe.

1.3 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work of this Section with Municipal, State and Federal entities having jurisdiction and existing utilities within construction area.

C. Coordinate work and traffic according to Section 01 50 00 Temporary Facilities and Controls.

1.4 PREPARATION AND FIELD MEASUREMENTS

A. See drawings for drilling locations.

B. Verify alignment of proposed utility, required grades, and location and depths of end points. Verify that alignment and depths comply with applicable permits for crossing in public or private right-of-ways.

C. Verify location of existing utilities and structures that may cause interference.

1.5 REGULATORY REQUIREMENTS

A. Perform work within public or private rights-of-way in accordance with the authority having jurisdiction. Obtain construction permits as required.

1.6 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data:
1. Identify source of water used for drilling.
2. Submit copy of approvals and permits for use of water source.

C. Shop Drawings:
1. Submit technical data for equipment, method of installation, and proposed sequence of construction.
2. Include information pertaining to pits, dewatering, method of spoils removal, and equipment size, capacity, and capabilities, including installing pipe on radius, type of drill bit, drilling fluid, method of monitoring line and grade, detection of surface movement, name plate data for drilling equipment, and mobile spoils removal unit.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

F. Qualifications Statement:

1. Submit qualifications for driller.

1.7 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of pipe and invert elevations.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

D. Record actual depth of pipe at 25-foot intervals.

E. Record actual horizontal location of installed pipe.

F. Show depth and location of abandoned bores.

G. Record depth and location of drill bits and drill stems not removed from bore.

1.8 QUALITY ASSURANCE

A. Perform Work according to following:
   1. NUCA HDD Good Practices Guidelines.
   2. ASTM F1962.
   3. Uni-Bell Hand Book of PVC Pipe.

B. Perform Work according to Municipal, State and Federal standards.

1.9 QUALIFICATIONS

A. Driller: Company specializing in performing Work of this Section with minimum three years' documented experience.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Provide temporary end caps and closures on piping and fittings until pipe is installed.

C. Protect pipe from entry of foreign materials and water by installing temporary covers, completing sections of Work, and isolating parts of completed system.

D. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

E. Use shipping braces between layers of stacked pipe.

F. Stack piping lengths no more than three layers high.

G. Store field joint materials in original shipping containers in dry area indoors.

H. Support pipes with nylon slings during handling.

1.11 AMBIENT CONDITIONS

A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Maintain storage temperature of 60 to 85 degrees F.

1.12 EXISTING CONDITIONS

A. Field Measurements:
   1. Verify field measurements prior to fabrication.
   2. Indicate field measurements on Shop Drawings.

PART 2 PRODUCTS

2.1 HORIZONTAL DIRECTIONAL DRILLING

A. Performance and Design Criteria:
1. Drilling Steering System: Remote with continuous electronic monitoring of boring depth and location.

2. Directional Change Capability: 90 degrees with 35-foot radius curve.

3. Minimum distance for single bores and between boring pits:

PIPE SIZE	BORING DISTANCE
1 to 1-1/2 in.	400 ft.
2 to 2-1/2 in.	350 ft.
3 to 6 in.	300 ft.
8 in. and greater	205 ft.

4. Ratio of Reaming Diameter to Pipe Outside Diameter:
   a. Nominal Pipe Diameter of 6 Inches and Smaller: Maximum of 1.5.
   b. Nominal Pipe Diameter Larger than 6 Inches: Submit recommended ratio and reaming procedures for review.

2.2 WATER SOURCE

A. Water: Potable, shall be obtained at the Contractor's expense.

2.3 MATERIALS

A. Drilling Fluid:
1. Liquid bentonite clay slurry; totally inert with no environmental risk.

B. Restrained Joint PVC Pipe: AWWA C900, SDR 18.
1. The pipe wall shall be marked with NSF-pw or shall otherwise indicate conformance with ANSI/NSF Standards 14 and 61.
2. Fittings: Meet or exceed AWWA/ANSI C153/A21.53 or C110/A21.1, latest revision shall be rubber gasket compression type. Joints shall conform to AWWA/ANSI C111/A21.11, latest revision. Fitting body material shall be ductile iron conforming to ASTM 536. Pressure rating shall be 350 psi for 4" – 20" diameter fittings. Fittings shall have an exterior bituminous coating. Potable water fittings shall be cement lined and seal coated in accordance with AWWA/ANSI C104/A21.4. latest revision. Shall be manufactured in the United States. ***No foreign fittings or accessories will be allowed.***
3. Joints for PVC: Pipe shall be joined using non-metallic couplings to form an integral system for maximum reliability and interchangeability. High-strength. Flexible thermoplastic splines shall be inserted into mating, precision machines grooves in the pipe and coupling to provide full 360 degree restraint with evenly distributed loading.
Couplings shall be designed for use at or above the pressure class of pipe with which they are utilized, and shall incorporate twin elastomeric sealing gaskets meeting the requirements of ASTM F477. Joints shall be designed to meet the zero leakage test requirements. ASTM D3139.

4. Standard Pipe Lengths: 20 feet with a maximum of 15 percent random lengths not less than 10 feet.
5. Certa-Lok as manufactured by Certain Teed.
6. Connecting collars shall be a separate entity from the pipe.
7. Made in U.S.A.

C. Subsoil Fill: Type Municipal Subsoil in green belt areas as specified in Section 31 05 13 – Soils for Earthwork. As indicated on plans and specifications.

D. Granular Fill: Type MDOT Class II Sand as specified in Section 31 05 16 – Aggregates for Earthwork. As indicated on the plans and specifications.

2.4 MIXES

A. Concrete: As specified in Section 03 30 00 – Cast-in-Place Concrete.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that connections to existing piping system, sizes, locations, and invert elevations are according to Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Call MISS DIG at 811 not less than three working days before performing Work.
1. Request underground utilities to be located and marked within and surrounding construction areas.

C. Maintain access to existing facilities services and indicated to remain; modify pipe installation indicated on Drawings to maintain access to existing facilities.

D. Locate and identify utilities indicated to remain and protect from damage.

E. Notify utility company to remove or relocate utilities.

F. Identify required lines, levels, contours, and data locations.

G. Protect plant life, lawns, rock outcroppings, and other features remaining as portion of final landscaping.

H. Protect benchmarks such as existing structures, fences, sidewalks, paving curbs, and survey control points from excavating equipment and vehicular traffic.

3.3 INSTALLATION

A. Dewatering:
1. Intercept and divert surface drainage, precipitation, and groundwater away from excavation using dikes, curb walls, ditches, pipes, sumps, or other approved means.
2. Develop and maintain substantially dry subgrade during drilling and pipe installation.
3. Comply with Municipal, State and Federal requirements for discharging water to watercourse, preventing stream degradation, and controlling erosion and sediment.

B. Excavation:
1. Excavate subsoil as specified in Section 31 23 17 - Trenching.
2. Excavate approach trenches and pits according to Shop Drawings and as Site conditions require; minimize number of access pits.
3. Provide sump areas to contain drilling fluids.
4. Install excavation supports as specified in Section 31 23 17 - Trenching.
5. Restore areas after completion of drilling and carrier pipe installation.

C. Drilling:
1. Drill pilot bore with vertical and horizontal alignment as indicated on Drawings.
2. Survey entire drill path and mark entry and exit locations with stakes. If a magnetic guidance system is used, survey drill path for surface geomagnetic variations or anomalies.
3. Guide drill remotely from ground surface to maintain alignment by monitoring signals transmitted from drill bit.
    a. Monitor depth, pitch, and position.
    b. Adjust drill head orientation to maintain correct alignment.
4. Inject drilling fluid into bore to stabilize hole, remove cuttings, and lubricate drill bit and pipe.
5. Continuously monitor drilling fluid pumping rate, pressure, viscosity, and density while drilling pilot bore, back reaming, and installing pipe to ensure adequate removal of soil cuttings and stabilization of bore.
    a. Provide relief holes when required to relieve excess pressure.
    b. Minimize heaving during pullback.
6. After completing pilot bore, remove drill bit.
7. Contractor shall verify location, depth, and grade of directional bore a minimum of every 25 feet.
8. Submit to Engineer a graphical profile of the directional bore showing ground elevation and as-constructed bore elevation a minimum of every 25’ over the length of the bore.

D. Drilling Obstructions:
1. If obstructions are encountered during drilling, notify Engineer immediately. Do not proceed around obstruction without Engineer’s approval.
2. For conditions requiring more than 3 feet of deviation in horizontal alignment, notify Engineer for approval before resuming Work.

3. Maintain adjusted bore alignment within easement or right-of-way.

E. Pipe:
1. Install pipe, fittings and accessories in accordance with manufacturer's instructions.

2. Install to the line and elevations shown on the drawings.
3. Install a minimum cover of 5' – 6".
4. Restrain pipe and fittings as detailed on the drawings and as recommended by the manufacturer.
5. Coat bolts, nuts, threaded road, and those ferrous parts used in flanged, mechanical and restrained joints that are directly buried, with a corrosion protection material.
6. Install reamer and pipe pulling head; select reamer with minimum bore diameter required for pipe installation.
7. Attach pipe to pipe pulling head, and pull reamer and pipe to entry pit along pilot bore.
8. Inject drilling fluid through reamer to stabilize bore and lubricate pipe.
9. Install piping with horizontal and vertical alignment as shown on Drawings.
10. Protect and support pipe being pulled into bore such that pipe moves freely and is not damaged during installation.
11. Do not exceed pipe manufacturer's recommended pullback forces.
12. Trace Wire:
    a. Install trace wire continuous with each bore.
    b. Splice trace wire only at intermediate bore pits.
    c. Terminate trace wire for each pipe run at structures along pipe system.
    d. All joints shall be made using Snakebite locking connectors as manufactured by Copperhead Industries.
    e. Include slack for connections and bring to surface in snake pit magnetized tracer box. Neatly pack slack in valve box.
    f. Test trace wire for continuity for each bore before acceptance.
13. Provide sufficient length of pipe to extend past termination point to allow connection to other pipe sections.
14. Allow minimum of 24 hours for stabilization after installing pipe before making connections to pipe.
15. Mark location and depth of bore with spray paint.

F. Slurry Removal and Disposal:
1. Contain excess drilling fluids at entry and exit points until recycled or removed from Site; provide recovery system to remove drilling spoils from access pits.
2. Drilling Spoils:
    a. Remove, transport, and legally dispose of drilling spoils.
    b. Do not discharge drilling spoils in sanitary sewers, storm sewers, or other drainage systems.
    c. When drilling in suspected contaminated soil, test drilling fluid for contamination before disposal.
3. If drilling fluid leaks to surface, immediately contain leak and barricade area from vehicular and pedestrian travel before resuming drilling operations.
4. Complete cleanup of drilling fluid at end of each working day.

G. Backfilling:
1. Install backfill as specified in Section 31 23 17 - Trenching.

2. Backfill approach trenches and pits with subsoil fill to contours and elevations as indicated on Drawings.
3. Compact subsoil fill as specified in Section 31 23 17 - Trenching.

3.4 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Requirements for tolerances.

B. Maximum Variation from Horizontal Position: 12 inches.

C. Maximum Variation from Vertical Elevation: 2 inches.

D. Minimum Horizontal and Vertical Clearance from Other Utilities: 10’ Horizontal, 18” Vertical.

E. Deviation:
1. When pipe installation deviates beyond specified tolerances, abandon bore, remove installed pipe, rebore, and reinstall pipe in correct alignment.
2. Fill abandoned bores greater than 3 inches in diameter with grout or flowable fill material.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.

B. Upon completion of pipe installation, fill, flush, test and inspect pipe according to following:
1. Water Distribution Pipe Testing: As specified in Section 33 11 13 - Public Water Utility Distribution Piping.
2. Water Distribution Main Filling and Flushing: As specified in Section 33 11 13 – Public Water Utility Distribution Piping.
3. Water Distribution Disinfection: As specified in Section 33 13 00 – Disinfection of Water Utility Distribution.

C. Compaction Testing: As specified in Section 31 23 17 - Trenching.

D. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

E. Certify that equipment for drilling has been properly set up and is ready for drilling.

3.6 PROTECTION

A. Protect installation after placement prior to final connection and restoration of site.

3.7 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Upon completion of drilling and pipe installation, remove drilling spoils, debris, and unacceptable material from approach trenches and pits. Clean up excess slurry from ground.

C. Restore approach trenches and pits to original condition.

D. Remove temporary facilities for drilling operations as specified in Section 01 50 00 - Temporary Facilities and Controls.

END OF SECTION

SECTION 33 12 16
WATER UTILITY DISTRIBUTION VALVES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Valves.
   2. Valve boxes.

B. Related Sections:
   1. Section 03 30 00 - Cast-In-Place Concrete
   2. Section 31 05 16 - Aggregates for Earthwork
   3. Section 31 23 16 - Excavation
   4. Section 33 12 13 - Water Service Connections
   5. Section 33 12 19 - Water Utility Distribution Fire Hydrants
   6. Section 33 13 00 - Disinfecting of Water Utility Distribution

1.2 REFERENCES

A. All references refer to the most recent version.
B. American Water Works Association:
   1. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
   2. AWWA C509 - Resilient-Seated Gate Valves for Water-Supply Service.
   3. AWWA C550 - Protecting Epoxy Interior Coating for Valves and Hydrants.
   4. AWWA C223 – Fabricated Steel and Stainless Steel Tapping Sleeves.
   5. ASTM D3139 – Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
   6. ASTM A126 – Gray Iron Casting for Valves, Flange and Pipe Fittings.
   7. AWWA C105 – Polyethylene Easement for Ductile Iron Pipe Systems.
   8. AWWA C111 – Rubber Gasket Joints for Ductile Iron Pressure Fittings.
   9. AWWA C116 – Protective Fusion Bonded Epoxy Coatings for the Interior and Exterior Surfaces for Ductile Iron and Gray Iron Fittings for Water Supply Service.
   10. AWWA C153 – Ductile Iron Compact fittings, 3 inch through 24 inch and 54 inch through 64 inch for water service.
   11. AWWA C104 – Cement-Mortar Lining for Ductile-Iron Pipe and Fitting for Water.
   12. AWWA C550 – Protective Interior Coatings for Valves and Hydrants.
   13. Michigan Safe Drinking Water Act 1976 PA 399, as amended.

C. National Sanitation Foundation:
   1. NSF14 – Plastic Piping System Components and Related Materials.
   2. NSF 61 - Drinking Water System Components - Health Effects

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawing:

1. Installation Plan: Submit description of proposed installation.

C. Design Data: Submit manufacturer's latest published literature include illustrations, installation instructions, maintenance instructions and parts lists.

D. Manufacturer’s Certificates: Submit Statement of Compliance, supporting data, from material suppliers attesting that valves and accessories provided meet or exceed AWWA Standards and specification requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of valves.

C. Provide Operation and Maintenance Data for valves.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with Municipal, State and federal standards.

1.6 QUALIFICATIONS

A. Manufacturer: company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum 3 years documented.

1.7 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing and protecting products.

B. Prepare valves and accessories for shipment according to AWWA Standards and seal valve and ends to prevent entry of foreign matter into product body.

C. Store products in areas protected from weather, moisture, or possible damage; do not store products directly on ground; handle products to prevent damage to interior or exterior surfaces.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.

B. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate work with Saginaw Charter Township’s standards and utilities within construction area.

1.10 MAINTENANCE MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for maintenance materials.

B. Furnish one tee wrench to Owner; required length.

PART 2 PRODUCTS

2.1 BUY AMERICAN CLAUSE

A. All products shall be made in U.S.A.

2.2 RESILIENT WEDGE GATE VALVES

A. Manufacturers:
   1. EJIW
   2. Mueller
   3. Substitutions: Not Permitted.

B. Resilient Wedge Gate Valves: AWWA C515; iron body, bronze or ductile iron; including the manufacturer's name, pressure rating, and year of fabrication cast into valve body.
   1. Resilient seats.
   2. Single Wedge
   3. Stem: Non-rising bronze stem, bronze trim.
   4. Operating Nut: 2 inch Square; open Right (clockwise) unless otherwise indicated, painted red.
   5. Ends: Mechanical joint.
   6. Coating: AWWA C550; interior/exterior.
   7. Sizes 12 inch diameter and smaller: 200 psig.
   8. Sizes 16 inch diameter and larger: 150 psig.
   9. Direction of Opening: Indicated by an arrow cast on the operating nut skirt.

2.3 VALVE BOXES

A. Manufacturers:
   1. Mueller
   2. EJIW
   3. Bibby
   4. Or Equal

B. Valve Boxes:
   1. Cast Iron 5 1/2 inch diameter, three piece adjustable screw type, for installation of a 6 foot trench.
   2. Valve box extensions for trench depths greater than 6’-6”.
   3. No. 6 round base for gate valves up to 8”.
   4. No. 160 oval base for valves 10” and greater.
   5. Cast iron lid, marked “Water”.

2.4 ACCESSORIES

A. Concrete for Thrust Restraints: Concrete type specified in Section 03 30 00

B. Valve Box Aligner: High-strength, plastic device designed to automatically center valve box base and prevent valve box base from shifting off center during backfilling.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Determine exact location and size of valves from Drawings; obtain clarification and directions from Architect/Engineer prior to execution of work.

C. Verify invert elevations of existing utilities prior to excavation and installation of valves.

3.2 PREPARATION

A. Identify required lines, levels, contours and datum locations.

B. Locate, identify, and protect utilities to remain from damage.

C. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.
   1. Notify Engineer not less than 3 days in advance of proposed utility interruption.
   2. Do not proceed without written permission from the Engineer.

D. Perform trench excavation, backfilling and compaction in accordance with Section 31 23 17.

3.3 INSTALLATION VALVES

A. Install valves in conjunction with pipe laying; set valves plumb.

B. Tighten nuts on valve body.

C. Set plumb on 4”x8”x16” concrete block. Use larger blocks for larger valves.

D. Backfill and Type MDOT 6A Compacted Crushed Limestone material to a minimum of 2 inches above the flange of the valve dome.

E. Leave valves in the open position except for the valves that connect to the existing water main.

3.4 INSTALLATION – VALVE BOXES

A. Set base on Type MDOT 6A Compacted Crushed Limestone material a minimum of 2 inches above the flange on the valve dome and centered over the operating nut. Backfill to finish subgrade according to Section 31 23 17 Trenching.

B. Set box plumb and centered over the valve operating nut.

C. Adjust the top valve box to match proposed finish grade.

D. Install extensions for trench depth greater than 6’-6”.

3.5 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.6 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements Field inspecting, testing, adjusting, and balancing.

B. Perform pressure test on domestic site water distribution system in accordance with AWWA C600.

3.7 POLYETHYLENE ENCASEMENT

A. Install in accordance with manufacturer’s instructions and AWWA C105.

B. Install to prevent contact between ductile iron pipe, fittings, valves and hydrants and the surrounding backfill and bedding material.

C. Encasement is not intended to be a completely air tight nor water tight enclosure.

D. Overlap joints a minimum of 18 inches and secure with adhesive tape or plastic string for the purpose of holding polyethylene in place until backfilling operations are complete.

E. Encase valves up to the operating nut without interfering with valve operation.

F. Encase valve box to the grade line.

G. Repair rips, punctures and other damage with adhesive tape or with a piece of polyethylene secured in place.

END OF SECTION

SECTION 33 12 19
WATER UTILITY DISTRIBUTION FIRE HYDRANTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Fire hydrants.

B. Related Sections:
   1. Section 03 30 00 - Cast-In-Place Concrete.
   2. Section 33 12 13 - Water Service Connections.
   3. Section 33 12 16 - Water Utility Distribution Valves.
   4. Section 33 13 00 - Disinfecting of Water Utility Distribution.

1.2 REFERENCES

A. All references refer to the most recent version.

B. American Water Works Association:
   1. AWWA C502 - Dry-Barrel Fire Hydrants.
   2. AWWA C550 - Protecting Epoxy Interior Coating for Valves and Hydrants.
   3. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.

C. National Sanitation Foundation:
   1. NSF 61 - Drinking Water System Components - Health Effects

D. National Fire Protection Association:
   1. NFPA 281 - Recommended Practice for Fire Flow Testing and Marking of Hydrants

E. Michigan Safe Drinking Water Act 1976 PA 399, as amended.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawing:
   1. Installation Plan: Submit description of proposed installation.

C. Design Data: Submit manufacturer's latest published literature include illustrations, installation instructions, maintenance instructions and parts lists.

D. Manufacturer’s Certificates: Submit Statement of Compliance, supporting data, from material suppliers attesting that hydrants and accessories provided meet or exceed AWWA Standards and specification requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of fire hydrants.

C. Provide Operation and Maintenance Data for fire hydrants.

1.5 QUALITY ASSURANCE

A. Provide uniform color scheme for fire hydrants in accordance with Municipal standards.

B. Perform work in accordance with Municipal standards.

1.6 QUALIFICATIONS

A. Manufacturer: company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum 3 years documented.

1.7 DELIVERY, STORAGE AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing and protecting products.

B. Prepare hydrants and accessories for shipment according to AWWA Standards and seal hydrant and ends to prevent entry of foreign matter into product body.

C. Store products in areas protected from weather, moisture, or possible damage; do not store products directly on ground; handle products to prevent damage to interior or exterior surfaces.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.

B. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate work with Saginaw Charter Township’s standards and utilities within construction area.

PART 2 PRODUCTS

2.1 BUY AMERICAN CLAUSE

A. All products shall be Made in U.S.A.

2.2 FIRE HYDRANTS

A. Manufacturers:
   1. EJIW Water Master 5CD250.
   2. Substitutions: Not Permitted.

B. Furnish materials in accordance with Municipal, State, and Federal standards.

C. Dry-barrel Break-away Type: AWWA C502; for 150 pounds working pressure, opening with the line pressure, mechanical joints, cast-iron body, compression type valve.
   1. Bury Depth: As indicated on the Drawings.
   2. Inlet Connection: 6 inches.
   3. Valve Opening: 5-1/4 inches diameter.
   4. Ends: Mechanical Joint.
   5. Bolts and Nuts: Stainless steel
   6. Coating: AWWA C550; interior.
   7. Direction of Opening: Right (clockwise) turn opening accordance with Municipal standards unless otherwise indicated and shall be plainly marked with an arrow near the operating nut showing the opening direction.
   8. Operating Nut: 7/8” square.
   9. Bronze mounted throughout with no iron to iron or steel contacts or threads.
   10. Operating stem in base and valve seat shall be bronze.
   11. Iron parts of high strength gray iron conforming ASTM Designation A-126 Class B.
   12. Minimum inside barrel dimension of 8 inches.
   13. Completely assembled at factory with drain opening sealed with threaded plug.

D. One pumper, two hose nozzles.
   1. Connection with American National Fire Hose. Thread in accordance with municipal standards.

E. Finish: Primer and two coats of enamel painted red above grade line and black below, color in accordance with the Municipal standards.

F. Provide proper length for installation in a trench depth as indicated on the drawings.

G. Tested to 300 pounds hydrostatic pressure from inlet side with valve in both open and closed position.

H. Designed so one man can easily remove or replace the working parts without removing the main valve seat.

2.3 ACCESSORIES

A. Concrete for Thrust Restraints: Concrete type specified in Section 03 30 00.

B. Aggregate: Aggregate for hydrant drainage specified in Section 31 05 16.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Determine exact location and size of hydrants from Drawings; obtain clarification and directions from Engineer prior to execution of work.

C. Verify invert elevations of existing utilities prior to excavation and installation of fire hydrants.

3.2 PREPARATION

A. Identify required lines, levels, contours and datum locations.

B. Locate, identify, and protect utilities to remain from damage.

C. Do not interrupt existing utilities without permission and without making arrangements to provide temporary utility services.
   1. Notify Engineer not less than 3 business days in advance of proposed utility interruption.
   2. Do not proceed without written permission from the Engineer.

D. Perform trench excavation, backfilling and compaction in accordance with Section 31 23 17.

3.3 INSTALLATION

A. Install in accordance with manufacturer’s instructions.

B. Set as plan location and grade as directed by the Engineer.

C. Set on concrete block with minimum dimensions of 4 inches by 8 inches by 16 inches.

D. Restrain as detailed on the plans.

E. In addition in blocking, restrain hydrants with Mega-Lugs as specified for mechanical joints in 33 11 13.

F. Set plumb.

G. Rotate up to 180 degrees to face the direction shown on the plans.

H. Set only when the Engineer is present.

I. Obtain approval of the Engineer prior to backfilling.

J. Backfill according to Section 31 23 17– Trenching: Backfilling.

3.4 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Perform pressure test on domestic site water distribution system in accordance with AWWA C600 and/or C605.

3.6 RELOCATING EXISTING HYDRANTS

A. Relocate existing hydrants as noted on the drawings.

B. Remove hydrant, horizontal pipe lead and hydrant valve and box.

C. Plug and block existing water main at hydrant tee.

D. Re-install hydrant and valve according to paragraphs 3.3 and Section 33 12 16 Water Utility Distribution Valves.

E. Replace or repair material damaged during relocation operation.

F. Furnish and install additional material required to complete relocation.

3.7 REMOVING EXISTING HYDRANTS

A. Remove hydrant, horizontal pipe lead and hydrant valve and box.

B. Return existing hydrants and valves to location designated by the Owner.

C. Plug and Block existing water main at hydrant tee.

D. Replace or repair material damaged during removal operation.

E. Furnish and install additional material required to complete removal.

3.8 POLYETHYLENE ENCASEMENT

A. Install in accordance with manufacturer’s instructions and AWWA C105.

B. Install to prevent contact between ductile iron pipe, fittings, valves and hydrants and the surrounding backfill and bedding material.

C. Encasement is not intended to be a completely air tight nor water tight enclosure.

D. Overlap joints a minimum of 18 inches and secure with adhesive tape or plastic string for the purpose of holding polyethylene in place until backfilling operations are complete.

E. Encase valves up to the operating nut without interfering with valve operation.

F. Encase hydrants to the grade line.

G. Repair rips, punctures and other damage with adhesive tape or with a piece of polyethylene secured in place.

END OF SECTION

SECTION 33 13 00
DISINFECTING OF WATER UTILITY DISTRIBUTION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes disinfection of potable water distribution and transmission system; and testing and reporting results.

B. Related Sections:
   1. Section 33 11 13 – Public Water Utility Distribution Piping

1.2 REFERENCES

A. American Water Works Association:
   1. AWWA B300 - Hypochlorites.
   2. AWWA B301 - Liquid Chlorine.
   3. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
   4. AWWA C605 -
   5. AWWA C651 - Disinfecting Water Mains
   6. NSF – Plastic Piping System Components and Related Materials.
   7. NSF/ANSI Standard 61 Drinking Water System Components
   8. Michigan Safe Drinking Water Act 1976 PA 399, as amended.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit procedures, proposed chemicals, and treatment levels for review.

C. Test Reports: Indicate results comparative to specified requirements.

D. Certificate: Certify cleanliness of water distribution system meets or exceeds MDEQ requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with AWWA C651.

B. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Water Treatment Firm: Company specializing in disinfecting potable water systems specified in this section with minimum three years documented experience.

B. Submit bacteriologist's signature and authority associated with testing.

PART 2 PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Chemicals: AWWA B300, Hypochlorite, AWWA B301 and Liquid Chlorine.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify piping system has been cleaned, inspected, and pressure tested.

C. Perform scheduling and disinfecting activity with start-up, water pressure testing, adjusting and balancing, demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

A. Inject disinfectant, chlorine solution, through a corporation cock inserted in the horizontal axis of the water main.

B. Inject at the beginning of the pipe line or a valved section.

C. Slowly fill the line with potable water from the existing distribution line.

D. Bleed water from a valve at the end of the line to ensure distribution and prevent pressure build up in excess of 20 psi.

E. Inject disinfectant, chlorine solution, to obtain a minimum initial residual concentration of 40 to 50 mg/l in accordance with AWWA C651 “Continuous-Feed” method.

F. Chlorine residual shall be checked with a proper residual test kit that can measure elevated chlorine residuals.

G. Maintain disinfectant in pipe line for 24 hours and verify that the free chlorine residual concentration is no less than 10 mg/l.

H. Flush disinfectant from pipe line. Contractor shall employ dechlorination methods before discharging into storm sewer, open drains, or over land. Dechlorinate flushing water per MDEQ requirements.

I. Flushing shall continue until the chlorine residual in the disinfected main is absent or no higher than is normally found in the distribution system.

J. Engineer, with assistance from the Contractor, will obtain samples for laboratory tests, a minimum of 24 hours after flushing the disinfectant from the pipeline.

K. Do not place water mains into service until two (2) consecutive laboratory tests show safe results collected at least 24 hours apart.

L. Repeat the complete disinfection process if laboratory results deem the water unsafe for drinking.

M. Replace corporation cocks with brass plugs when the disinfection process is complete and water is determined safe for drinking.

N. The use of chlorine pills or tables placed in the pipe during construction to be used in the disinfection process is prohibited.

3.3 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.

B. Disinfection, Flushing, and Sampling:
1. Disinfect pipeline installation in accordance with AWWA C651. In addition, the use of chlorine pills or tables placed during construction will not be permitted.
2. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use.
3. Legally dispose of chlorinated water. When chlorinated discharge may cause damage to environment, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.

3.4 WATER COST

A. The Contractor shall pay all water used during construction, including water main breaks and water necessary for testing, cleaning, and chlorinating water mains.

B. The actual volume of water used shall be determined by the Engineer.

C. The rate of pay for all water used shall be at the current rate per 1,000 gallons.

D. The water necessary to fill the volume of the water main at the completion of the project shall be paid by the Owner.

END OF SECTION

SECTION 33 14 13
PUBLIC WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Tapping sleeves and valves.
2. Valves and fire hydrants.
3. Positive displacement meters.
4. Underground pipe markers.
5. Precast concrete vault.
6. Pipe support systems.
7. Pile support systems.
8. Bedding and cover materials.
9. Pipe restraint.
10. Pressure testing.

B. Related Requirements:
1. Section 03 20 00 - Concrete Reinforcing
2. Section 03 30 00 - Cast-in-Place Concrete
3. Section 31 05 13 - Soils for Earthwork
4. Section 31 05 16 - Aggregates for Earthwork
5. Section 31 23 16 - Excavation
6. Section 31 23 17 - Trenching
7. Section 31 23 23 - Fill
8. Section 33 05 23 - Trenchless Utility Installation
9. Section 33 12 13 - Water Service Connections
10. Section 33 12 16 - Water Utility Distribution Valves
11. Section 33 12 19 - Water Utility Distribution Fire Hydrants
12. Section 33 13 00 - Disinfecting of Water Utility Distribution

1.2 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. American Society of Mechanical Engineers:
1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.

C. ASTM International:
1. ASTM A126 – Gray Iron Casting for Valves, Flange and Pipe Fittings.
2. ASTM A536 – Standard Specification for Ductile Iron Castings.
3. ASTM D2241 – Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
4. ASTM D2922 – Standard Test Method for Density of Soil and Soil-Aggregate in place by Nuclear Methods (Shallow Depth).
5. ASTM D3035 – Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.

6. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
7. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
8. ASTM F1674 – Standard Test Method for Joint Restraint Products for Use with PVC Pipe
9. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

D. American Water Works Association:
1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
6. AWWA C116 – Protective Fusion Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile Iron and Gray Iron Fittings for Water Supply Service.
7. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
8. AWWA C153 - Ductile-Iron Compact Fittings.
9. AWWA C223 – Fabricated Steel and Stainless Steel Tapping Sleeves
10. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
11. AWWA C605 - Underground Installation of PVC and PVCO Pressure Pipe and Fittings.
12. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.
13. AWWA C905 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. (350 mm Through 1,200 mm).
14. AWWA C909 – Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 inch through 24 inch, for water, wastewater and reclaimed water service.
15. NSF 14 – Plastic Piping System Components and Related Materials.
16. NSF/ANSI – Standard 61 Drinking Water System Components.
17. Michigan Safe Drinking Water Act 1976 PA 399, as amended.
18. The Recommended Standards for Water Works Great Lakes Upper Mississippi River Board of State Public Health and Environmental Mangers (10 State Standards) latest edition.
19. The Suggested Practice for Water Works Design, Construction and Operations for Type I Public Water Supply, MDEQ, latest edition.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on pipe materials, pipe fittings, valves, and accessories.

C. Shop Drawings: Indicate piping layout, including piping specialties.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

F. Submit certification of manufacture in North America for all products.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for closeout procedures.

B. Project Record Documents:
   1. Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations.
   2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.5 QUALITY ASSURANCE

A. Valves: Mark valve body with manufacturer's name and pressure rating.

B. Perform Work according to Municipal, State, and Federal standards.

C. Maintain one copy of each document on-site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Deliver and store valves in shipping containers with manufacturer's labeling in place.

C. Block individual and stockpiled pipe lengths to prevent moving.

D. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.

E. Store polyethylene and PVC materials out of sunlight.

1.7 EXISTING CONDITIONS

A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

PART 2 PRODUCTS

2.1 BUY AMERICAN CLAUSE

A. All products shall be made in U.S.A.

2.2 WATER PIPING

A. PVC: AWWA C900, or AWWA C909, SDR 18, Class 235
   1. Fittings: Ductile iron, AWWA C110. compact fittings AWWA C153.
      a. Coating and Lining:
         1) Bituminous Coating: AWWA C110.
         2) Cement Mortar Lining: AWWA C104, double thickness.
      b. Bolts & Fasteners: Only NSS Core-Blue “T” Bolts and fasteners will be accepted.
   2. Joints: ASTM D3139, ASTM F477, PVC flexible elastomeric seals. Solvent-cement couplings are not permitted.
   3. Bolts & Fasteners: Only NSS Cor-Blue “T” bolts and fasteners will be accepted.

4. Standard Pipe Lengths: 20 feet with a maximum of 15 percent random lengths not less than 10 feet.
5. Pipe Wall: Shall be marked with NSF-pw or shall otherwise indicate conformance with ANSI/NSF Standards 14 and 61.

B. DI: Class 52 with cement mortar lining and bituminous coating.
1. Fittings: Ductile Iron, AWWA C110, compact fittings AWWA C153.
a. Coating and Lining:
1) Bituminous Coating: AWWA C110.
2) Cement Mortar Lining: AWWA C104.
b. Bolts and Fasteners: Only NSS Cor-Blue "T" bolts and fasteners will be accepted.
2. Joints: AWWA C-111. Push joints for pipe, mechanical joint for fittings.
3. Bolts & Fasteners: Only NSS Cor-Blue "T" bolts and fasteners will be accepted.
4. Standard Pipe Lengths: 20 feet with a maximum of 15 percent random lengths not less than 10 feet.
5. When a piece of ductile iron pipe is cut in the field it shall be checked with an OD tape to make sure the OD falls below the maximum OD as allowed by AWWA Standards.

2.3 CORROSION PROTECTIVE MATERIAL

A. Coatings: To be applied to buried nuts, bolts, threaded rod and flanges including those used for flanged, mechanical and restrained joints.
1. Manufacturers:
a. San Chem, Inc. 1600 South Canal Street, Chicago, IL 60616
Product: NO-OXG-GG-2
b. Coronado Paint Product: Coal Tar Epoxy, 10 mil (DMT)
c. Or equal.

B. Polyethylene Encasement: ANSI/AWWA C105/A21.5, 8 mil linear low-density polyethylene film or 4 mil high-density, cross-laminated polyethylene film. Encasement to be wrapped around all ductile iron pipes, fittings, valves and hydrants to within a foot of finish grade. Secure wrap in place according to manufacturer's instructions.

2.4 TAPPING SLEEVES AND VALVES

A. Tapping Sleeves:
1. Manufacturer List:
a. Romac
b. Mueller
c. Substitutions: Not permitted.
2. Furnish materials according to AWWA C223 standards.
3. Description: Stainless Steel, dual-compression type, with inlet flange bolts and nuts of either 304 or 316 grade stainless steel.
4. Outlet Flange Dimensions and Drilling: ASME B16.1, Class 125 and MSS SP-60.

B. Tapping Valves:
1. Manufacturer List:
a. EJIW
b. Mueller
c. Substitutions: Not permitted.
2. Valves shall be resilient wedge gate valves as specified in Water Utility Distribution Valves 33 12 16.

2.5 JOINT RESTRAINT

A. Manufacturer: MEGALUG by EBAA Iron.
   1. Series 1100 for mechanical joints restraints on ductile iron pipe.
   2. Series 1700 for push joint/bell restraints on ductile iron pipe.
   3. Series 2000 PV for mechanical joint restraints on PVC pipe.
   4. Series 1600 for push joint/bell restraints on PVC pipe.

B. Restrain all mechanical joints with retainer glands. Restrain all joints within lengths(s) according to restraint schedule.

C. Restrain hydrants, tees, valves, etc. according to manufacturer's requirements for application soil type, trench detail, test pressure of 150 psi, safety factor of 2 and depth of bury.

D. Mechanical joint restraint shall be incorporated into the design of the follower gland. The restraint mechanism shall consist of plurality of individually actuated gripping surfaces to maximize restraint capability. Glands shall be manufactured of ductile iron conforming to ASTM A536-80.

   The gland shall be such that it can replace the standardized mechanical joint gland and can be used with the standardized mechanical joint bell conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of latest version. Twist off nuts, sized same as tee-head bolts, shall be used to insure proper actuating of restraining devices.

   The restraining glands shall have a pressure rating equal to that of the pipe on which it is used. The restraining glands shall have been tested to ASTM F1674, be listed by Underwriters Laboratories, and be approved by Factory Mutual. The restraint shall be MegaLug as manufactured by EBAA Iron or approved equal.

E. Ductile iron pipe restraint shall consist of a wedge action restraint ring on the spigot joined to a ductile iron follower gland behind that bell. The restraint ring shall have individually actuated wedges that increase their resistance to pullout as pressure or external forces increase. The restraint ring and its wedging components shall be made of a minimum grade of 60-42-10 ductile iron conforming to ASTM A536. The wedges shall be heat-treated to a minimum hardness of 370 BHN. Torque limiting twist off nuts shall be used to insure proper actuation of the restraining wedges. The follower gland shall be made of a minimum grade of 60-42-10 ductile iron conforming to ASTM A536. The connecting tie rods that join the two rings shall be made of low alloy steel that conforms to ANSI/AWWA C111/A21.11. The assembly shall have a rated pressure, with a minimum two to one safety factor, of 350 psi in sizes sixteen inch and below and 250 psi in the sized eighteen inch through thirty-six inch. The product shall be the Series 1700 MegaLug restraint harness manufactured by EBAA Iron or approved equal.

   Restraint for PVC pipe bell (AWWA C900) shall consist of the following. The restraint shall be manufactured of ductile iron conforming to ASTM A536. A split ring shall be utilized behind the pipe bell. A serrated ring shall be used to grip the pipe and a sufficient number of bolts shall be used to connect the bell ring and the gripping ring. The combination shall have a minimum working pressure rating of 150 psi. The restraint shall be approved by Factory Mutual. The restraint shall be the Series 1600 as manufactured by EBAA Iron, Inc. or approved equal.

   Retainer glands for C909 pipe must be specifically manufactured for use with C909 products.

   No foreign fittings or accessories will be allowed.

2.6 VALVES AND FIRE HYDRANTS

A. Valves: As specified in Section 33 12 16 - Water Utility Distribution Valves.

B. Tapping Sleeves and Valves in Section 33 12 16 – Water Utility Distribution Valves.

C. Fire Hydrants: As specified in Section 33 12 19 - Water Utility Distribution Fire Hydrants.

2.7 AIR RELEASE VALVES

A. The Contractor shall furnish and install an air release valve on the end of the water main as shown on the plan or as directed by the Engineer.

B. The air release valve shall include furnish and installing the tapped plug, curb stop and box, copper pipe of sufficient length to extend to the existing ground elevation and any necessary adaptor fitting required.

2.8 VALVE BOXES

A. As specified in Section 33 12 16 – Water Distribution Valves.

2.9 CONCRETE ENCASEMENT AND CRADLES

A. Concrete: As specified in Section 03 30 00 - Cast-in-Place Concrete 3500 psi, 28-day reinforced concrete, air entrained, rough-trowel finish.

B. Concrete Reinforcement: As specified in Section 03 20 00 - Concrete Reinforcing.

C. Concrete Forming: As specified in Section 03 10 00 Concrete Forming Accessories.

2.10 MATERIALS

A. Bedding and Cover:
   1. Bedding: MDOT Class II Granular Material, as specified in Section 31 05 16 – Aggregates for Earthwork.
   2. Cover: MDOT Class II Granular Material as specified in Section 31 05 16 - Aggregates for Earthwork.
   3. Soil Backfill from above Pipe to Finish Grade:
      a. MDOT Class II Granular Material, as specified in Section 31 05 13 - Soils for Earthwork. MDOT 22A compacted crushed limestone in areas under pavement, native material for green belt areas.

2.11 FINISHES

A. Steel: Galvanizing, ASTM A123; hot-dip galvanize after fabrication.

2.12 TRACER WIRE

A. Single Strand – (Double Strand for HDD Only) - #12 Guage Copper – Clad Steel (CCS) – Extra High Strength Hard Drawn.

B. Color – Blue.

C. As manufactured by Copperhead Industries, LLC or approved equal.

D. Joints made using Locking Snakebite connectors as manufactured by Copperhead Industries.

E. Tested for continuity prior to acceptance.

F. Include slack for connections and bring to surface in Cobra Access Point with Hydrant Flange Package. Model T2-Blue-FLPKG.

2.13 CULVERTS

A. Culverts shall be of the following materials and specifications:
6", 8", 10", 12", 15", 18" and 21" – 16 gage
2/3" x 1/2" Corrugation, C.M.P.
24" – 16 gage, 2 2/3"x1/2" Corrugation C.M.P.
30" – 14 gage, 2 2/3"x1/2" Corrugation C.M.P.
36" – 14 gage, 2 2/3"x1/2" Corrugation C.M.P.
48" – R.C.P. C-76-III
60" – R.C.P. C-76-III

B. Culverts shall include flared metal end section or concrete flared end section, dimple connection bands, complete sand backfill, and restoration of shoulder and/or berm.

2.14 ACCESSORIES

A. Concrete for Thrust Restraints: As specified in Section 03 30 00 - Cast-in-Place Concrete.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that existing utility water main size, location, and invert are as indicated on Drawings.

C. Verify that excavations are to required grade, dry and not over-excavated.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs. Use only equipment specifically designed for pipe cutting. The use of chisels or hand saws is not permitted. Grind edges smooth with beveled end for push-on connections.

C. Remove scale and dirt on inside and outside before assembly.

D. Hand trim trench excavation to required elevations. Correct over excavation with compacted MDOT 6A compacted crushed limestone at no additional cost.

E. Remove large stones or other hard matter which could damage pipe.

3.3 BEDDING

A. Excavate pipe trench as specified in Section 31 23 17 - Trenching. Hand trim excavation for accurate placement of pipe to elevations indicated on Drawings.

B. Dewater excavations to maintain dry conditions and preserve final grades at bottom of excavation.

C. Provide sheeting and shoring as specified in Section 31 23 17 - Trenching.

D. Place bedding material MDOT Class II Granular Material at trench bottom, level fill materials in one continuous layer not exceeding 12 inches compacted depth; compact to 95 percent.

3.4 CONNECTION TO EXISTING WATER MAIN

A. The Contractor shall connect the proposed water main to the existing water main as shown on the plans or as directed by the Engineer.

B. The Contractor shall locate the existing water main prior to construction of the proposed water main and shall furnish and install the necessary fittings, including tees, bends, crosses, cutting-in-sleeves, pipe and/or adaptors as necessary to complete the construction.

3.5 CROSSING EXISTING UTILITIES

A. Where gas mains and services, water mains and services, sewers or any underground utilities cross the trench in open cut, compacted sand backfill shall be required to bed the crossing line.

B. The sand backfill shall extend to 4 inches above the top of the pipe or conduit which is being supported.

C. In addition to the sand backfill it may be necessary to support the pipe crossing the trench with a 6”x6” timber with ends supported on solid earth at both sides of the trench.

D. When supporting pipes with collars or bell joints, the timber shall be placed 3” below such collars or bells and the barrel of the pipe supported with hardwood blocking at 3 foot centers.

E. The cost of sand backfill used for supporting cross trench piping and the timber supports shall be included in the unit price bid for water main.

3.6 BACKFILLING TRENCH NOT REQUIRING COMPLETE SAND BACKFILL

A. As soon as the backfill has been brought to the original surface, the material in the trench shall be saturated with water by the method known as spiking, whereby water is forced into the backfill material through a 1” or larger nozzle-type pipe pushed into the backfill 3/4 of the distance from the surface of the ground to the top of the pipe and allowing water to run until it appears at the surface, other than around the nozzle.

B. This should be repeated at 6’ to 10’ intervals along the trench, depending upon the character of the soil.

C. After saturation, the fill should be allowed to dry out before the backfilling is completed.

D. Should a deficiency in the backfilling occur, in either quantity or quality of excavated materials taken from the trench, the Contractor shall supply the deficiency without extra charge to the Owner.

E. No foreign nor perishable material shall be used in the backfilling.

3.7 MAINTAINING WATER SERVICE

A. The Contractor shall coordinate any proposed interruptions in the existing water system with both the Owner and Engineer.

B. If any portions of the existing water mains cannot remain in service due to construction of the proposed water mains, the Contractor shall extend a temporary 1-1/4 inch polyethylene service to each customer affected by the outage.

C. The cost of these temporary connections, if required, shall be included in all other items of the Contract.

D. Services shall be reconnected to the existing water main.

3.8 INSTALLATION

A. Pipe:
1. Install pipe according to AWWA C600 for D.I. pipe and AWWA C605 for PVC and PVCO and manufacturer’s instructions.
2. Handle and assemble pipe according to manufacturer's instructions and as indicated on Drawings.
3. Install to the line and elevations shown on the drawings.
4. Water Main shall have a minimum cover of 5’-6” from proposed finish grade. Unless shown otherwise on the drawings or directed by the Engineer.
5. After the trench or tunnel has been graded, place a minimum 4 inches of compacted MDOT Class II Granular Material, as specified in Section 31 23 17 – Trenching in the trench as a bed for the pipe.
6. Hand trim for bell and spigot pipe joints.
7. Carefully lay the pipe on the bedding to insure positive bearing along the full length of the pipe.
8. Place 4” of MDOT Class II Granular Material along the side of the pipe, filling any void space under the pipe. Execute tamping with a T-bar or other tamping device approved by the Engineer.
9. Place additional tamped MDOT Class II Granular Material along the side of the pipe to a height equal to the top of the pipe.
10. Place and compact MDOT Class II Granular Material to 12” above the top of the pipe.
11. Restrain pipe and fittings as detailed on the drawings or as described in the specifications.
12. Steel Rods, Bolt, Lugs, and Brackets: Corrosion control per 2.3 Corrosion Protective Material.
13. Maintain 10 feet horizontal separation of water main from sewer piping according to the Recommended Standards for Water Works, Great Lakes Upper Mississippi River Board of States Public Health and Environmental Managers (10 State Standards), latest edition, and the Suggested Practice for Water Works Design, Construction and Operations for Type I Public Water Supplies, MDEQ, latest edition.

14. Install pipe to indicated elevation to within tolerance of 1/4 inches.
15. Install ductile-iron piping and fittings according to AWWA C600.
16. Flanged Joints: Not to be used in underground installations except within structures.
17. Route pipe in straight line. Relay pipe that is out of alignment or grade.
18. Install pipe with no high points. If unforeseen field conditions arise that necessitate high points, install air release valves as directed by Engineer.
19. Install pipe to have bearing along entire length of pipe. Excavate bell holes to permit proper joint installation. Do not lay pipe in wet or frozen trench.
20. Prevent foreign material from entering pipe during placement.
21. Install pipe to allow for expansion and contraction without stressing pipe or joints.
22. Close pipe openings with watertight plugs during work stoppages.
23. Install access fittings to permit disinfection of water system performed under Section 33 13 00 - Disinfecting of Water Utility Distribution.
24. Establish and verify elevations of buried piping and furnish a copy to the Engineer.

B. Valves and Hydrants:
   1. Install valves as specified in Section 33 12 16 - Water Utility Distribution Valves.
   2. Install hydrants as specified in Section 33 12 19 - Water Utility Distribution Fire Hydrants.

C. Tapping Sleeves and Valves:
   1. Install tapping sleeves and valves as specified in Section 33 12 16 - Water Utility Distribution Valves and according to manufacturer's instructions.

3.9 POLYETHYLENE ENCASEMENT

A. Install in accordance with manufacturer’s instructions and AWWA C105.

B. Install to prevent contact between ductile iron pipe, fittings, valves and hydrants and the surrounding backfill and bedding material.

C. Encasement is not intended to be a completely air tight nor water tight enclosure.

D. Overlap joints a minimum of 18 inches and secure with adhesive tape or plastic string for the purpose of holding polyethylene in place until backfilling operations are complete.

E. Encase valves up to the operating nut without interfering with valve operation.

F. Encase hydrants to the grade line.

G. Repair rips, punctures and other damage with adhesive tape or with a piece of polyethylene secured in place.

3.10 THRUST RESTRAINTS

A. Provide valves, tees, bends, caps, and plugs with concrete thrust blocks. Pour concrete thrust blocks against undisturbed earth. Locate thrust blocks at each elbow or change of pipe direction to resist resultant force and so pipe and fitting joints will be accessible for repair.

B. Install tie rods, clamps, setscrew retainer glands, or restrained joints. Protect metal-restrained joint components against corrosion per 2.3 Corrosion Protective Material. Do not encase pipe and fitting joints with concrete.

C. Install thrust blocks, tie rods, and joint restraint at dead ends of water main.

3.11 SERVICE CONNECTIONS

A. Install service connections as specified in Section 33 12 13 - Water Service Connections.

3.12 BACKFILLING

A. Place 4” of MDOT Class II Granular Material along the side of the pipe, filling any void space under the pipe. Execute tamping with a T-bar or other tamping device approved by the Engineer.

B. Place additional tamped MDOT Class II Granular Material along the side of the pipe to a height equal to the top of the pipe.

C. Place and compact MDOT Class II Granular Material to 12” above the top of the pipe.

D. Maintain optimum moisture content of bedding material to attain required compaction density.

3.13 DISINFECTION OF POTABLE WATER PIPING SYSTEM

A. Flush and disinfect system as specified in Section 33 13 00 - Disinfecting of Water Utility Distribution.

3.14 FIELD QUALITY CONTROL

A. Field inspection will be performed under provisions of Section 01 40 00- Quality Requirements.

B. Compaction Testing for Bedding: According to ASTM D2922 and ASTM D6938.

C. When test indicate Work does not meet specified requirements, remove Work, replace, and retest.

D. Frequency of Compaction Tests: As determined by Engineer.

3.15 TESTING

A. Pressure Leakage Test:
   1. Perform Hydrostatic pressure test per AWWA C600 for D.I. Pipe and AWWA C605 for C900 PVC and C909 PVCO.
   2. Procedure: Tests shall be performed only after the pipeline has been properly filled, flushed, and purged of air. The specified test pressure shall be applied by means of an approved pumping assembly connected to the pipe in a manner satisfactory to the purchaser. The test pressure shall not exceed the design pressure of the pipe, fittings, valves, or thrust restraints. If necessary, the test pressure shall be maintained by additional pumping for the specified time. During tests, the system and exposed pipe, fittings, valves, and hydrants shall be carefully examined for leakage. Visible leaks shall be stopped. Defective elements shall be required or removed and replaced and the test repeated until the test requirements have been met.
   3. Test Duration: The duration of the hydrostatic test shall be 2 hour.
   4. Test Pressure: The hydrostatic test pressure shall be 125 psi.
   5. Test Allowance: The testing allowance shall be defined at the quantity of water that must be supplied to the pipe section being tested to maintain a pressure within 5 psi (34 kPa) of the

specified hydrostatic test pressure. No installation will be accepted if the quantity of makeup water is greater than that determined by the formula:

$$Q = \frac{LD\sqrt{P}}{148{,}000} \quad \text{(Eq 1)}$$

Where:

Q = quantity of makeup water, in gallons per hour
L = length of pipe section being tested, in ft.
D = Nominal Diameter of pipe in in.
P = Gauge test pressure in psi

6. Allowance tables: Makeup water allowances for various pipe diameters and test pressures are provided in Table 2.
7. Hydrant: When hydrants are in the test section, the test shall be made against closed hydrant valves.
8. Visible leaks: Visible leaks shall be repaired, regardless of the amount of leakage.

Table 2 Hydrostatic test makeup water allowances per 1,000 ft (305 m) of PVC pipe* --gph†

Avg. Test Pressure		Nominal Pipe Diameter, *in. (mm)*													
psi	*(kPa)*	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)	18 (450)	20 (500)	24 (610)	30 (760)	36 (915)	42 (1,070)	48 (1,220)
300	(2,070)	0.47	0.70	0.94	1.17	1.40	1.64	1.87	2.11	2.34	2.81	3.51	4.21	4.92	5.62
275	(1,900)	0.45	0.67	0.90	1.12	1.34	1.57	1.79	2.02	2.24	2.69	3.36	4.03	4.71	5.38
250	(1,720)	0.43	0.64	0.85	1.07	1.28	1.50	1.71	1.92	2.14	2.56	3.21	3.85	4.49	5.13
225	(1,550)	0.41	0.61	0.81	1.01	1.22	1.42	1.62	1.82	2.03	2.43	3.04	3.65	4.26	4.86
200	(1,380)	0.38	0.57	0.76	0.96	1.15	1.34	1.53	1.72	1.91	2.29	2.87	3.44	4.01	4.59
175	(1,210)	0.36	0.54	0.72	0.89	1.07	1.25	1.43	1.61	1.79	2.15	2.68	3.22	3.75	4.29
150	(1.030)	0.33	0.50	0.66	0.83	0.99	1.16	1.32	1.49	1.66	1.99	2.48	2.98	3.48	3.97
125	(860)	0.30	0.45	0.60	0.76	0.91	1.06	1.21	1.36	1.51	1.81	2.27	2.72	3.17	3.63
100	(690)	0.27	0.41	0.54	0.68	0.81	0.95	1.08	1.22	1.35	1.62	2.03	2.43	2.84	3.24
75	(520)	0.23	0.35	0.47	0.59	0.70	0.82	0.94	1.05	1.17	1.40	1.76	2.11	2.46	2.81
50	(340)	0.19	0.29	0.38	0.48	0.57	0.67	0.76	0.86	0.96	1.15	1.43	1.72	2.01	2.29

* If the pipeline under test contains sections of various diameters, makeup water allowance will be the sum of the test allowance for each size.

† To obtain makeup water allowance in liters per hour, multiply the values in the table by 3.79.

3.16 FILLING AND FLUSHING

A. Lines shall be filled slowly with potable water at a maximum Velocity of 1 ft/sec (0.3 m/sec) while venting air. Precautions shall be taken to prevent entrapping air in the lines. After filling, lines shall be flushed at blowoffs and dead ends at a minimum velocity of 3 ft/sec (0.9 m/sec). A minimum of three changes of treated water shall be used in flushing operations. Valve shall be closed slowly to prevent excessive surges while maintaining positive pressure at all times throughout the new line. Flushing water shall be discharged without causing erosion damage, nuisance, or interruption of traffic. Disposal of flushing water shall be in accordance with SEC. 4.1.1.2 (AWWA C651). A special pipeline pig may be required when the required flushing velocity cannot be achieved or when needed to conserve water. The contractor shall make provisions for launching and retrieving the pig.

3.17 SCHEDULES

A. Pipe Restraint Table:

PIPE RESTRAINT SCHEDULE FOR GROUND BURIED PRESSURE PIPES [a] [b]

LENGTH OF RESTRAINT REQUIRED [c]							
Deflection Angle / Pipe	22 1/2	33 3/4	45	56 1/4	67 1/2	78 3/4	90 , tee or dead end
6"	8	12	16	20	25	31	59
8"	10	15	20	26	33	40	77
10"	12	18	25	32	40	49	93
12"	14	21	29	37	47	57	109
14"	16	24	33	41	54	66	125
16"	18	27	37	47	60	74	141
18"	20	30	41	53	67	82	157
20"	22	33	45	58	73	90	172
24"	25	39	53	68	85	105	202
30"	30	46	63	82	102	126	244
36"	35	54	74	95	119	146	283
42"	40	61	83	107	133	164	320
48"	44	67	92	118	148	181	356

[a] This table is based on a test pressure of 150 PSI (Operating pressure + water hammer). For other test pressures, all values shall be increased or decreased proportionally.

[b] Table is valid for depths of bury 5' or greater. For depths of bury less than 5', consult D.I.P.R.A. guidelines.

[c] In each direction from point of deflection or termination, except for tee at which only the branch in the direction of the tee stem.

END OF SECTION

SECTION 33 41 13

PUBLIC STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Storm drainage piping.
2. Piping accessories.
3. Drainage structures.
4. Bedding and cover materials.
5. Pile support systems.
6. Pipe support systems.
7. Concrete encasement and cradles.

B. Related Sections:
1. Section 31 23 16 - Excavation
2. Section 31 23 17 - Trenching
3. Section 33 05 13 - Public Manholes and Structures

1.2 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:
1. AASHTO M170 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
2. AASHTO M252 - Standard Specification for Corrugated Polyethylene Drainage Pipe.
3. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
4. AASHTO M294 - Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.
5. AASHTO T180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM B745 - Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains.
2. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
3. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
4. ASTM C969 - Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
5. ASTM C1103 - Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
6. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).

7. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
8. ASTM D2235 - Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
9. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
10. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.
11. ASTM D2680 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping.
12. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
13. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.
14. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
15. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
16. ASTM F405 - Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings.
17. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
18. ASTM F667 - Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings.
19. ASTM F2881 – Standard Specification for polypropylene (PP) dual wall pipe and fittings.

1.3 PREINSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Requirements for preinstallation meeting.

B. Convene minimum one week prior to commencing Work of this Section.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data indicating pipe and pipe accessories.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.

E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

F. Qualifications Statements:
1. Submit qualifications for manufacturer and installer.
2. Submit manufacturer's approval of installer.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

A. Perform Work according with MDOT Standard Specifications for Construction.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

C. Storage:
1. Store materials according to manufacturer instructions.
2. Block individual and stockpiled pipe lengths to prevent moving.
3. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
4. Do not place pipe flat on ground; cradle to prevent point stress.

D. Protection:
1. Keep UV-sensitive materials out of direct sunlight.
2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 STORM DRAINAGE PIPING

A. ASTM F2881 / AASHTO M330 Polypropylene (H.P. Storm) pipe 12” through 48” pipe shall have a smooth interior with annular exterior corrugations. Polypropylene pipe shall be joined with a gasketed integral bell & spigot joint and shall be watertight according to the requirements of ASTM D3212 unless otherwise indicated on the plans.

B. Pipe Requirements:

1. ADS N-12 ST IB pipe (ASTM F2648) shall have a smooth interior and annular exterior corrugations.
   a. 4-through 60-inch (100 to 1500 mm) pipe shall meet ASTM F2648.
   b. Manning's "n" value for use in design shall be 0.012.

C. Joint Performance:
   1. Pipe shall be joined using a bell &^ spigot joint meeting ASTM F2648. The joint shall be soil-tight and gaskets for diameters 12-through 60-inch, shall meet the requirements of ASTM F477. For diameters 4- through 10-inch, the joint shall be soil-tight using an engaging dimple connection. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

D. Fittings:
   1. Fittings shall conform to ASTM F2306. Bell and spigot connections shall utilize a welded bell and valley or addle gasket meeting the soil-tight joint performance requirements of ASTM F2306.

E. Material Properties:
   1. Material for pipe production shall be an engineered compound of virgin and recycled high density polyethylene conforming with the minimum requirements of cell classifications 424420C (ESCR Test Condition B) for 4-throgh 10-inch (100 to 250 mm) diameters, and 435420C (ESCR Test Condition B) for 12-through 50-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%.

2.2 DRAINAGE STRUCTURES

A. Description: As specified in Section 33 05 13.16 - Public Manholes and Structures.

2.3 MATERIALS

A. Description: As specified in Section 31 23 23 – Fill.

B. Bedding and Cover:
   1. As specified in Section 31 23 23 – Fill and as shown on the drawings.

C. Subsoil: No rocks more than 6 inches in diameter, frozen earth, or foreign matter.

2.4 ACCESSORIES

A. Geotextile Filter Fabric as specified in Section 31 32 21.

2.5 REINFORCING

A. Steel reinforcing bars and mesh must comply with American Iron and Steel requirements.

2.6 FLARED METAL END SECTION WITH METAL GUARD

A. See ADS Metal End Section Code 1275NS or equivalent.

B. ADS Metal Animal Guard (Finger) Code 1270DA or equivalent.

C. See Appendix F for Product Detail.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify that excavation base is ready to receive Work.

C. Verify that excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Correct over-excavation with per Section 31 23 23 - Fill.

C. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.

D. Hand trim excavations to required elevations. Correct over excavation with fill material.

E. Cut out soft areas of subgrade not capable of insitu compaction. Backfill with MDOT 6AA course aggregate and compact to density equal to or greater than requirements for support of pipe or structure and subsequent backfill material.

F. Hand trim excavation for accurate placement of pipe to elevations indicated allowing for bedding thickness.

3.3 INSTALLATION

A. Excavation and Bedding:
   1. Excavate pipe trench as specified in Section 31 23 17 - Trenching.
   2. Hand trim excavation for accurate placement of piping to indicated elevations.
   3. Dewater excavations to maintain dry conditions to preserve final grades at bottom of excavation.
   4. Provide sheeting and shoring as specified in Section 31 23 17 - Trenching.
   5. Level materials in continuous layers not exceeding compacted depth of 12 inches.

6. Maintain optimum moisture content of bedding material to attain required compaction density.
7. Install pipe on compacted subgrade meeting bedding requirements.
8. Cradle bottom 20 percent of diameter to avoid point load.
9. Compact to 95 percent maximum density within influence of improved surfaces.

B. Piping:
1. Install pipe, fittings, and accessories in accordance with ASTM Standards and manufacturer's instructions.
2. Place pipe on specified bedding.
3. Lay pipe to slope gradients noted on layout drawings by the use of a laser beam alignment method proven reliable and operated by competent, experienced personnel.
4. Place remainder of bedding as specified. Do not displace or damage pipe when compacting.
5. Contractor shall use appropriate measures, approved by the engineer to provide a sealed connection between the storm sewer and appurtenances.
6. Wrap joints of concrete pipe with a 24" wide strip of filter fabric overlapping ends 12-inch minimum. Secure with tape.
7. Seal joints watertight.

C. Flared Metal End Section with Metal Guard
1. Protect the ends of culvert by end section according to MDOT Standards.
2. Use precast concrete end sections on concrete culverts.
3. Place them at the locations and elevations shown on the plans.
4. Fasten end section securely to the pipe as recommended by the manufacture or as directed by the Engineer.
5. For concrete end sections, wrap the joint with a 36” wide geotextile blanket centered on the joint.

D. Installation Standards: Install Work according to MDOT Standard Specifications for Construction, current edition.

3.4 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Requirements for tolerances.

B. Maximum Variation from Indicated Pipe Slope: 1/8 inch in 10 feet.

3.5 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.

B. Request inspection by Architect/Engineer prior to and immediately after placing aggregate cover over pipe.

C. HP storm pipe shall be mandrel tested by Contractor according to MDOT Construction Advisory CA 2011-08.

3.6 PROTECTION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.

B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

END OF SECTION

SHEET INDEX

1 – COVER SHEET
2 – NOTE SHEET
3 – DP-3218-3 – REMOVAL AND CONSTRUCTION SHEET
4 – D-3219-4 – DEMOLITION SHEET
5 – D-3219-5 – SITE SHEET
6 – D-3219-6 – GRADING SHEET
7 – D-3219-7 – UTILITY SHEET
8 – DW-4979-8 – TYPICAL CROSS SECTIONS
9 – DW-4979-9 – WATERMAIN PLAN AND PROFILE
10 – DW-4979-10 – REMOVAL AND CONSTRUCTION SHEET
11 – DW-4979-11 – PROFILE SHEET
12 – DETAILS SHEET

CITY OF SAGINAW

CITY OF SAGINAW INFRASTRUCTURE IMPROVEMENTS

DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

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CHARTER COMMUNICATIONS
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MICHAEL BAIZ

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MAPLE CARTER

FIBER OPTIC
WINDSTREAM
309 S WASHINGTON AVE
SAGINAW, MI 48607



LOCATION MAP
NOT TO SCALE

N

SECTIONS 26, T12N-R04E, CITY OF SAGINAW, SAGINAW COUNTY, MICHIGAN

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2020 STANDARD SPECIFICATIONS, THE LATEST M.D.O.T. STANDARD ROAD PLANS, SECTION B (4R) OF MDOT LOCAL AGENCY PROGRAM GUIDELINES FOR GEOMETRICS DATED 3/4/14, AND IN ACCORDANCE WITH AASHTO, A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2018.

THE PLACEMENT OF PAVEMENT MARKINGS AND SIGNS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 11TH EDITION, 2023.

MISS DIG UTILITY ALERT

THREE (3) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT MISS DIG UTILITY PROTECTION SERVICE (1-800-482-7171) OR 811 TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES. UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLANS WERE OBTAINED FROM UTILITY OWNERS AND WERE NOT FIELD LOCATED. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL IN ACCORDANCE WITH THE UTILITY OWNERS REQUIREMENTS. THE CONTRACTOR SHALL VERIFY THE DEPTH AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES. THE EXACT LOCATION OF EXISTING UTILITIES SHALL BE DETERMINED BY HAND DIGGING.

MDOT ROAD STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR IN PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLANS GIVEN BELOW. OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED. THE MOST CURRENT VERSION AVAILABLE ON THE MDOT WEBSITE.

R-1-G	DRAINAGE STRUCTURES
R-7-F	COVER B
R-11-E	MONUMENT BOXES
R-12-E	COVER G
R-15-G	COVER K
R-18-F	COVER Q
R-28-K	SIDEWALK RAMP AND DETECTABLE WARNING DETAILS
R-29-J	DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS
R-30-G	CONCRETE CURB AND CONCRETE CURB & GUTTER
R-74-D	BUMPER & PARKING RAILS AND MISC. WOOD POSTS
R-80-F*	GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS
R-83-C	UTILITY TRENCHES
R-96-E	SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
R-100-I*	SEEDING AND TREE PLANTING
R-105-D	GRADING CROSS SECTIONS

MDOT TRAFFIC AND SAFETY STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR IN THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLANS GIVEN BELOW, OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED. THE MOST CURRENT VERSION AVAILABLE ON THE MDOT WEBSITE.

WZD-100-A* GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
WZD-125-E* TEMPORARY TRAFFIC CONTROL DEVICES

* DENOTES SPECIAL DETAIL INCLUDED IN PROPOSAL

STATE OF MICHIGAN
JEFFREY SCHWARTZ
PROFESSIONAL ENGINEER
No. 6201067309
LICENSED PROFESSIONAL ENGINEER

APPROVED BY THE CITY OF SAGINAW

CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

COVER SHEET

DESIGNED BY	JDS	CONSTRUCTED	AS-BUILT DATE
DRAWN BY	JWL	DATE OF PLAN	BID DATE
CHECKED BY	CAR	SCALE	N/A
APPROVED BY	JDS	SHEET	1 OF 11 SHEETS

REVISION: DATE / INITIALS

JOB NO.:	DRAWING NO.:
137883SG2024	–

PLOT DATE: May 2026

Spicer group
230 S. Washington Ave
Saginaw, MI 48607
989.754.4717
www.spicergroup.com

DRAWING PATH:
JOB NO.: 137883SG2024
PROJECT NAME: CITY OF SAGINAW INFRASTRUCTURE IMPROVEMENTS

P:\Proj2024\137883SG2024_COS_Ojibway_Shoreline_Gateway_Restoration\137883SG2024_COS_Lee St and Rust Blvd Launch Improvements\2_AutoCAD_GIS\Cover_Notes.dwg, 5/6/2026 2:31 PM, Schwartz, Jeffrey D.

ABBREVIATIONS

BC = BACK OF CURB
BM = BENCH MARK
C/C = CENTER TO CENTER
CB = CATCH BASIN
CL = CENTERLINE
CJ = CONSTRUCTION JOINT
CMP = CORRUGATED METAL PIPE
CSP = CORRUGATED STEEL PIPE
CONC = CONCRETE
DI = DUCTILE IRON PIPE
EF = EACH FACE
ELEC = ELECTRIC
EL OR ELEV = ELEVATION
EOM = EDGE OF METAL
EOP = EDGE OF PAVEMENT
EQ/SP = EQUALLY SPACED
ESMT = EASEMENT
EW = EACH WAY
EX OR EXIST = EXISTING
FF = FINISH FLOOR
FL = FLOW LINE
FS = FINISH SURFACE
FG = FINISH GROUND
GALV = GALVANIZED
G = GUTTER
HDG = HOT DIP GALVANIZED
HDPE = HIGH DENSITY POLYETHYLENE
HP = HIGH POINT
HMA = HOT MIX ASPHALT
HYD = HYDRANT
INV = INVERT
LP = LOW POINT
OC = ON CENTER
OH = OVERHEAD
MH = MANHOLE
MIN = MINIMUM
MON = MONUMENT
NFL = NOT FIELD LOCATED
NTS = NOT TO SCALE
PROP = PROPOSED
PVC = POLYVINYL CHLORIDE
RCP = REINFORCED CONCRETE PIPE
ROW = RIGHT OF WAY
SAN = SANITARY
SB = SOIL BORING
SS = STAINLESS STEEL
STA = STATION
STM = STORM
SWR = SEWER
TB = TOP AND BOTTOM
TC = TOP OF CURB
TOB = TOP OF BANK
TOS = TOE OF SLOPE
TELE = TELEPHONE
TRW = TOP OF RETAINING WALL
TW = TOP OF WALK
UNO = UNLESS NOTED OTHERWISE
WM = WATER MAIN
WS = WATER SURFACE ELEVATION

PROPOSED SYMBOLS

- MANHOLE
- CATCHBASIN
- FIRE HYDRANT
- WATER VALVE
- BARRIER FREE PARKING
- LIGHT POLES
- DRAINAGE FLOW
- SPOT ELEVATION LABELS (500.00 LABEL)
  - G = GUTTER
  - TW = WALK
  - TC = TOP OF CURB
  - FS = FINISH SURFACE

LINE TYPE LEGEND

- EXISTING ROAD CENTERLINE
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER OR FORCEMAIN
- EXISTING STORM SEWER
- EXISTING TELEPHONE CABLE
- EXISTING GAS MAIN
- EXISTING ELECTRIC
- CABLE TV
- PROPOSED UTILITY
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- FENCE LINE
- OVERHEAD UTILITY
- RAILROAD TRACKS
- STATION LINE
- LIMITS OF RIGHT OF WAY
- EASEMENT
- SILT FENCE
- REVERSE PAN CURB & GUTTER
- TREE LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS

SYMBOL LEGEND EXISTING SYMBOLS

- MANHOLE
- CATCH BASIN
- CURB CATCH BASIN
- FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- TELEPHONE PEDESTAL
- POWER POLE
- TELEPHONE POLE
- POWER AND TELEPHONE POLE
- LIGHT POLE
- GUY ANCHOR AND POLE
- MAIL BOX
- WATER METER
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- M.W. - MONITORING WELL
- HAND HOLE
- TRANSFORMER
- ELECTRICAL PEDESTAL
- BARRIER FREE PARKING
- SPRINKLER
- RAILROAD SIGNAL
- ANTENNA
- SATELLITE DISH
- AC - AIR CONDITIONING UNIT
- SOIL BORING
- BENCH MARK
- FOUND SURVEY CORNER
- SET 1/2" IRON ROD
- 1/4 SECTION CORNER
- BREAK IN LINE
- EXISTING SIGN-1 POST
- EXISTING SIGN-2 POST
- STUMP
- WETLANDS
- PINE
- BUSH
- TREE

FLOODPLAIN ELEVATION NOTE

100 YEAR FLOODPLAIN ELEVATION IN PROJECT LOCATION RANGES FROM 590.5 TO 590.7 (NAVD). CONTOUR SHOWN ON PLANS IS 590.7 (NAVD).
500 YEAR FLOODPLAIN ELEVATION IN PROJECT LOCATION WAS ROUNDED UP AND SHOWN AS 593.0 (NAVD).

MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL KEYING SYSTEM

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	SEEDING		WHEN BARE SOIL IS EXPOSED, TEMPORARILY OR PERMANENTLY, TO EROSIVE FORCES FROM WIND AND OR WATER ON FLAT AREAS, MILD SLOPES, GRASSED WATERWAYS AND SPILLWAYS, DIVERSION DITCHES AND DIKES, BORROW AND STOCKPILE AREAS, AND SPOIL PILES.
2	MULCH		ON FLAT AREAS, SLOPES, GRASSED WATERWAYS AND SPILLWAYS, DIVERSION DITCHES AND DIKES, BORROW AND STOCKPILE AREAS, AND SPOIL PILES WHEN AREAS ARE SUBJECT TO RAINDROP IMPACT, AND EROSIVE FORCES FROM WIND OR WATER.
5	PERIMETER SEDIMENT CONTROL MEASURES (SILT FENCE, STRAW WATTLES, ETC.)		AS A TEMPORARY MEASURE USED TO CAPTURE SEDIMENT FROM SHEET FLOW. MAY ALSO DIVERT SMALL VOLUMES OF SHEET FLOW TO PROTECTED OUTLETS.
7	STORM DRAIN INLET PROTECTION		AROUND THE ENTRANCE TO A CATCH BASIN OR AN INLET THAT WILL CAPTURE RUNOFF FROM AN EARTH CHANGE ACTIVITY.
26	DUST CONTROL		AS A TEMPORARY MEASURE ON EXPOSED AND UNSTABILIZED AREAS THAT MUST BE PROTECTED FROM WIND OR WATER EROSION.
40	TURBIDITY CURTAIN		WITHIN A STREAM OR DRAIN PARALLEL TO FLOW WHEN A SLACK WATER AREA IS NECESSARY TO ISOLATE EARTH CHANGE ACTIVITIES FROM A LAKE OR CHANNEL.

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL

SYMBOLOGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

(#/P) = PERMANENT MEASURE

(#/T) = TEMPORARY MEASURE

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GENERAL CONSTRUCTION NOTES

1. CONSTRUCTION SITE ACCESS
THE CONTRACTOR SHALL PROVIDE REASONABLE ACCESS TO ALL DRIVEWAYS AND SIDEWALKS FOR BUSINESSES AND RESIDENTS.

2. CONSTRUCTION SITE SAFETY
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE CITY NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK OF PERSONS ENGAGED IN THE WORK, OR NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

3. MISS DIG UTILITY ALERT
FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 OR 811, A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EXCAVATION IN AREAS WHERE UTILITIES ARE LOCATED TO VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES. THIS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

4. SUBSURFACE SOIL CONDITIONS
THE CONTRACTOR IS RESPONSIBLE TO ACQUAINT HIMSELF WITH CONDITIONS OF THE WORK AREA. THE CONTRACTOR IS ADVISED TO DETERMINE THE SUBSURFACE SOIL CONDITIONS AND GROUND WATER CONDITIONS TO HIS OWN SATISFACTION PRIOR TO BIDDING. NO MODIFICATIONS TO THE UNIT PRICES BID FOR ANY ITEM WILL BE MADE DUE TO VARIABLE SUBSURFACE CONDITIONS. DEWATERING, IF DETERMINED NECESSARY BY THE CONTRACTOR, BY WELL POINTING OR DEEP WELLS WILL BE INCLUSIVE TO THE INSTALLATION COST OF THE UTILITY. FOR EXCAVATION TO DETERMINE SOILS CONTENT AND GROUND WATER LEVELS ON PRIVATE PROPERTY, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION OF THE CITY PRIOR TO EXCAVATING OR BORING. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL CONDITIONS.

5. SOIL EROSION & SEDIMENTATION CONTROL
THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE SOIL EROSION CONTROL PERMIT AS ACQUIRED BY THE CITY. ALL SESC MEASURES SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF THE PROJECT. ALL EXISTING AND PROPOSED STORM SEWER STRUCTURES ON-SITE SHALL BE PROTECTED. WHERE SEDIMENT HAS ENTERED A DRAINAGE COURSE OR ENCLOSED STORM SEWER AS A RESULT OF THIS CONSTRUCTION PROJECT, THE CONTRACTOR SHALL BE REQUIRED TO REMOVE THE SEDIMENT. THE CONTRACTOR SHALL PLACE SEED AND MULCH AS SOON AS POSSIBLE AND FOLLOWING ANY APPLICABLE SPECIAL PROVISION AND SECTION 816 OF THE MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

6. MIOSHA SAFETY REQUIREMENTS
ALL WORK, WORK PRACTICE, AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL SAFETY, OCCUPATIONAL, HEALTH AND ENVIRONMENTAL REGULATIONS AND ALSO NFPA AND ANSI CODES AS APPLICABLE. ALL WORK INSIDE A CONFINED SPACE SUCH AS MANHOLES OR OTHER UNDERGROUND STRUCTURES SHALL BE COORDINATED WITH UTILITY OWNER AND ALL WORKER SAFETY REQUIREMENTS STRICTLY ENFORCED.

7. LOCATION & ELEVATION OF UNDERGROUND UTILITIES
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE PLANS WERE OBTAINED FROM UTILITY OWNERS AND ARE ONLY APPROXIMATE. NO GUARANTEE AS TO ACCURACY IS EITHER EXPRESSED OR IMPLIED. THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION OR THE LOCATION OF WHICH THESE SERVICES EXIST. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. DIFFERING FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. ALL UTILITIES DAMAGED BY THIS CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIALS IN ACCORDANCE WITH THE UTILITY OWNERS REQUIREMENTS.

THE CONTRACTOR SHALL BE REQUIRED TO EXPOSE ALL EXISTING UTILITY CONNECTION POINTS PRIOR TO CONSTRUCTION OF PROPOSED UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER. THE CONTRACTOR SHALL VERIFY THE DEPTH AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES BY HAND DIGGING AND SHALL NOTIFY THE CONSTRUCTION REVIEWER AND ENGINEER OF ANY PROBLEM AREAS. ALL LABOR REQUIRED TO UNCOVER THE EXISTING UTILITIES SHALL BE CONSIDERED INCLUDED IN THE LINEAL FEET OF UTILITY INSTALLED. THE CONTRACTOR SHALL ARRANGE FOR THE VARIOUS UTILITIES TO LOCATE, REMOVE AND REPLACE, OR RELOCATE THEIR FACILITIES IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANIES POLICY. ALL COST SHALL BE INCLUSIVE OF THE WORK.

THE CONTRACTOR SHALL MAINTAIN ALL EXISTING SANITARY SEWER, WATER OR STORM SEWER SERVICE CONNECTIONS IN SERVICE THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL PROVIDE OR ARRANGE FOR TEMPORARY SUPPORT OF GAS MAIN AND UTILITY POLES WHERE NEEDED. ALL STORM SEWER DAMAGED REMOVED OR RELOCATED BY THE CONTRACTOR SHALL BE REPLACED WITH THE SAME SIZE AND QUALITY PIPE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT. ALL UTILITIES UNDERMINED BY THE EXCAVATION SHALL HAVE CRUSHED STONE 6A PLACED UNDER THEM.

8. PROTECTION OF HAZARDOUS AREAS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATION AND HAZARDOUS AREAS. MATERIALS USED FOR PROTECTING THESE AREAS SUCH AS BARRICADES LEFT IN PLACE AT NIGHT SHALL BE LIGHTED.

9. FILL MATERIAL WITHIN PROJECT INFLUENCE AREA
TOPSOIL SHALL BE STRIPPED AND STOCKPILED FROM ALL PROPOSED FILL AREAS PRIOR TO PLACING APPROVED FILL MATERIAL WITHIN THE INFLUENCE AREAS PRIOR TO PLACING APPROVED FILL MATERIAL WITHIN THE INFLUENCE AREA. THE FILL MATERIAL TO BE PLACED WITHIN THE PROJECT INFLUENCE AREA SHALL BE PLACED IN 12" MAXIMUM LAYERS, COMPACTED TO NOT LESS THAN 95% DENSITY AS MEASURED BY MICHIGAN CONE TEST AND NUCLEAR DENSITY CHECKING. AFTER THE BACKFILL MATERIAL HAS BEEN COMPLETED, THE TOPSOIL SHALL BE REPLACED FOR ALL AREAS OTHER THAN ROADS, DRIVES OR SHOULDERS.

10. STORM WATER DRAINAGE DURING CONSTRUCTION
THE CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT ALL STORM SEWER FACILITIES SUCH AS CATCH BASINS AND CULVERTS DURING CONSTRUCTION. CULVERTS AND CATCH BASINS CONTAMINATED DURING CONSTRUCTION SHALL BE CLEANED.

11. FINAL ELEVATION OF SURFACE UTILITIES
ALL FINAL ELEVATIONS OF MANHOLE CASTINGS, HYDRANTS, VALVES AND VALVE BOXES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. ADJUSTMENTS TO BE MADE AT NO ADDITIONAL COST TO CITY.

12. SOIL EROSION & SEDIMENTATION CONTROL RELEASE
PRIOR TO FINAL REVIEW AND APPROVAL THE CONTRACTOR SHALL REQUEST A FINAL INSPECTION OF ALL SOIL EROSION SEDIMENTATION CONTROL MEASURES AND RECEIVE WRITTEN APPROVAL FROM THE ENFORCING AGENCY. THE SOIL EROSION & SEDIMENTATION CONTROL BOND WILL BE RELEASED AT THIS TIME.

13. CONSTRUCTION STAKING
CONSTRUCTION STAKING SHALL BE PROVIDED BY THE SPICER GROUP.

14. COMPACTED GRANULAR BACKFILL
ALL TRENCH EXCAVATION WITHIN A 1:1 INFLUENCE ZONE OF PROPOSED OR EXISTING PAVEMENTS AND BUILDINGS SHALL BE BACKFILLED TO PROPOSED GRADE WITH COMPACTED GRANULAR MATERIAL, MDOT CLASS II, PLACED AND COMPACTED IN 12" LAYERS OR AS DIRECTED BY THE ENGINEER. THE WORK OF EXCAVATING AND BACKFILLING FOR UTILITY CONSTRUCTION IS INCLUDED IN THE WORK FOR WATER MAIN AND WILL NOT BE PAID FOR SEPARATELY.

15. SURFACE RESTORATION
ALL DISTURBED AREAS SHALL BE COMPLETELY RESTORED IN STRICT COMPLIANCE WITH SPECIFICATION AND TO THE SATISFACTION OF THE CITY. ALL COST FOR CLEANUP, RESTORATION WORK, AND OTHER INTERMEDIATE OPERATIONS SUCH AS, BUT NOT LIMITED TO CONSTRUCTION SIGNAGE, AND MAINTAINING EXISTING UTILITIES SHALL BE CONSIDERED INCLUSIVE OF TOTAL BID QUANTITY ITEMS SHOWN IN THE PROPOSAL. AREAS DISTURBED DURING CONSTRUCTION SHALL RECEIVE A 4" MIN. (CIP) APPLICATION OF SCREENED TOPSOIL, FERTILIZER, SEED AND MULCH IN ACCORDANCE WITH THE TURF ESTABLISHMENT, PERFORMANCE SPECIAL PROVISION. RESTORATION WORK SHOULD BE PERFORMED AS SOON AS POSSIBLE AFTER CONSTRUCTION WORK IS COMPLETED IN A PARTICULAR AREA. UPON THE COMPLETION OF WORK IN AN AREA ALL EXCESS MATERIALS, DEBRIS, AND SIMILAR ITEMS SHALL BE REMOVED FROM THE PROJECT AREA BY THE CONTRACTOR, AND DISPOSED OF PROPERLY.

ALL COMPACTED CLASS II GRANULAR BACKFILL SHALL BE TO 95% DENSITY. THE CITY SHALL PROVIDE SUFFICIENT SOIL COMPACTION TESTS TO DETERMINE COMPLIANCE WITH THE REQUIRED DESIGN DENSITY (95%) BY USING THE MICHIGAN CONE TEST AND NUCLEAR DENSITY CHECKING.

16. DISPOSAL OF EXCESS EXCAVATED MATERIAL
ALL EXCESS EXCAVATED MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR AT A LOCATION APPROVED BY THE CITY AND ENGINEER. IF ANY MATERIAL IS DISPOSED OF OFF-SITE, IT SHALL BE DISPOSED OF AT AN APPROVED SITE. ALL COSTS FOR OFF SITE DISPOSAL SHALL BE AT NO ADDITIONAL COST TO THE CITY.

17. TOPOGRAPHICAL INFORMATION
ALL TOPOGRAPHICAL INFORMATION WAS PROVIDED BY THE ENGINEER. ANY DIFFERENCES FOUND IN FIELD SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

18. PAVEMENT REMOVALS
ALL HMA AND CONCRETE REMOVALS SHALL BE SAWCUT. AN EXISTING CRACK SHALL NOT BE USED AS A CONSTRUCTION JOINT.

19. PAVEMENT MARKINGS
ALL PAVEMENT MARKINGS SHALL BE ACCORDING TO THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION.

20. UTILITY TRENCH BACKFILL
SERVICE LEADS AND UTILITIES SHALL BE COMPLETELY BACKFILLED WITH MDOT CLASS II SAND, IN 12" LAYERS, AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT, COST TO BE INCLUDED IN THE UNIT PRICE BID.

21. IRRIGATION SYSTEMS
WHERE IRRIGATION SYSTEMS WITHIN THE PUBLIC RIGHT OF WAY WILL INTERFERE WITH THE PROPOSED CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS THAT IT IS THEIR RESPONSIBILITY TO REMOVE AND PROTECT THEIR IRRIGATION SYSTEM. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COPY OF THE NOTIFICATION.

WHERE THE OWNER HAS NOT REMOVED THEIR PRIVATE IRRIGATION SYSTEM, THE CONTRACTOR SHALL CUT AND PLUG THOSE SECTIONS OF PIPING WHICH INTERFERE WITH CONSTRUCTION. SPRINKLER HEADS, VALVES, AND PIPING WHICH INTERFERE WITH THE CONTRACTOR'S WORK SHALL BE REMOVED AND STOCKPILED AT THE BACK OF THE RIGHT OF WAY. COST SHALL BE INCLUDED IN THE WATER MAIN SERVICE LEAD PAY ITEM.

22. SALVAGE NOTE
THE CONTRACTOR SHALL TAKE CARE IN REMOVING AND SALVAGING ALL CASTINGS, HYDRANTS, TRAFFIC SIGNS AND TRAFFIC SIGNAL LIGHTS. UPON REMOVAL, THE CONTRACTOR SHALL COORDINATE PICK-UP OF THE SALVAGED ITEMS BY THE CITY. SALVAGING REMOVED ITEMS SHALL BE INCLUDED IN THE COST OF REMOVAL OF EACH RESPECTIVE ITEM.

GRADING NOTES

1. ALL SURFACES SHALL BE THOROUGHLY MOISTENED AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND CONCURRENT PERFORMANCE OF OTHER WORK ON THE SITE. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO CONTROL DUST ON AND NEAR THE SITE AND ON AND NEAR ALL OFF-SITE BARROW AREAS. REFER TO 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 922.12 DUST PALLIATIVE AND/OR WATER FOR MEANS AND MATERIALS USED TO CONTROL DUST. CITY ENGINEER WILL REGULATE. DUST CONTROL BY MEANS OF WATER IS INCLUDED IN THE PAY ITEMS LISTED ON THE PROPOSAL.

2. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROTECT MATERIALS BEFORE, DURING AND AFTER THE INSTALLATION AND TO PROTECT ALL OBJECTS DESIGNATED TO REMAIN. IN THE EVENT OF DAMAGE, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY FOR THE APPROVAL OF THE ENGINEER AT NO ADDITIONAL COST TO THE CITY.

3. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING OPERATIONS IN A SAFE AND ORDERLY MANNER AND IN CONFORMANCE WITH MICHIGAN P.A. 154.

4. UNLESS OTHERWISE PROVIDED, THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERMITS REQUIRED UNDER MICHIGAN P.A. 347, 167, 346, AND 451, AND ANY LOCAL ORDINANCES.

5. WHERE THE PROPOSED EXCAVATION REQUIRES THAT A POLE OR GUY BE SUPPORTED OR TEMPORARILY RELOCATED, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE APPROPRIATE UTILITY TO HAVE THE POLE OR GUY SUPPORTED OR RELOCATED.

6. BRUSH LYING WITHIN THE LIMITS OF THE PROPOSED EXCAVATION SHALL BE CLEARED BY THE CONTRACTOR. BRUSH SHALL BE REMOVED FROM THE PROJECT AREA AND DISPOSED OF PROPERLY AT NOT ADDITIONAL COST TO THE CITY.

7. TREES LYING WITHIN THE LIMITS OF THE PROPOSED EXCAVATION THAT ARE TO BE REMOVED SHALL BE CUT DOWN BY THE CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS. THE CONTRACTOR SHALL COORDINATE WITH THE CITY AS TO WHICH TREES ARE TO BE LEFT IN PLACE AND THOSE THAT WILL BE ACCEPTABLE TO REMOVE. THE WOOD FROM THE TREE(S) SHALL BE DISPOSED OF OFF SITE IN AN APPROVED LOCATION AT NO ADDITIONAL COST TO THE CITY.

8. SMALL BRANCHES, LIMBS, AND OTHER DEBRIS SHALL BE REMOVED FROM THE AREA BY THE CONTRACTOR AND DISPOSED OF PROPERLY. IF THE LAND OWNER DOES NOT WANT THE WOOD FROM TREES, ALL WOOD INCLUDING BRANCHES, LIMBS AND OTHER DEBRIS SHALL BE REMOVED FROM THE AREA BY THE CONTRACTOR AND DISPOSED OF PROPERLY AT NO ADDITIONAL COST TO THE CITY.

9. STUMPS SHALL BE REMOVED IN THEIR ENTIRETY AND DISPOSED OF AWAY FROM THE PROJECT AREA IN AND ACCEPTABLE MANNER. BURNING OR BURYING ALONG THE PROJECT ROUTE IS NOT ACCEPTABLE.

10. IN CUT SECTIONS, THE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT. IN FILL SECTIONS, THE MATERIAL SHALL BE DEPOSITED AND SPREAD IN LAYERS OF NOT MORE THAN 12 INCHES IN DEPTH IN LOOSE MEASURE AND EXTENDING THE FULL WIDTH OF THE FILLED AREA. EACH LAYER OF THE MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT.

11. ALL UNDERCUTTING UNDER PAVEMENT SHALL BE BACKFILLED WITH CRUSHED LIMESTONE CONFORMING TO MDOT 21AA CRUSHED LIMESTONE AND COMPLYING WITH SECTION 902 OF THE MDOT STANDARD SPECIFICATIONS FOR COMPACTION REQUIREMENTS, REFER TO SECTION 302 OF THE MDOT STANDARD SPECIFICATIONS, CONTRACTOR SHALL DISPOSE OF ALL UNDERCUT MATERIAL AT ON ADDITIONAL COST TO THE CITY.

12. COMPACTION BY JETTING WILL NOT BE PERMITTED UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER.

13. WHERE DEPRESSIONS RESULT FROM, OR HAVE RESULTED FROM, THE REMOVAL OF SURFACE OR SUBSURFACE OBSTRUCTIONS, THE CONTRACTOR SHALL OPEN THE DEPRESSION TO EQUIPMENT WORKING WIDTH AND REMOVE ALL DEBRIS AND SOFT MATERIAL AS DIRECTED BY THE ENGINEER.

14. THE CONTRACTOR SHALL WATER OR AERATE THE FILL MATERIAL AS NECESSARY, AND THOROUGHLY MIX THE SOIL TO OBTAIN A MOISTURE CONTENT WHICH WILL PERMIT PROPER COMPACTION.

15. THE CONTRACTOR SHALL COMPACT EACH SOIL LAYER TO AT LEAST THE SPECIFIED MINIMUM DEGREE, REPEATING THE COMPACTION PROCESS UNTIL PLAN GRADE IS ATTAINED.

16. THE CONTRACTOR SHALL PROVIDE BERMS OR CHANNELS TO PREVENT FLOODING OF SUBGRADE AND PROMPTLY REMOVE ALL WATER COLLECTING IN ANY DEPRESSIONS.

17. WHERE SOIL HAS BEEN SOFTENED OR ERODED BY FLOODING OR PLACEMENT DURING UNFAVORABLE WEATHER, THE CONTRACTOR SHALL REMOVE ALL DAMAGED AREAS AND RECOMPACT AS SPECIFIED FOR FILL AND COMPACTION.

18. THE CONTRACTOR SHALL DEWATER BY MEANS WHICH WILL ENSURE DRY EXCAVATION AND THE PRESERVATION OF THE FINAL LINES AND GRADES AT BOTTOMS OF EXCAVATIONS.

19. AFTER GRADING IS COMPLETED AND THE ENGINEER HAS FINISHED THEIR INSPECTION, THE CONTRACTOR SHALL PERMIT NO FURTHER EXCAVATING, FILLING OR GRADING UNLESS REVIEWED, APPROVED AND INSPECTED BY THE ENGINEER.

20. UNTIL SUCH TIME AS PERMANENT DRAINAGE AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED, THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PREVENT EROSION OF FRESHLY GRADED AREAS DURING CONSTRUCTION.

21. THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO PLACING ANY PAVEMENT, IN ORDER THAT THE SUBGRADE MAY BE INSPECTED. ANY MATERIAL FOUND TO BE UNSUITABLE AS SUBGRADE WILL BE REMOVED AS DIRECTED BY THE ENGINEER. EXCAVATION OF UNSUITABLE SUBGRADE MATERIAL SHALL BE REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. ALL REPLACEMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER AT THE SOURCE PRIOR TO BEING CONSIDERED FOR USE.

22. THE CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY OF THE WORK PERFORMED OR INSTALLED TO BE COVERED UP OR ENCLOSED PRIOR TO ALL REQUIRED INSPECTIONS, TESTS AND APPROVALS. SHOULD ANY OF THE WORK BE COVERED UP BEFORE IT HAS BEEN APPROVED, THE CONTRACTOR SHALL UNCOVER ALL SUCH WORK AT NO ADDITIONAL COST TO THE CITY. AFTER THE WORK HAS BEEN COMPLETELY TESTED, INSPECTED, AND APPROVED, THE CONTRACTOR SHALL MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO RESTORE THE WORK TO THE CONDITION IN WHICH IT WAS FOUND AT THE TIME OF UNCOVERING ALL AT NO ADDITIONAL COST TO THE CITY.

23. THE CONTRACTOR SHALL EXCAVATE AHEAD OF THE PROPOSED UTILITY INSTALLATION TO EXPOSE ANY EXISTING BURIED UTILITIES. IF EXISTING UTILITY GRADES CONFLICT WITH THE PROPOSED UTILITY GRADE, THE PROPOSED UTILITY GRADE MAY BE ADJUSTED SLIGHTLY BY THE ENGINEER, IF NECESSARY, TO MISS THE EXISTING UTILITY GRADE AT NO ADDITIONAL COST TO THE CITY.

24. THE WORK SHALL INCLUDE PROVIDING DRAINAGE SWALES WHERE NECESSARY TO PROMOTE POSITIVE DRAINAGE.

25. GRADES IN OPEN SPACES SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 5:1.

CONSTRUCTION NOTES FOR DRAINAGE

1. ALL PRECAST MANHOLE AND CATCH BASIN COMPONENTS SHALL BE IN ACCORDANCE WITH ASTM C-478.

2. ALL STORM DRAINAGE AND SERVICE LEADS WITHIN THE 1:1 INFLUENCE LINES OF THE CONSTRUCTION SHALL BE BACKFILLED WITH COMPACTED SAND BACKFILL (MDOT GRANULAR CLASS II) PLACED IN 12 INCH LAYERS AND COMPACTED TO 95% MAXIMUM UNIT WEIGHT.

3. ALL STORM MANHOLES AND CATCH BASINS SHALL BE SET ON A MINIMUM OF 6 INCH COMPACTED MDOT 6A CRUSHED LIMESTONE BACKFILL.

4. PRECAST REINFORCED CONCRETE STORM MANHOLES SHALL HAVE A MINIMUM 5 INCH WALL THICKNESS WITH MANHOLE STEPS EVENLY SPACED. THE BOTTOM OF THE MANHOLE SHALL BE SHAPED WITH A CONCRETE FILLET. ALL MANHOLES AND CATCH BASINS SHALL HAVE A 4 FOOT INTERNAL DIAMETER, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

5. ALL COMBINED SEWER STRUCTURES SHALL BE CONSTRUCTED WITH CON SHIELD ANTIMICROBIAL ADDITIVE, OR EQUAL AS APPROVED BY THE ENGINEER.

PROJECT NOTES

1. ALL JOINTS BETWEEN PROPOSED PAVEMENT AND EXISTING PAVEMENT SHALL BE BUTT JOINTS CONSTRUCTED PRIOR TO PLACEMENT OF TOP COURSE MATERIAL. THESE JOINTS SHALL BE MADE BY SAW CUTTING THE PAVEMENT SURFACE AND REMOVING THE SILVER OF ASPHALT. THIS WORK SHALL BE INCLUDED IN THE HMA PAVING OR PAVEMENT REPAIR PAY ITEMS.

2. CONCRETE MIX: ALL CONCRETE SHALL BE GRADE P-1 SIX FULL SACK MIX, OR P-NC, SEVEN FULL SACK MIX IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.

3. FOR ALL SEWER CONNECTIONS TO EXISTING SEWER THE JOINT SHALL BE CLEAN AND SEALED WITH A FERNCO CONNECTION, AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE CONSIDERED AS PART OF THE WORK OF INSTALLING THE NEW SEWER PIPE.

4. THE CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING CURB IN AREAS NOT CALLED OUT FOR REPLACEMENT. IF EXISTING CURB IS DAMAGED OR FALLS DURING CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE/RESET AT NO ADDITIONAL COST TO THE CITY.

5. THE CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING CATCH BASINS IN AREAS NOT CALLED OUT FOR REPLACEMENT OR ADJUSTMENTS. IF EXISTING CATCH BASINS ARE DAMAGED DURING CONSTRUCTION, IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR THE CATCH BASINS, AS DETERMINED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE CITY.

6. EXPANSION JOINTS AND SAWED CONTROL JOINTS ARE TO BE INSTALLED PER TYPICAL DETAILS AND MDOT STANDARDS AND SEALED WITH AN APPROVED SEALANT, AS DIRECTED BY THE ENGINEER. CONSTRUCTION OF THESE JOINTS ARE INCLUDED AS PART OF THE APPROPRIATE CONCRETE PAY ITEM AND WILL NOT BE PAID FOR SEPARATELY.

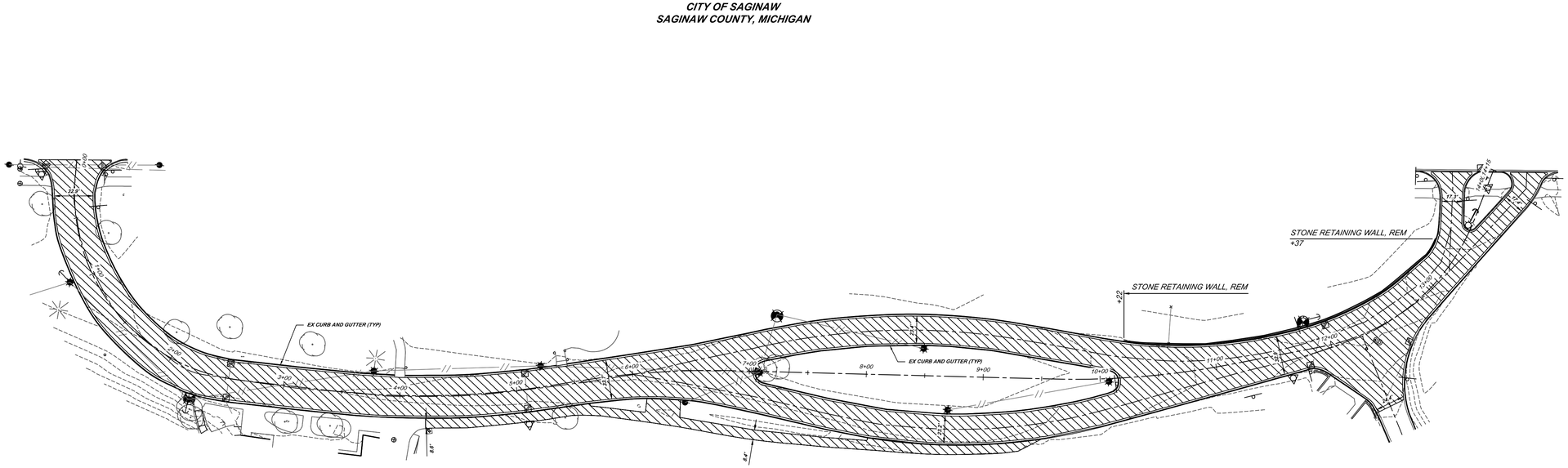
7. LONGITUDINAL REINFORCEMENT SHALL BE INSTALLED IN ALL CURB AND GUTTER AND WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE APPROPRIATE CONCRETE CURB AND GUTTER PAY ITEM.

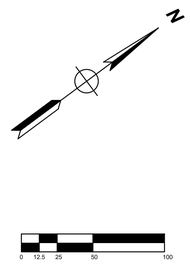
CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
-ENGINEERING DIVISION-

NOTES
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS

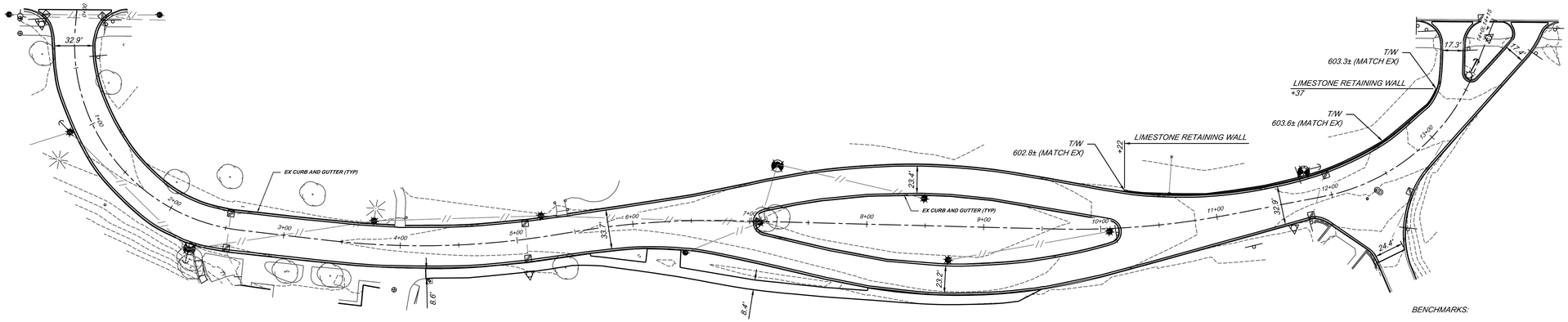
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SECTION 25
T.12 N. - R.04 E.
CITY OF SAGINAW
SAGINAW COUNTY, MICHIGAN





REMOVAL PLAN



HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE LBS PER SYD	PERFORMANCE GRADE	REMARKS
5EL-T	HMA, 5EL	165	58-28	HMA TOP COURSE
4EL-L	HMA, 4EL	165	58-28	HMA LEVELING COURSE
HA	HMA APPROACH	330	58-28	HMA, 5EL TOP COURSE EST @ 165#/SYD; HMA, 4EL LEVELING COURSE EST @ 165#/SYD,

PLACE HMA BOND COAT AT 0.05-0.15 GAL/SYD BETWEEN LAYERS AS DIRECTED BY THE ENGINEER (INCLUDED IN PAYMENT FOR HMA PAVING)
THE AGGREGATE WEAR INDEX (AWI) FOR THE TOP COURSE SHALL BE 220 MINIMUM

CONSTRUCTION PLAN

BENCHMARKS:

BM 200 - SPIKE IN POWER POLE, 45'± SOUTHWEST OF SOUTHERLY FACE OF BUILDING & 5'± SOUTHEAST OF BACK OF CURB.

ELEV. 601.74 (NAVD88)

BM 201 - SPIKE IN POWER POLE, 42'± NORTHWEST OF SOUTHERN END OF ISLAND BACK OF CURB & 10'± NORTHWEST OF BACK OF CURB.

ELEV. 604.65 (NAVD88)

BM 202 - NAIL IN POWER POLE, 5'± NORTHEAST OF BACK OF TOP OF ROCK WALL & 8'± NORTHEAST OF 'DO NOT ENTER' SIGN.

ELEV. 604.51 (NAVD88)

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CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

HOYT PARK UPPER DRIVE PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
REMOVAL AND CONSTRUCTION SHEET

DESIGNED BY	JDS
DRAWN BY	JDS
CHECKED BY	CAR
APPROVED BY	JDS
CONSTRUCTED	AS–BUILT DATE
DATE OF PLAN	May 2026
SCALE	N/A
SHEET	3 OF 11 SHEETS

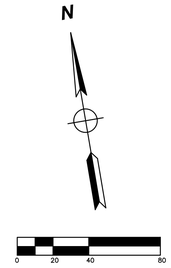
REVISION: DATE / INITIALS

CONTROL SECTION	JOB NO.	FEDERAL PROJECT	ITEM	SHEET NO.
	137883SG2024	DP-3218-3		3

PLOT DATE:
DRAWING PATH:

P:\Proj\2024\137883SG2024_CDS_Highway_Shoreline_Gateway_Restoration\137739SG2024_CDS_Lee St and Rust Boat Launch Improvements\2_AutoCAD_GIS\Hoyt Park Upper Drive\DP-Plans.dwg, 5/4/2026 2:14 PM, Schwartz, Jeffrey D.





DEMOLITION NOTES

1. CLEAR AREAS REQUIRED FOR ACCESS TO SITE AND EXECUTION OF WORK.
2. MILL AND REMOVE NOTED PAVEMENT.
3. SAWCUT ALL PAVEMENT, CURBS AND WALKS NOTED FOR REMOVAL FOR A CLEAN EDGE,
4. REMOVE ALL CLEARED ITEMS FROM SITE AND PROPERLY DISPOSE OF.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING ALL DISTURBED AREAS.
6. ANY INCIDENTALLY DAMAGED AREAS SHALL BE REPLACED OR REPAIRED AT THE ENGINEER'S DISCRETION AT NO ADDITIONAL COST TO THE CONTRACT.

DEMOLITION ITEMS

(1) MILL AND REMOVE 4" ASPHALT PAVEMENT.

BENCHMARKS:

BM 200 - RAILROAD SPIKE IN POWER POLE @ NORTHEAST QUADRANT OF INTERSECTION OF LEE & NIAGARA, 20'± SOUTHWEST OF C/L LEE STREET & 15'± NORTHWEST OF C/L NIAGARA STREET.

ELEV. 603.59 (NAVD88)

BM 201 - RAILROAD SPIKE IN POWER POLE, 30'± NORTHEAST OF C/L LEE STREET & 370'± SOUTHEAST OF C/L NIAGARA STREET.

ELEV. 593.81 (NAVD88)

BM 202 - RAILROAD SPIKE IN POWER POLE, 20'± NORTHEAST OF C/L LEE STREET & 75'± NORTHWEST OF C/L DRIVEWAY TO BOAT LAUNCH.

ELEV. 589.78 (NAVD88)

BM 203 - "X" IN NORTHWEST BOLT OF LIGHT POLE WITH 'NO WAKE ZONE' SIGN, 108'± SOUTHWEST FROM BOAT LAUNCH & 5'± SOUTHEAST FROM EDGE OF ASPHALT PARKING LOT.

ELEV. 586.30 (NAVD88)

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CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

RUST BOAT LAUNCH PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
DEMOLITION SHEET

DESIGNED BY	JDS
DRAWN BY	JWL
CHECKED BY	CAR
APPROVED BY	JDS
CONSTRUCTED	############
DATE OF PLAN	May 2026
SCALE	1"=40'
SHEET 4 OF 11 SHEETS	

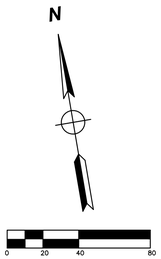
REVISION: DATE / INITIALS

CONTROL SECTION	JOB NO.	FEDERAL PROJECT	ITEM	SHEET NO.
	137756SG2024	D-3219-4		4

PLOT DATE: May 6, 2026
DRAWING PATH:

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PARCEL DATA

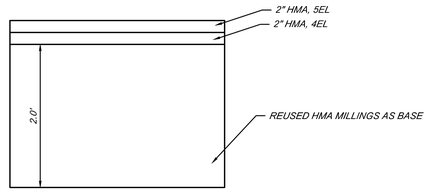
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TAX # 18-1046-00000

PARKING

PASSENGER VEHICLE PARKING	=	47 SPACES
VEHICLE AND TRAILER PARKING	=	60 SPACES

CONSTRUCTION NOTES:

1. 4" STANDARD ASPHALT PAVEMENT.
2. PROPOSED HANDICAP PARKING SIGN WITH VAN ACCESSIBLE PLAQUE
3. 4" WHITE PAVEMENT MARKINGS
4. PROPOSED NEW BUMPOUT PARKING



PROPOSED NEW BUMPOUT PARKING DETAIL

BENCHMARKS:

BM 200 - RAILROAD SPIKE IN POWER POLE @ NORTHEAST QUADRANT OF INTERSECTION OF LEE & NIAGARA, 20'± SOUTHWEST OF C/L LEE STREET & 15'± NORTHWEST OF C/L NIAGARA STREET.

ELEV. 603.59 (NAVD88)

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CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

RUST BOAT LAUNCH PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
SITE SHEET

DESIGNED BY	JDS	CONSTRUCTED	############
DRAWN BY	JWL	DATE OF PLAN	May 2026
CHECKED BY	CAR	SCALE	1"=40'
APPROVED BY	JDS	SHEET 5 OF 11 SHEETS	

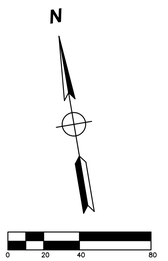
REVISION: DATE / INITIALS

CONTROL SECTION	JOB NO.	FEDERAL PROJECT	FEDERAL ITEM	SHEET NO.
	137756SG2024	D-3219-5		5

PLOT DATE:
DRAWING PATH:

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PROPOSED RIDGE

PROPOSED SWALE

MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS EROSION & SEDIMENT CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	**SEEDING**		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	**MULCH**		On flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive forces from wind or water.
60	**STORM DRAIN INLET PROTECTION**		Around the entrance to a newly constructed catch basin or an inlet that will capture runoff from an earth change activity.
61	**SILT FENCE**		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.
66	**STABILIZED CONSTRUCTION ACCESS**		At locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL

SYMBOLOGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

(#/P) = PERMANENT MEASURE

(#/T) = TEMPORARY MEASURE

= LIMITS OF DISTURBANCE

= SILT FENCE

= STONE ACCESS DRIVE

Contractor shall conform to Soil Erosion and Sedimentation Control Act, Part 91 of Public Act 451 of 1994, as amended. All catch basins, on the site and adjacent to the site, shall be covered with cloth filters for Soil Erosion and Sedimentation Control.

NEAREST WATER BODY

SAGINAW RIVER

TIMING SEQUENCE

OPERATION	SCHEDULE
TEMPORARY CONTROL MEASURES	
STRIPPING/STOCKPILING OF SOIL	
ROUGH GRADING/SEDIMENTATION CONTROL	
STORM UTILITIES	
PERMANENT CONTROL MEASURE	
SITE CONSTRUCTION	
FINISH GRADING	

* SCHEDULE TO BE FILLED OUT BY CONTRACTOR/PERMITEE.

SOILS INFORMATION

SYMBOL	TYPE
71	UDORTHENTS, LOAMY, NEARLY LEVEL TO STEEP

BENCHMARKS:

BM 200 - RAILROAD SPIKE IN POWER POLE @ NORTHEAST QUADRANT OF INTERSECTION OF LEE & NIAGARA, 20'± SOUTHWEST OF C/L LEE STREET & 15'± NORTHWEST OF C/L NIAGARA STREET.

ELEV. 603.59 (NAVD88)

BM 201 - RAILROAD SPIKE IN POWER POLE, 30'± NORTHEAST OF C/L LEE STREET & 370'± SOUTHEAST OF C/L NIAGARA STREET.

ELEV. 593.81 (NAVD88)

BM 202 - RAILROAD SPIKE IN POWER POLE, 20'± NORTHEAST OF C/L LEE STREET & 75'± NORTHWEST OF C/L DRIVEWAY TO BOAT LAUNCH.

ELEV. 589.78 (NAVD88)

BM 203 - "X" IN NORTHWEST BOLT OF LIGHT POLE WITH 'NO WAKE ZONE' SIGN, 108'± SOUTHWEST FROM BOAT LAUNCH & 5'± SOUTHEAST FROM EDGE OF ASPHALT PARKING LOT.

ELEV. 586.30 (NAVD88)

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CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

RUST BOAT LAUNCH PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
GRADING SHEET

DESIGNED BY	JDS	CONSTRUCTED	############
DRAWN BY	JWL	DATE OF PLAN	May 2026
CHECKED BY	CAR	SCALE	1"=40'
APPROVED BY	JDS	SHEET	6 OF 11 SHEETS

REVISION: DATE / INITIALS

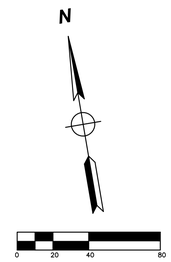
CONTROL SECTION	JOB NO.	FEDERAL PROJECT	FEDERAL ITEM	SHEET NO.
	137756SG2024	D-3219-6		6

PLOT DATE:

DRAWING PATH:

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BENCHMARKS:

BM 200 - RAILROAD SPIKE IN POWER POLE @ NORTHEAST QUADRANT OF INTERSECTION OF LEE & NIAGARA, 20'± SOUTHWEST OF C/L LEE STREET & 15'± NORTHWEST OF C/L NIAGARA STREET.

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ELEV. 586.30 (NAVD88)

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CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

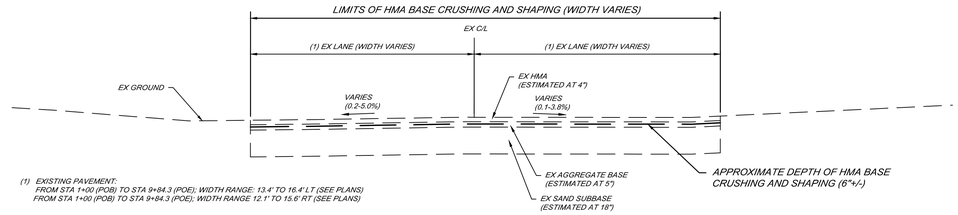
RUST BOAT LAUNCH PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
UTILITY SHEET

DESIGNED BY	JDS
DRAWN BY	JWL
CHECKED BY	CAR
APPROVED BY	JDS
CONSTRUCTED	############
DATE OF PLAN	May 2026
SCALE	1"=40'
SHEET	7 OF 11 SHEETS

REVISION: DATE / INITIALS

CONTROL SECTION	JOB NO.	FEDERAL PROJECT	ITEM	SHEET NO.
	137756SG2024	D-3219-7		7
PLOT DATE:				
DRAWING PATH:				

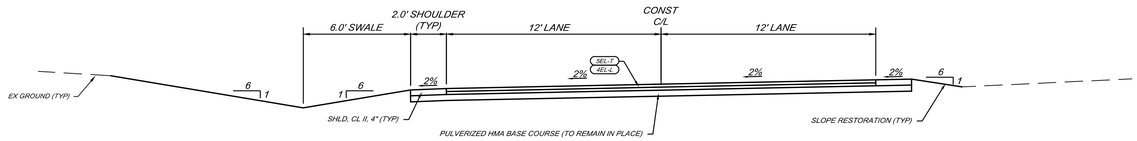
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(1) EXISTING PAVEMENT:
FROM STA 1+00 (POB) TO STA 9+84.3 (POE); WIDTH RANGE: 13.4' TO 16.4' LT (SEE PLANS)
FROM STA 1+00 (POB) TO STA 9+84.3 (POE); WIDTH RANGE 12.1' TO 15.6' RT (SEE PLANS)

LEE STREET EXISTING TYPICAL CROSS SECTION

TO APPLY
STA:1+00(POB) TO STA 9+84.3(POE)



LEE STREET PROPOSED TYPICAL CROSS SECTION

TO APPLY
STA:1+00(POB) TO STA 9+84.3(POE)

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE LBS PER SYD	PERFORMANCE GRADE	REMARKS
5EL-T	HMA, 5EL	220	58-28	HMA TOP COURSE
4EL-L	HMA, 4EL	220	58-28	HMA LEVELING COURSE
HA	HMA APPROACH	440	58-28	HMA, 5EL TOP COURSE EST @ 220#/SYD; HMA, 4EL LEVELING COURSE EST @ 220#/SYD.

PLACE HMA BOND COAT AT 0.05-0.15 GAL/SYD BETWEEN LAYERS AS DIRECTED BY THE ENGINEER (INCLUDED IN PAYMENT FOR HMA PAVING)
THE AGGREGATE WEAR INDEX (AWI) FOR THE TOP COURSE SHALL BE 220 MINIMUM

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DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

LEE STREET WATER AND PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
TYPICAL CROSS SECTIONS

DESIGNED BY JDS
DRAWN BY JWL
CHECKED BY CAR
APPROVED BY JDS

CONSTRUCTED AS-BUILT DATE
DATE OF PLAN May 2026
SCALE 1"=40'
SHEET 8 OF 11 SHEETS

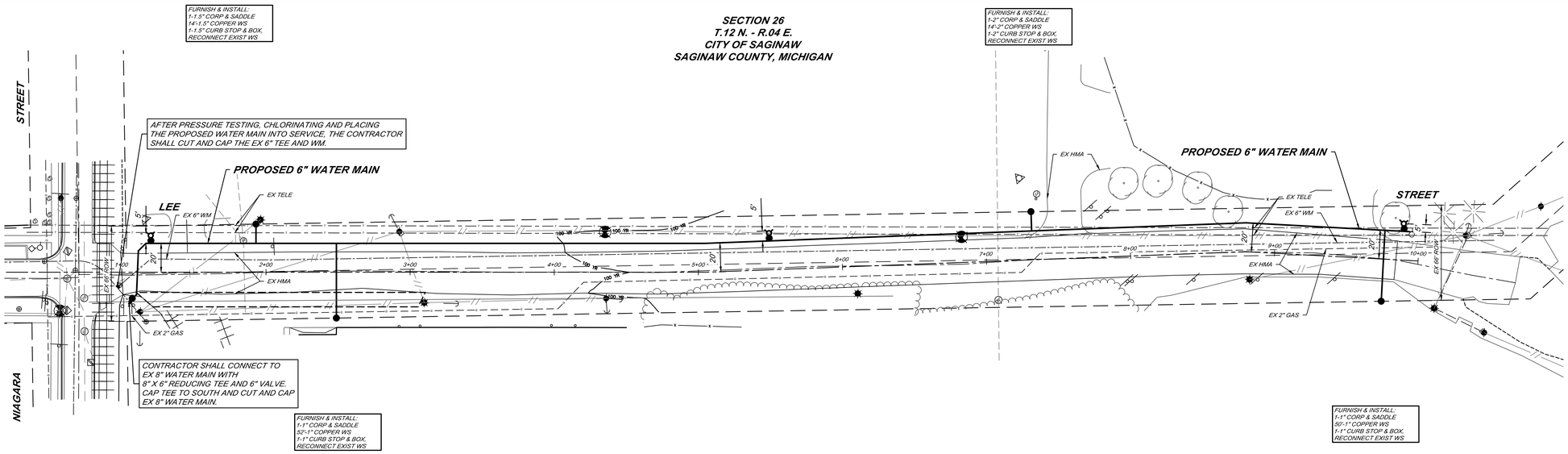
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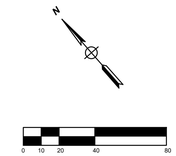
CONTROL SECTION	JOB NO.	FEDERAL PROJECT	ITEM	SHEET NO.
	137756SG2024	DW-4979-8		8

PLOT DATE:
DRAWING PATH:

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SECTION 26
T.12 N. - R.04 E.
CITY OF SAGINAW
SAGINAW COUNTY, MICHIGAN





SCALE: 1" = 40'

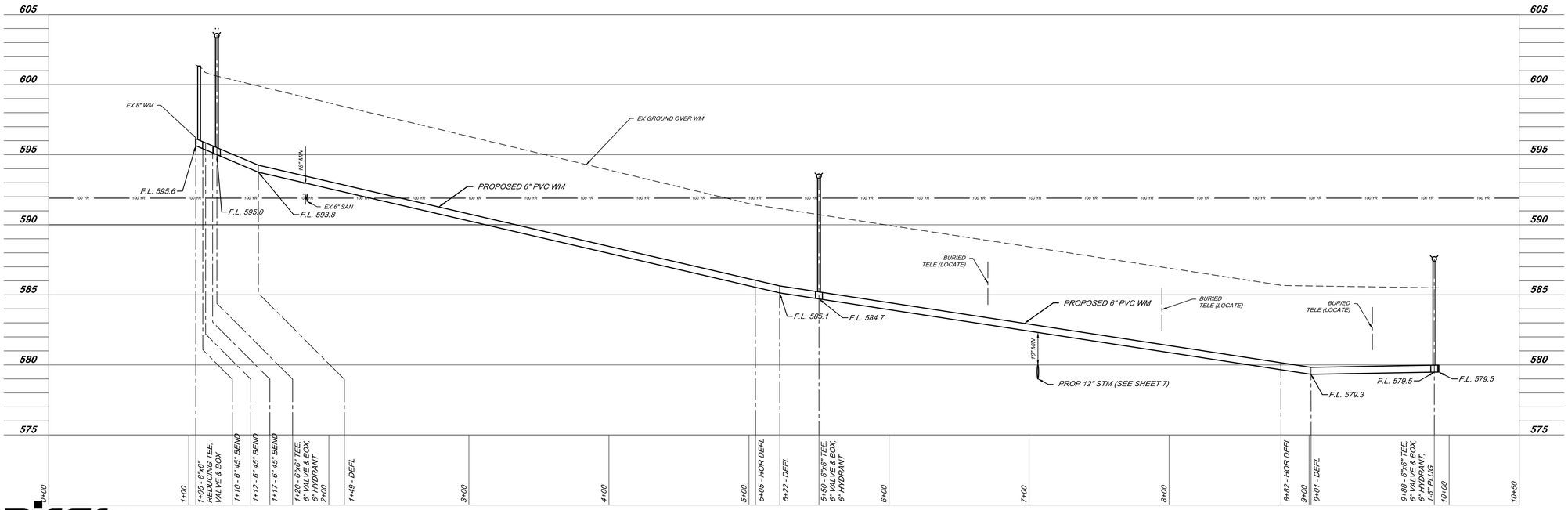
CONSTRUCTION NOTES

AFTER PRESSURE TESTING, CHLORINATING AND PLACING THE PROPOSED WATER MAIN INTO SERVICE, THE CONTRACTOR SHALL REMOVE THE FOLLOWING HYDRANTS ALONG WITH THE AUX. VALVE & BOX, AND CAP THE ABANDONED HYDRANT LEAD:

STA 9+94.4 - 18' LT

AFTER PRESSURE TESTING, CHLORINATING AND PLACING THE PROPOSED WATER MAIN INTO SERVICE, THE CONTRACTOR SHALL TURN OFF THE FOLLOWING VALVES, REMOVE THE TOP SECTION AND FILL WITH CONCRETE:

STA 0+98.6 - 9' RT



BENCHMARKS:

BM 200 - RAILROAD SPIKE IN POWER POLE @ NORTHEAST QUADRANT OF INTERSECTION OF LEE & NIAGARA, 20'± SOUTHWEST OF C/L LEE STREET & 15'± NORTHWEST OF C/L NIAGARA STREET.

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ELEV. 586.30 (NAVD88)

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CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

LEE STREET WATER AND PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
WATERMAIN PLAN AND PROFILE SHEET

DESIGNED BY	JDS
DRAWN BY	JWL
CHECKED BY	BKP
APPROVED BY	JDS
CONSTRUCTED	##############
DATE OF PLAN	May 2026
SCALE	1"=40'
SHEET	9 OF 11 SHEETS

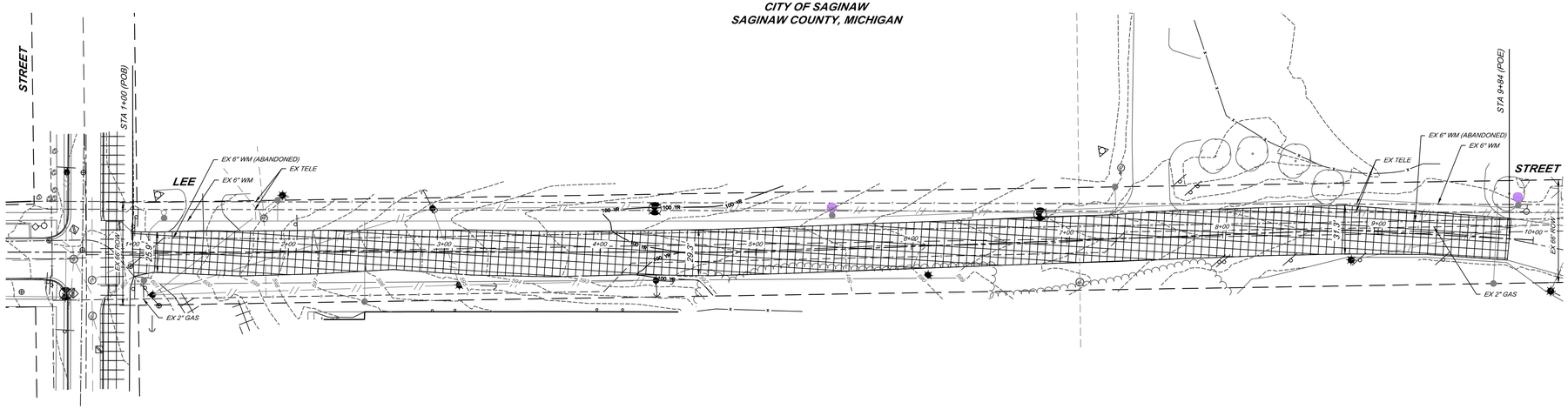
REVISION: DATE / INITIALS

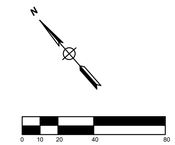
CONTROL SECTION	JOB NO.	FEDERAL PROJECT	ITEM	SHEET NO.
	137883SG2024	DW-4979-9		9

PLOT DATE:
DRAWING PATH: P:\PROJ2024\137883SG2024_COS_OJIBWAY_SHORELINE_GATEWAY_RESTORATION\137756SG2024_COS_LEE ST AND RUST BOAT LAUNCH IMPROVE

P:\Proj2024\137883SG2024_COS_Ojibway_Shoreline_Gateway_Restoration\137756SG2024_COS_Lee St and Rust Boat Launch Improvements\2_AutoCAD_GIS\Lee Street\DWK\PlanProf.dwg, 5/6/2026 2:23 PM, Schwartz, Jeffrey D.

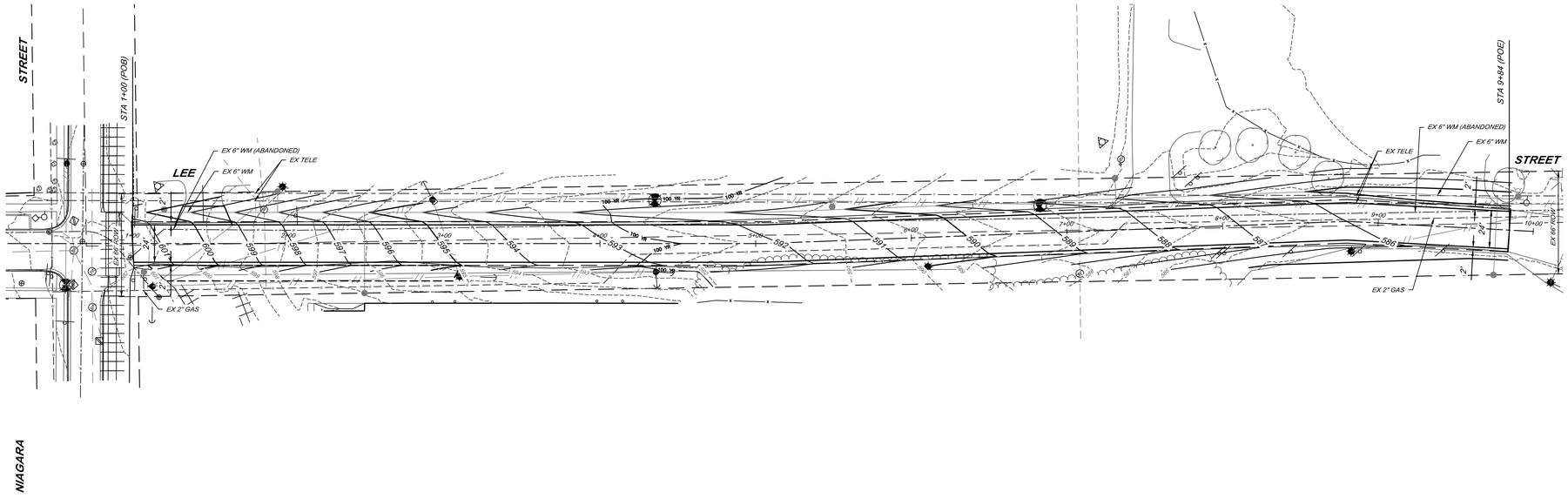
SECTION 26
T.12 N. - R.04 E.
CITY OF SAGINAW
SAGINAW COUNTY, MICHIGAN

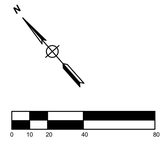




SCALE: 1" = 40'

REMOVAL PLAN





SCALE: 1" = 40'

CONSTRUCTION PLAN

BENCHMARKS:

BM 200 - RAILROAD SPIKE IN POWER POLE @ NORTHEAST QUADRANT OF INTERSECTION OF LEE & NIAGARA, 20'± SOUTHWEST OF C/L LEE STREET & 15'± NORTHWEST OF C/L NIAGARA STREET.

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ELEV. 586.30 (NAVD88)

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DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

LEE STREET WATER AND PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
REMOVAL AND CONSTRUCTION SHEET

DESIGNED BY	JDS
DRAWN BY	JWL
CHECKED BY	CAR
APPROVED BY	JDS

CONSTRUCTED	############
DATE OF PLAN	May 2026
SCALE	1"=40'
SHEET	10 OF 11 SHEETS

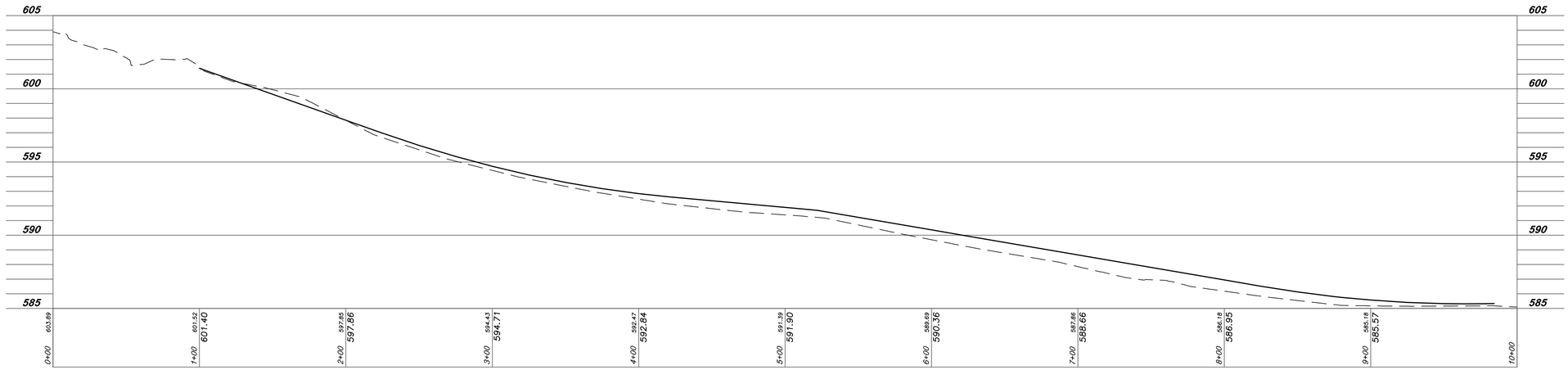
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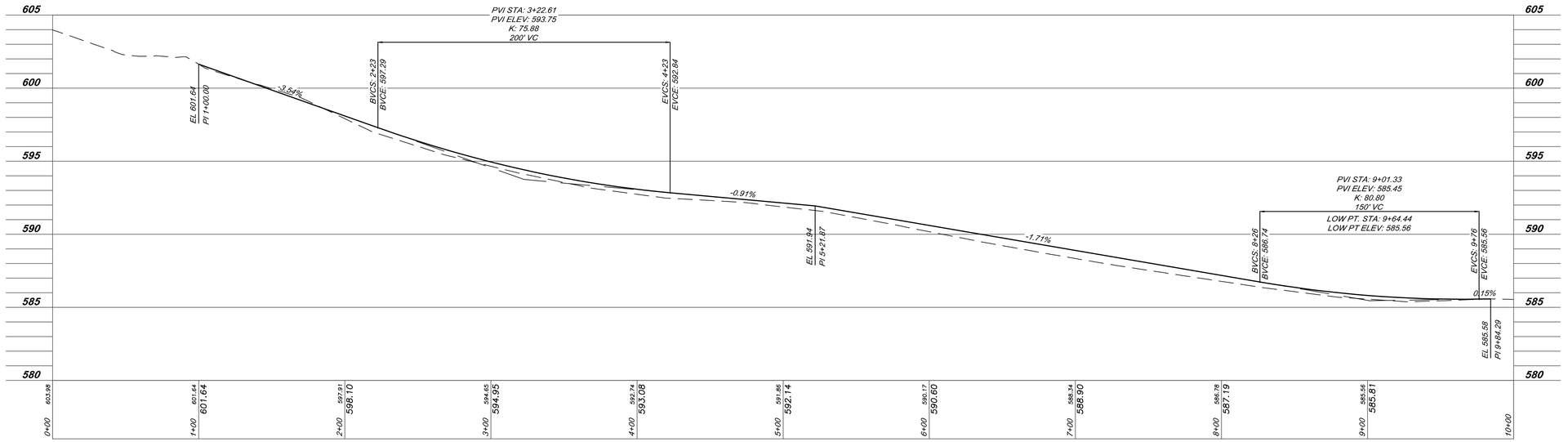
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	137883SG2024	DW-4979-10		10

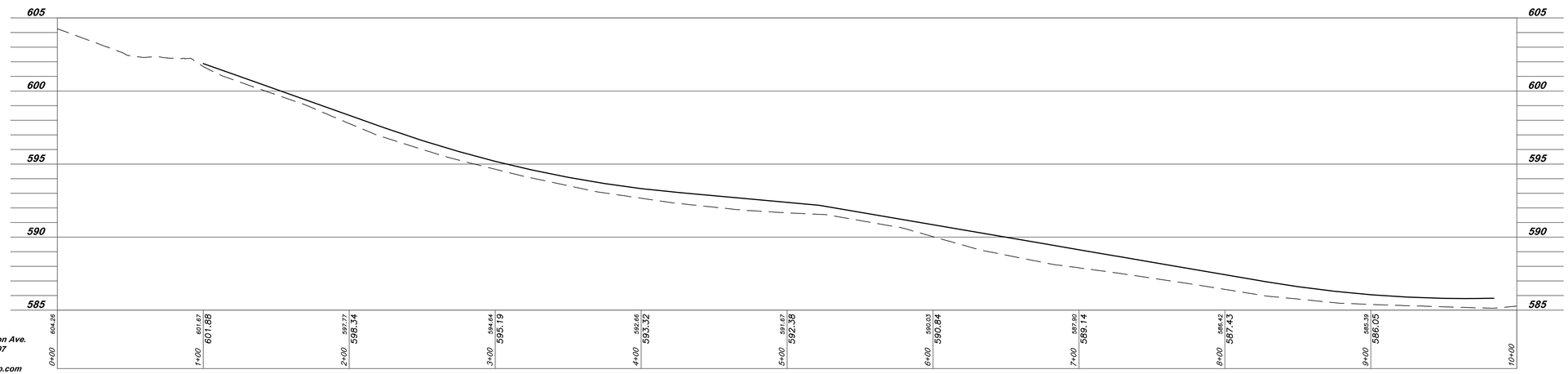
PLOT DATE:

DRAWING PATH: P:\PROJ2024\137883SG2024_COS_OJIBWAY_SHORELINE_GATEWAY_RESTORATION\137754SG2024_COS_LEE ST AND RUST BOAT LAUNCH IMPROVE

P:\Proj2024\137883SG2024_COS_Ojibway_Shoreline_Gateway_Restoration\137754SG2024_COS_Lee St and Rust Boat Launch Improvements\2_AutoCAD_GIS\Lee Street\DW\PlanProf.dwg, 5/6/2026 2:24 PM, Schwartz, Jeffrey D.







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DEPARTMENT OF PUBLIC SERVICES
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LEE STREET WATER AND PAVEMENT IMPROVEMENTS
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
PROFILE SHEET

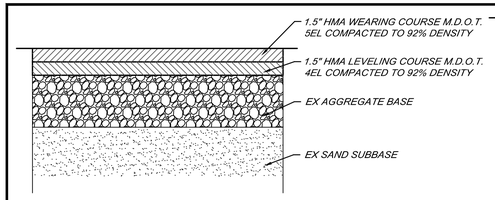
DESIGNED BY	JDS
DRAWN BY	JWL
CHECKED BY	CAR
APPROVED BY	JDS

CONSTRUCTED	AS–BUILT DATE
DATE OF PLAN	May 2026
SCALE	1"=40'
SHEET	11 OF 11 SHEETS

REVISION: DATE / INITIALS

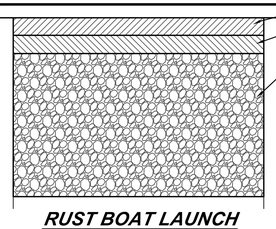
CONTROL SECTION	JOB NO.	FEDERAL PROJECT	ITEM	SHEET NO.
	137756SG2024	DW-4979-11		11

PLOT DATE:
DRAWING PATH:



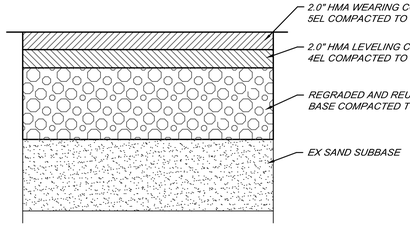
HOYT PARK ASPHALT PAVEMENT

NOT TO SCALE



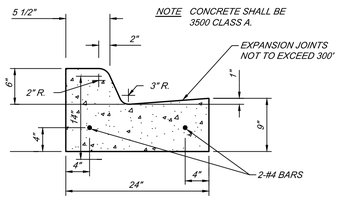
RUST BOAT LAUNCH ADDITIONAL PARKING

NOT TO SCALE



RUST BOAT LAUNCH ASPHALT PAVEMENT

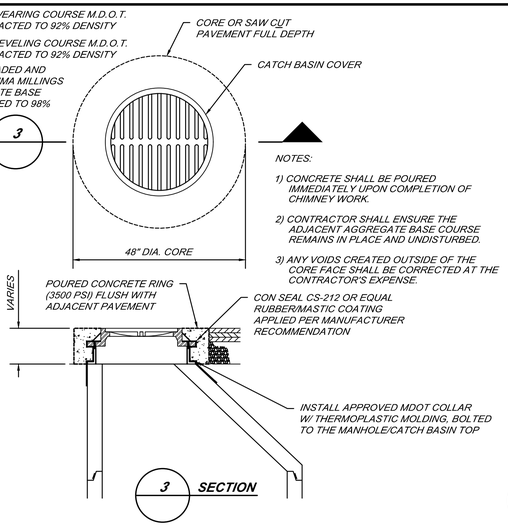
NOT TO SCALE



CONCRETE CURB AND GUTTER DETAIL STANDARD PAN

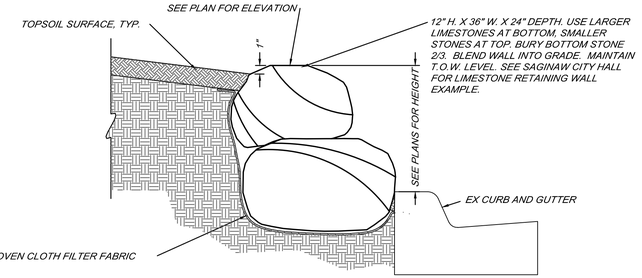
STORM SEWER TRENCH WIDTH CHART

PIPE SIZE	TRENCH WIDTH MINIMUM	TRENCH WIDTH MAXIMUM
6"	18"	24"
8" & 10"	24"	30"
12" & 15"	30"	36"
18"	34"	40"
21"	38"	42"
24"	42"	46"
27"	45"	49"
30"	49"	53"
36"	56"	60"
LARGER THAN 36"	I.D. +20"	I.D. +24"



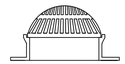
CATCH BASIN COVER ADJUSTMENT (PAVED AREAS)

NOT TO SCALE

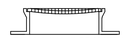


LIMESTONE RETAINING WALL DETAIL

NOT TO SCALE



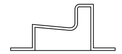
E.J.I.W. #1047 FRAME AND TYPE 02 BEEHIVE GRATE. (FOR USE IN DITCHES AND DETENTION BASINS).



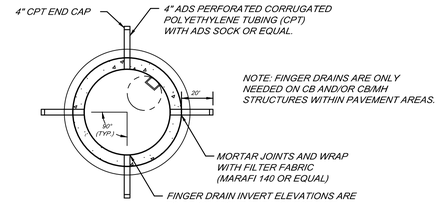
E.J.I.W. #1047 FRAME AND TYPE M1 GRATE. (FOR USE IN PAVED AREAS).



E.J.I.W. #1047 FRAME AND TYPE N GRATE. (FOR USE IN REAR LOT DRAINAGE AND SWALES).

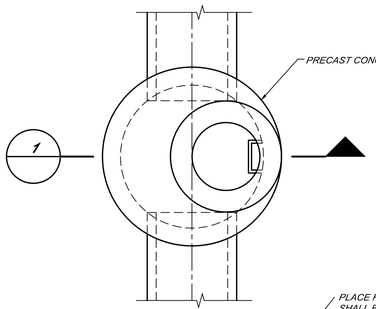


E.J.I.W. #7045 FRAME W/ TYPE M1 GRATE. (FOR USE IN CURB & GUTTER)



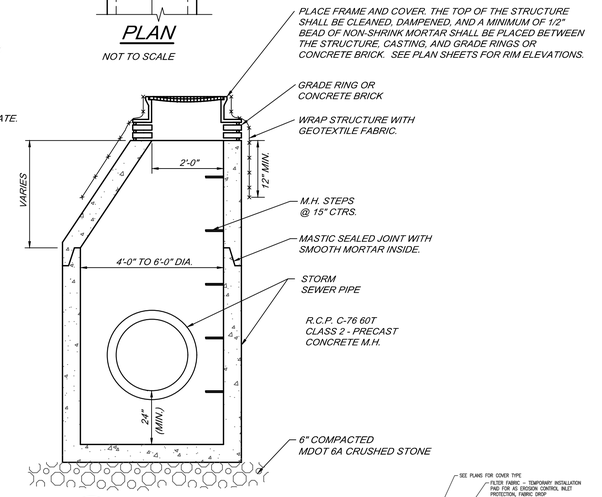
FINGER DRAIN DETAIL

NOT TO SCALE

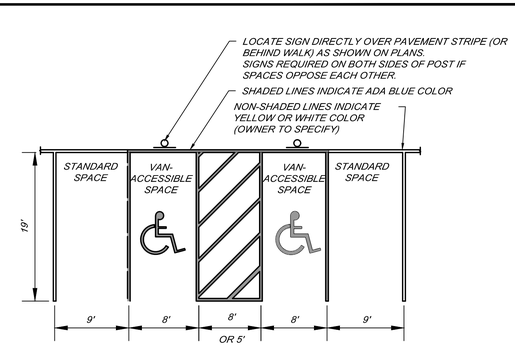


PLAN

NOT TO SCALE



4' - 6' DIA. COMBINATION M.H.-C.B.



VAN ACCESSIBLE SPACES SHALL BE ADJACENT TO 8' WIDE NO-PARKING AREAS AND SHALL INCLUDE AN ADDITIONAL SIGN READING "VAN ACCESSIBLE". SEE SIGN DETAILS.

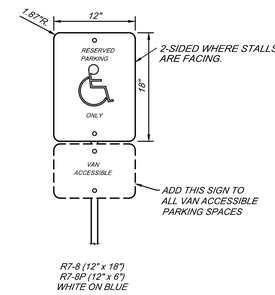
LINES SHALL BE 4" WIDE, WATERBORNE-TYPE PAINTED STRIPES. MATERIALS SHALL BE AS APPROVED BY MDOT.

PARKING SPACES DETAIL

NOT TO SCALE

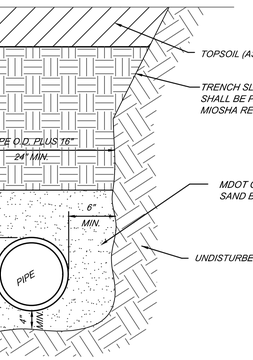
PARKING LOT SIGN POST DETAILS

NOT TO SCALE



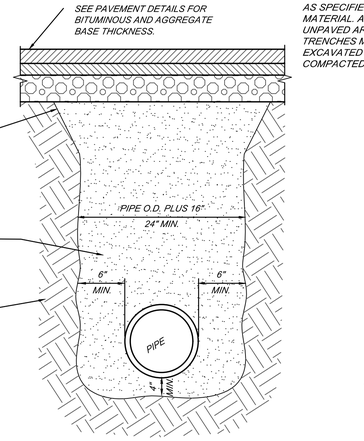
SIGN FACE DETAILS

NOT TO SCALE



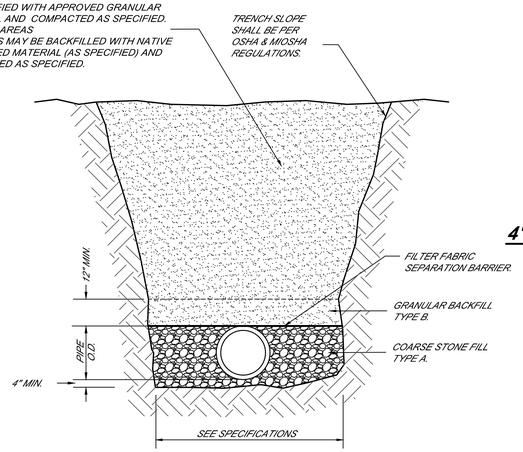
TYPICAL CONCRETE STORM SEWER TRENCH IN LANDSCAPED AREAS DETAIL

NOT TO SCALE



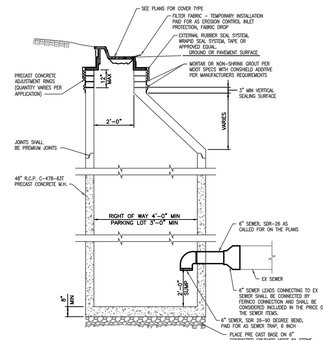
TYPICAL CONCRETE STORM SEWER TRENCH UNDER PAVED AREAS DETAIL

NOT TO SCALE



TRENCH DETAIL FOR PVC/HDPE PIPE

NOT TO SCALE



CITY OF SAGINAW STANDARD CATCHBASIN

NO SCALE

Spicer group
230 S. Washington Ave.
Saginaw, MI 48607
989.754.4717
www.spicergroup.com

CITY OF SAGINAW
DEPARTMENT OF PUBLIC SERVICES
–ENGINEERING DIVISION–

DETAILS SHEET
CITY OF SAGINAW
INFRASTRUCTURE IMPROVEMENTS
DETAILS SHEET

DESIGNED BY	JDS	CONSTRUCTED	AS–BUILT DATE
DRAWN BY	JDS	DATE OF PLAN	May 2026
CHECKED BY	CAR	SCALE	N/A
APPROVED BY	JDS	SHEET	12 OF 11 SHEETS

REVISION: DATE / INITIALS

CONTROL SECTION	JOB NO.	FEDERAL PROJECT	FEDERAL ITEM	SHEET NO.
	137883SG2024			12
PLOT DATE:				
DRAWING PATH:				

P:\Proj2026\137883SG2024_COS_Oglaway_Shorelline_Gateway_Restoration\137756SG2024_COS_Lee St and Rust Boat Launch Improvements\2_AutoCAD_GIS\Docs\Details\Dwg, 5/6/2026 2:28 PM, Schwartz, Jeffrey D.

Council Communication

Item Number: 29.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Ojibway Island North Trail Extension

Prepared By: Ronald (Ron) Rangel-Reyes, Assisstant City Engineer

Manager's Recommendation:

Approve the purchase with Fisher Contracting Co. for $144,468 for the Ojibway Island North Trail Extension for the Public Services Department, Engineering Division.

Justification:

On May 19, 2026, the City received a quote for the trail extension at the north end of Ojibway Island. Fisher Contracting is already under contract to complete the bank stabilization and road rehabilitation projects for the City, so we requested a quote to expedite the process. The contractor still has equipment mobilized on Ojibway Island to complete this work in a timely fashion, and permits are still in place to help facilitate this new construction as well. The extension of the path would allow for the creation of a trail loop on the northeast end of the island that encourages use of currently under-utilized space.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the American Rescue Plan Act Grant Fund (ARPA), Revenue Replacement Division, Professional Services Account No. 285-198.06-801.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 30.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Grit and Screenings Hauling

Prepared By: John Frollo, Superintendent of Wastewater Treatment

Manager's Recommendation:

Approve the purchase with Waste Management of Michigan for $66,980 for FY 2027 and $70,148 for FY 2028, pending budget approval, for the hauling and disposal of grit and screenings for the Water and Wastewater Services Department, Treatment and Pumping Division.

Justification:

Grit and screenings are removed from the incoming wastewater stream at the beginning of the treatment process at the Wastewater Treatment Plant. Vendors supply a 30-yard container for grit and screenings storage and then haul this waste to landfills as needed. On June 9, 2026, the following bids were received:

Vendor	FY 2027	FY 2028
Waste Management of Michigan Saginaw, MI	$66,980.00	$70,148.00
Tri County Refuse Pinconning, MI	$112,250.00	$121,100.00

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Sewer Operations and Maintenance Fund, Treatment and Pumping Division's Operating Services Account No. 590-542.02-805.000 for FY 2027 and will also be budgeted for FY 2028 pending budget approval.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 31.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Sludge Collection System Replacement Gears

Prepared By: Theodore (Ted) Bomba, Superintendent of Water Treatment

Manager's Recommendation:

Approve the purchase with Walker Process Equipment, a sole source, for $125,255 for replacement gears for the Walker sludge collection system for the Water and Wastewater Treatment Services Department, Water Treatment Division.

Justification:

The system to remove sludge settled out of the water requires periodic replacement of drive gears due to wear. The purchase of 23 gears has been quoted by Walker Process Equipment, a sole source on June 5, 2026.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operations and Maintenance Fund, Treatment and Pumping Division's Repairs and Replacements Account No. 591-542.01-974.000.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

Council Communication

Item Number: 32.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Professional Services

Prepared By: Michael (Mike) Grenier, Director of Water/Wastewater Treatment

Manager's Recommendation:

Approve the purchase with Xylem Vue, Inc. for $599,000 for FY 2027, and pending budget approval; $47,000 for FY 2028, and $48,400 for FY 2029, for professional services for the Water and Wastewater Treatment Services Department, Water Treatment Plant.

Justification:

On June 10, 2026, the City received a proposal from Xylen Vue, Inc. to provide professional services for the water treatment system, focused on improving visibility into water quality, water age, and distribution system performance.

Currently, multiple programs and tools are used to drive decisions in the treatment, repair, and capital improvements for the Water Treatment Plant. The Xylem platform brings together these multiple programs, regardless of manufacturer, and sets the table for advanced AI analytics. No other firms bring these all-encompassing services together in one package.

The City has already implemented Xylem Vue in the wastewater system. This will extend the deployment into the drinking water system, with a focus on water age and the distribution system, reporting, and developing tools for staff. This will help optimize the water treatment process and enhance monitoring and control of our distribution system. Xylem Vue will preserve the current communications infrastructure and provide staff with stable access to high-value datasets and analytical outputs while preventing disruptive infrastructure changes or field activities

This is proven technology currently used by the Cities of Kalamazoo, South Bend, Indiana, and others. Opportunities for improvements include better decision-making, predictive solutions, and shorter and better-designed engineering projects, which will produce both savings in the systems operation and continued high-quality treatment.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operations and Maintenance Fund, Surplus Division, Engineering Services Account No. 591-546.01-802.000 for FY 2027 and will also be budgeted for FY 2028 and FY 2029, pending budget approval.

I have approved the agreement as to substance and the City Attorney approves as to form.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

1. Saginaw Water Age Proposal 6.12.26



City of Saginaw

Water Age Proposal

June 12, 2026

Mike Grenier
Director of Water & Wastewater
City of Saginaw, MI
1315 S. Washington Ave.
Saginaw, MI 48601

Subject: Water Age Proposal

Dear Mike:

Xylem Vue Inc. (Xylem) is pleased to submit this water age proposal to the City of Saginaw based on our recent discussions. Xylem is a leading water technology company committed to "solving water" by creating innovative and smart technology solutions to meet the world's water, wastewater, and energy, needs by uniting best-in-class digital insights, technology, and water expertise.

Please do not hesitate to contact me to further discuss your needs or with any questions about our proposal. I can be reached at (616) 581-4703 or via email at jeffrey.landers@xylem.com.

Thank you for your time and consideration.



Jeff Landers, PE
Client Solutions Manager
Xylem Vue Inc.

PROJECT UNDERSTANDING

The City of Saginaw is seeking to improve insight into its water distribution system by leveraging existing investments in advanced metering and digital infrastructure while addressing current limitations related to data accessibility, system stability, and analytical capability. The City's Sensus AMI system is connected to Sensus Analytics, but the extraction of large consumption datasets related to the City's billing systems has created performance challenges that limit the City's ability to fully utilize this data. Xylem understands that the City requires a solution which preserves its current AMI and communications infrastructure while providing a more resilient, analytics-focused environment for decision support.

Xylem proposes to extend the City's existing Xylem Vue deployment, which is already being implemented for the wastewater system, to support water system analytics and modeling. Because the Smart Water Engine is already operational, this project focuses on additional data integration, configuration, and advanced use-case enablement rather than new platform deployment. Consumption and supporting system data will be curated and managed within Xylem Vue to reduce reliance on bulk exports and provide City staff with stable, performant access to high value datasets and analytical outputs.

To address water quality-related objectives, Xylem will leverage an existing distribution system model within Xylem Vue in combination with Qatium to implement our Real-Time Hydraulic Modeling tool. This approach enables City staff to evaluate how operational strategies, demand patterns, and system conditions influence water age and potential chlorine residual behavior using scenario-based analysis rather than manual model reconfiguration. The Real-Time Hydraulic Modeling Tool supports rapid exploration of alternatives and improves the City's ability to respond to emerging concerns or planning questions with confidence.

Xylem Vue will further enhance analytical and planning capabilities, providing an intuitive, cloud-based environment for collaborative scenario exploration and visualization. The environment allows planners and operational staff to test "what if" conditions, communicate system behavior, and explore planning alternatives with significantly less effort than traditional model centric workflows. This layered approach balances analytical rigor with accessibility.

Xylem Vue forms a scalable decision support ecosystem that delivers immediate value while positioning the City of Saginaw for future analytics and planning initiatives—without requiring disruptive infrastructure changes or field activities.

PROJECT APPROACH

Xylem is submitting a proposal to provide advanced analytics, modeling, and decision support services to the City of Saginaw, focused on improving visibility into water quality, and distribution system performance, while reducing operational strain on existing systems.

This proposal builds upon the City's existing Sensus AMI investment and previously implemented Xylem Vue environment for wastewater, extending digital capabilities to the water distribution system without requiring the deployment of additional core infrastructure.

Below is our approach to managing this work.

Task 1 – Program Management, Coordination, and Data Access Planning

Effective program coordination is essential to ensure that advanced analytics and modeling capabilities deliver actionable value to City staff. Xylem will provide overall program management, technical coordination, and stakeholder alignment throughout the duration of this effort. This includes structured project management, transparent invoicing, and routine progress meetings to ensure alignment with project objectives, timelines, and technical assumptions.

Xylem will maintain a project schedule outlining key tasks, milestones, and dependencies, and will collaborate closely with City staff to validate use cases related to water quality, AMI data usage, and planning scenarios. This task ensures that the project remains focused on the City's stated pain points and produces results that are usable by both operational and planning staff.

TASK 1 IMPLEMENTATION DELIVERABLES

- Conduct a formal kickoff meeting with the City of Saginaw to confirm project objectives, success criteria, data sources, and roles. Particular emphasis will be placed on clarifying analytical goals related to water quality, distribution system analysis, and AMI data utilization.
- Coordinate with City stakeholders to document existing data flows from the Sensus RNI and Sensus Analytics environment and define a stable data access approach that avoids system instability caused by large consumption data pulls.
- Provide ongoing project governance, including progress updates, review meetings, and coordination of technical deliverables. No field services, meter replacement, or on-site activities are included in this scope.

Task 2 – Xylem Vue Data Integration (Water System)

Xylem's digital infrastructure for the City of Saginaw's water distribution system will be anchored by the existing Xylem Vue platform, which has already been deployed for the wastewater collection system. As such, this project does not require standing up the Smart Water Engine but instead extends the existing environment to support water system data, analytics, and modeling use cases.

Data Source Connectivity

Xylem Vue will ingest and manage water system data from the following sources, subject to City direction and data availability:

- Drinking Water SCADA
- Sensus AMI / Sensus Analytics – RNI (via appropriate integration methods)
- Relevant GIS data (for spatial context and modeling support)

TASK 2 IMPLEMENTATION DELIVERABLES

- Integration of GIS layers into the Xylem Vue platform (pipes, valves, connections, etc.) and rest API layers
- Integration of key real-time data sources that have standard communication protocols (SCADAs with OPC UA/DA, IoT sensors or solutions with API endpoints, IoT sensors via SFTP, historians, etc.)
- Initial review and classification of data dictionary with client and/or vendor(s)
- Initial batch import of existing alerts on key variables/ tags, and up to three years of past time series data
- Initial configuration of front-end interface, permissions, hierarchies, and alerts
- Structure and optimize datasets within Xylem Vue to support downstream modeling, scenario evaluation, and asset analysis, ensuring reliable performance and repeatable workflows

Task 3 – Water Quality using the Real-Time Hydraulic Modeling Tool

The City of Saginaw requires the ability to evaluate how operational decisions, demand patterns, and infrastructure conditions impact water quality throughout the distribution system. To support this need, Xylem will leverage the City's existing distribution system model within Xylem Vue and apply the Real-Time Hydraulic Modeling Tool.

The Real-Time Hydraulic Modeling Tool leverages the City's existing calibrated hydraulic model to execute physics-based simulations of the water distribution system under live conditions. By continuously integrating operational data, the platform enables real-time assessment of network performance, including pressures, flows, and storage levels. The application also provides a dynamic test environment that allows operators to evaluate system behavior under various operational scenarios, supporting informed decision-making and ensuring reliable and compliant delivery of drinking water throughout the distribution network.

Integration with data allows the platform to reflect actual operating conditions, simulate realistic demand patterns, and deliver accurate extended-period simulations. The Real-Time Hydraulic Modeling Tool's fire flow simulation tools allow for virtual hydrant testing at specified locations, automatically calculating available fire flows, residual pressures, and network impacts without the need for disruptive field testing. Water quality functionality includes dynamic water age modelling based on real consumption data, supporting tank turnover analysis, stagnation zone identification, and operational improvements such as optimized flushing or booster chlorination.

The platform also provides upstream and downstream contamination tracing and impacted areas. Optional real-time alerts can be configured for abnormal pressures, tank level deviations, excessive water age, or other defined hydraulic and water quality conditions, enabling proactive response. Together, these capabilities ensure the City can model, monitor, and optimize its distribution network with a high degree of technical accuracy, operational relevance, and decision-making efficiency.

Task 3.1 Model and Data Review

The City has provided Xylem with a calibrated EPANET model input file, which will serve as the foundation for the deployment of our digital twin solutions. It is assumed that all necessary updates related to existing network infrastructure are accurately represented in the model input file. Our team will ingest and validate the model. Xylem will align the model with available SCADA data sources to ensure reliable operational consistency. Xylem understands that the existing EPANET model has been calibrated for steady state analysis. However, it is expected that further calibration will be required to make the model suitable for extended period simulations (EPS) and real-time forecasting. Under this task, Xylem will evaluate the existing model and available data sources and will develop a plan for additional data collection and model calibration activities.

Deliverables:

- Model Assessment and Calibration Plan
    - Identify model and data deficiencies
    - Identify approach for model updates and calibration
    - Identify need for additional monitoring, including a recommendation for locations, suitable sensing technology, and the need for any design support

Task 3.2 Budget for Additional Sensing

Online flow and pressure monitoring are a requirement for calibrating a model for extended period simulations. In Task 3.1, additional monitoring locations and suitable instrumentation type(s) will be identified. Xylem will then work with the City to determine a strategy for procuring and installing the sensors. This task includes a budget for purchasing the instrumentation but is not intended to cover sensor installation or any design or permitting support (as may be required depending on the complexity of the proposed installations).

Deliverables:

- Sensor hardware
- As needed coordination

Task 3.3 Model Calibration

Under this task, Xylem will execute the Model Calibration Plan developed in Task 3.1. Data collected from the additional monitoring installed in Task 3.2 will be leveraged to validate the model calibration and real-time simulations, as needed, as well as for parameterizing necessary boundary conditions within the model. This enhancement will improve the fidelity of system behavior under dynamic conditions, enabling more reliable predictive analytics, decision support, and anomaly detection capabilities across the expanded service area.

The budget for this task assumes that the current model is representative of the City's current infrastructure and meets expected calibration requirements, as outlined in AWWA M32.

Deliverables:

- Updated EPANET model
- A summary technical memo to document the outcomes of the model calibration

Task 3.4 Deployment of the Real-Time Hydraulic Modeling Tool with Calibrated Model

Under this task Xylem will configure the Real-Time Hydraulic Modeling Tool related to water quality under baseline and modified operating conditions.

Deliverables:

- Deployment of the Real-Time Hydraulic Modeling Tool
- One day of online remote training

Task 4 – Meter Data Analytics

Xylem Vue will serve as the centralized analytics and decision support environment for consumption data, distribution system modeling, and meter asset insights, alleviating the performance challenges associated with extracting large datasets. We will complete this through the Meter Data Analytics application.

Meter Data Analytics is a near real-time analytical module that leverages advanced meter infrastructure (AMI) and automatic meter reading (AMR) information from any metering technology or platform provider. The module makes it easy to access all AMI information at any point in time, independently of what metering technology it is using, and also provides advanced artificial intelligence (AI) and machine learning (ML) analytics to detect deviations from historical patterns, anomalies, and leaks, and also to segment your customers according to different types of behavior (irrigation, swimming pool filling, seasonal behavior, etc.).

The Meter Data Analytics module automatically collects information from smart meters, performs comprehensive data cleansing through AI algorithms, and analyzes each customer's consumption history. Additionally, it is a support environment for consumption data, distribution system modeling, and meter asset insights, alleviating the performance challenges associated with extracting large datasets.

Deliverables:

- Deployment of cloud environment of Meter Data Analytics
- Configuration of the standard Meter Data Analytics screens and dashboards

The Leader in Digital Water

Xylem has designed, implemented, and commissioned the largest number of decision support systems globally, including the use of data analytics, machine learning, real-time forecasting, operations support, and control. Our decision intelligence solutions have helped utilities extract more value from their existing assets and significantly reduce future asset costs.



PRICING

Implementation (One-Time Fee)					
	Professional Services	**Data Standardization**	**Implementation**	**Sensor Allowance**	**Total**
Task 1: Program Management, Coordination, & Data Access Planning	$50,500				**$50,500**
Task 2: Xylem Vue Data Integration (Water System)		$15,100			**$15,100**
Task 3: Water Quality Using the Real-Time Hydraulic Modeling Tool	$180,100			$250,000	**$430,100**
Task 4: Meter Data Analytics	$7,700		$50,000		**$57,700**
Subtotals	**$238,300**	**$15,100**	**$50,000**	**$250,000**	
Total Implementation (One-time fee) (including Sensor Allowance)	**$553,400**				

SaaS, Support, and Maintenance (Annual Fee)			
	Year 1	**Year 2**	**Year 3**
Additional SaaS for MDA and Real-Time Hydraulic Modeling Tool	$45,600	$47,000	$48,400
Total SaaS	**$141,000**		
Contract Total	**$694,400**		

Terms and Conditions

Pricing quotes are valid for 90 days from the date of this proposal. Xylem reserves the right to modify pricing beyond that time period.

This proposal for Water Age work is subject to the terms of the terms of the Professional Services for Optimization of Sewer Networks Including Hydraulic Modeling, Sewer Metering, and Unified Network & Plant Management between Xylem Vue Inc and The City of Saginaw, Michigan dated January 8, 2025, which is incorporated herein by reference.



xylem

Appendix

APPENDIX

The following documents are in this section:

- Meter Data Analytics overview
- Real-Time Hydraulic Modeling Tool (Water) overview

Meter Data Analytics

Meter Data Analytics is a near real-time analytical module that leverages advanced meter infrastructure (AMI) and automatic meter reading (AMR) information from any metering technology or platform provider. The module makes it easy to access all AMI information at any point in time, independently of what metering technology it is using, and also provides advanced artificial intelligence (AI) and machine learning (ML) analytics to detect deviations from historical patterns, anomalies, and leaks, and also to segment your customers according to different types of behavior (irrigation, swimming pool filling, seasonal behavior, etc.)

The Meter Data Analytics module automatically collects information from smart meters, performs comprehensive data cleansing through AI algorithms, and analyzes each customer's consumption history. It also utilizes data from other systems such as the CIS, CMMS, and others through the Smart Water Engine to allow for more comprehensive analysis and event detection.

The main functionalities and algorithms are helping more than 400 utilities improve their customer satisfaction, reduce non-revenue water, increase revenues, and optimize network management and operations. Meter Data Analytics provides:

- Client characterization according to behavioral patterns
- Detection of leaks of all sizes
- Impossible reads (and correction of them to avoid customer complains)
- Detection of inaccurate meters affecting revenues
- Incorrect meter sizing
- Consumption forecasting and extrapolations
- Empty apartments and non-functioning meters
- Fraud detection
- Forecasting of public services (e.g., trash collection)

Watch the video below for a preview of the Meter Data Analytics application.

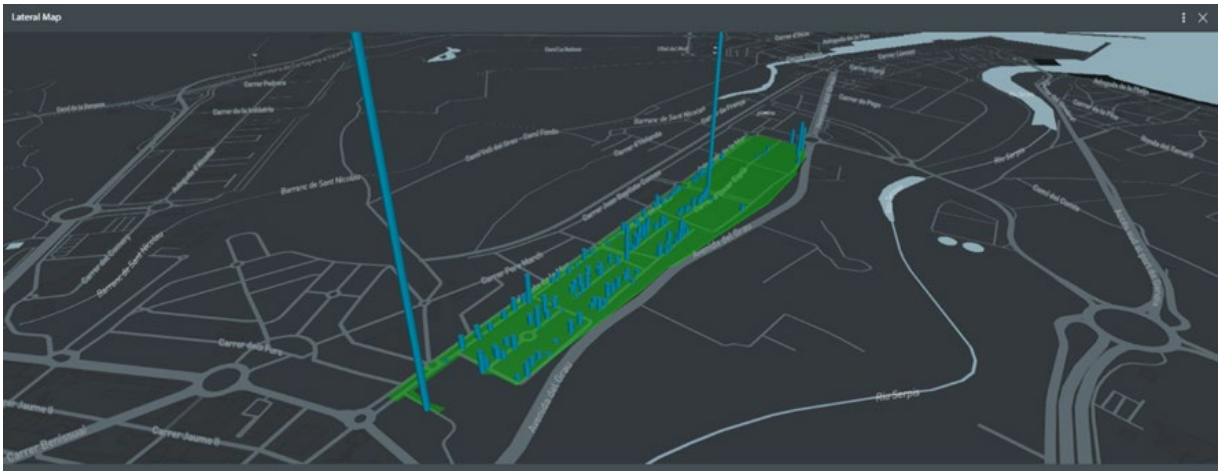


Main dashboard

The module's main dashboard provides a snapshot of meter technology deployed and meter read performance. The dashboard also includes graphical or tabular information on the evolution of remote reading implementation, comparing reading types (fixed network, walk-by, and visual). It also includes graphical information and tables of the performance of technologies (IoT/non-IoT), comparing the performance of each provider. The information, which can be filtered by location, hierarchy, or technology, is available for downloading or printing. The coverage and remote reading performance are also represented graphically in GIS.

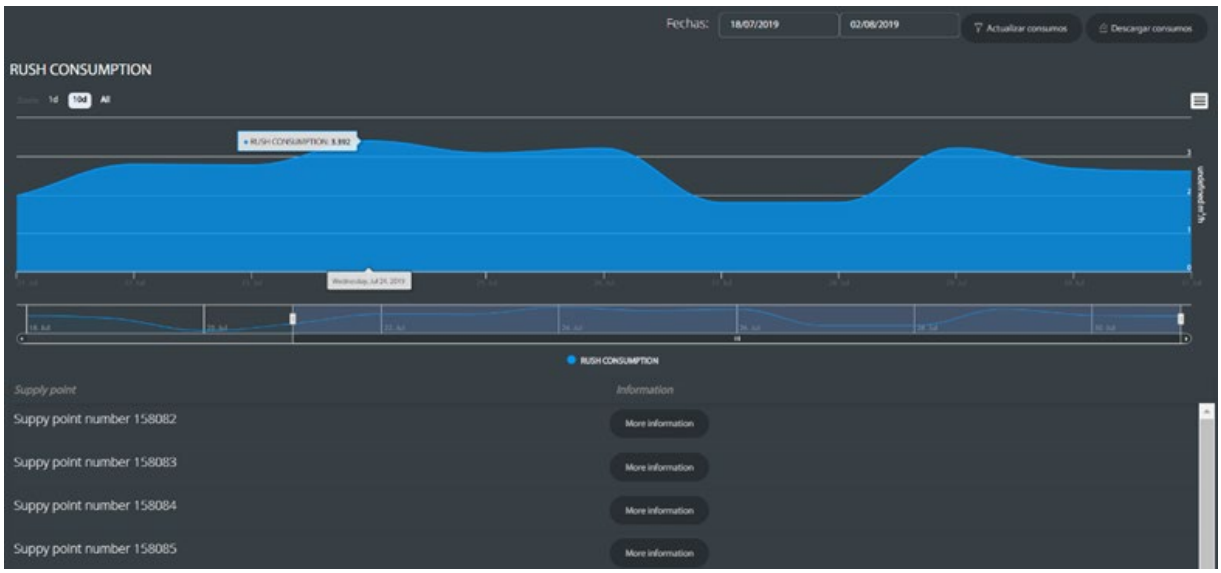
Consumption analysis and visualization

The consumption curve of each district in the distribution network can be visualized.



Example of consumption curve display for certain district

The module supports real-time monitoring of consumption at different aggregation levels (district, connection to supply point, and final consumer).

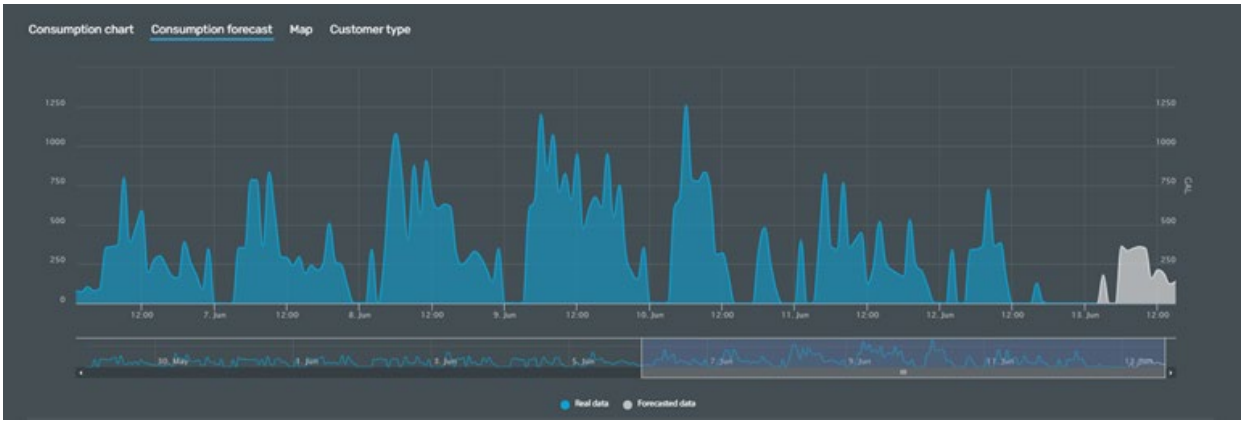


Example of visualization of consumption curve in supply point

The AMI system uses the meter's hourly consumption data, along with the customer's historical consumption database, to make consumption forecasts.

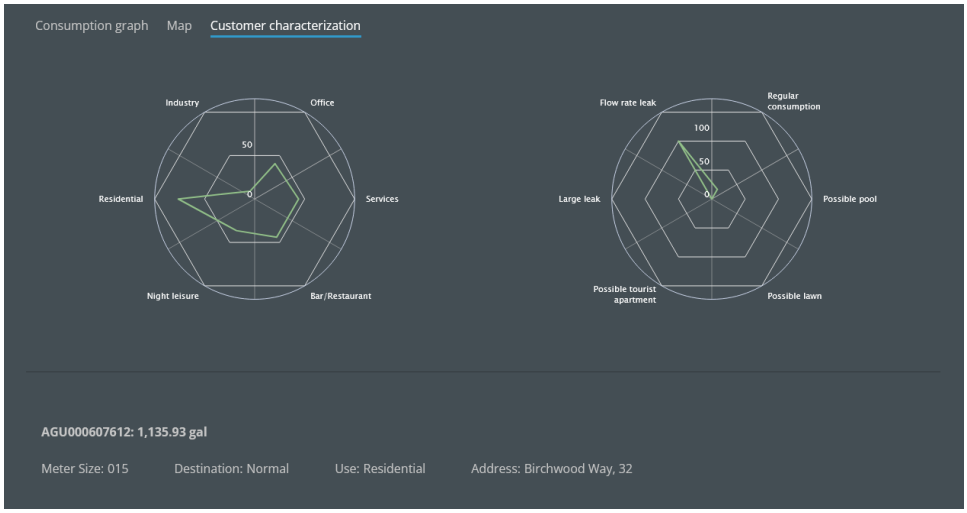
Extreme Leak	Connection Id:	Address	Meter size	Use	Destination	Volume	CMin	Actions
	Search	Search	Search	Search	Search			
	AGU000625538	Mar, 8, cont.gene.	050	Residential	Community	92,088.53 gal	0 gal	Details
	AGU000622601	Joaquin rodrigo, 5, s...	015	Residential	Normal/garage	64,108.48 gal	0 gal	Details
	AGU000649152	Estrelles de les, 1°, j...	020	Municipal service	Watering/swimmin...	12,970.06 gal	0 gal	Details
	AGU000625568	Mar, 34, unifam.	020	Residential	Normal	9,993.36 gal	9.96 gal	Details
	AGU000622755	Alqueria de les torre...	020	Industrial	Watering/swimmin...	7,069.24 gal	0 gal	Details
	AGU000649421	Porta de la mar, 2°, j...	030	Municipal service	Watering/swimmin...	6,857.91 gal	0 gal	Details
	AGU000649161	Estrella polar, 9, unif...	015	Residential	Normal	4,729.21 gal	0 gal	Details
	AGU000649317	Estrella aldebaran, 1...	015	Residential	Normal	4,570.7 gal	2.62 gal	Details
	AGU000649432	Porta de la mar, 12, ...	020	Residential	Normal	4,418.28 gal	3.51 gal	Details
	AGU000649293	Estrella sirio, 2, 840°	020	Industrial	Watering/swimmin...	4,353.56 gal	0 gal	Details
	AGU000649467	Cap negre, 3, unifam.	020	Residential	Normal	4,191.35 gal	6.92 gal	Details
	AGU000649165	Estrella polar, 15, un...	015	Residential	Normal	4,085.95 gal	1.27 gal	Details

Table of connection points



Representation of consumer consumption (blue) and forecast of demand (grey)

The module can also be used to monitor customers' consumption pattern and profile development and provide an early warning system for unexpected consumption increases. The module can also extrapolate consumption patterns found in a given location and apply them to new customers with similar characteristics.



Example of customer characterization visualization

Anomaly detection

The algorithm integrated in the module allows for the detection of fraud such as: consumption in empty apartments, consumption without contract, consumption with anti-fraud installed.

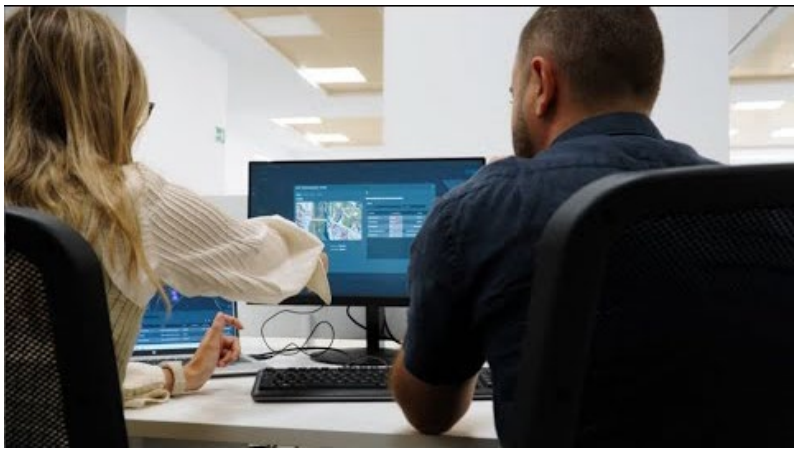
The module also identfies stopped meters, improperly installed meters, leaks, and extreme leaks. In addition, it manages meter warnings like low battery, trending down meters, overcounting, excessive consumption, manipulation, failure, etc.

Real-Time Hydraulic Modeling Tool (Water)

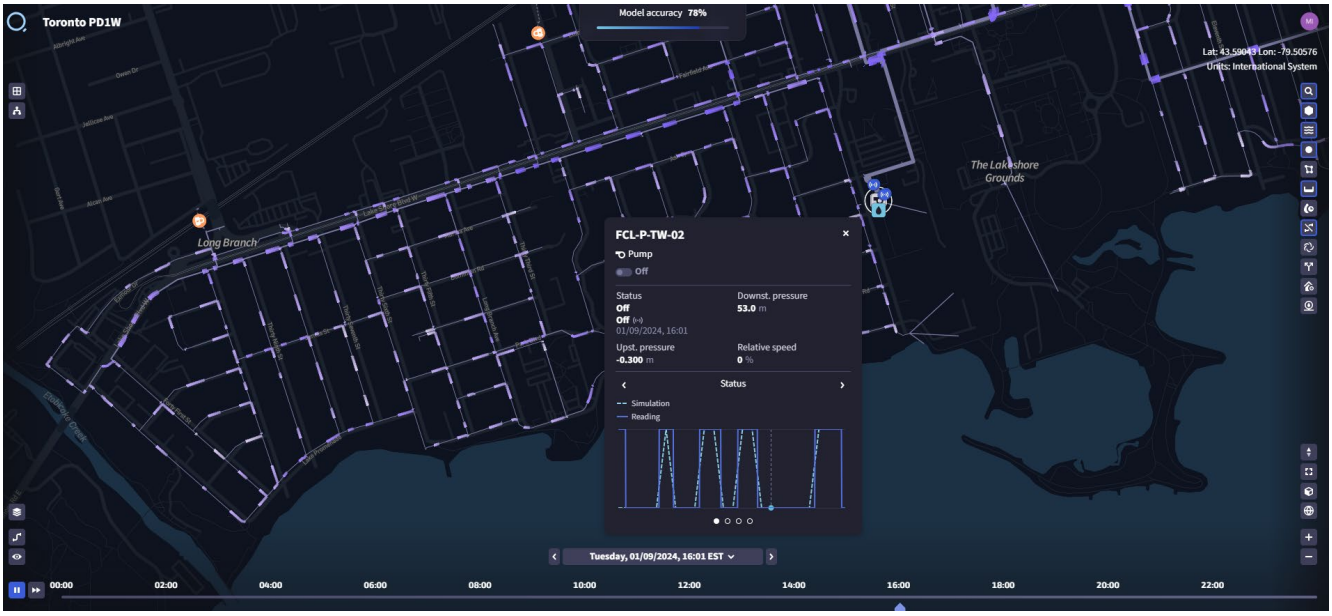
Xylem Vue's digital twin application for drinking water networks is the **Real-Time Hydraulic Modeling Tool (Water)**. It is based on a simulation tool of the mathematical model of the water pipeline network known as "Digital Twin," allowing real-time simulations and "what-if" scenarios. In addition, the application generates a test environment on the functioning and operation of the network, which helps operators in decision making, with the aim of providing a correct supply in the drinking water pipeline network.

The application works on a base hydraulic model connected to the information coming from the Smart Water Engine, allowing utilities to accurately reproduce the behavior of the network in real time, in any past and even future time interval. In addition, the application allows simulations of hypothetical scenarios to modify operating conditions of the system and see its response.

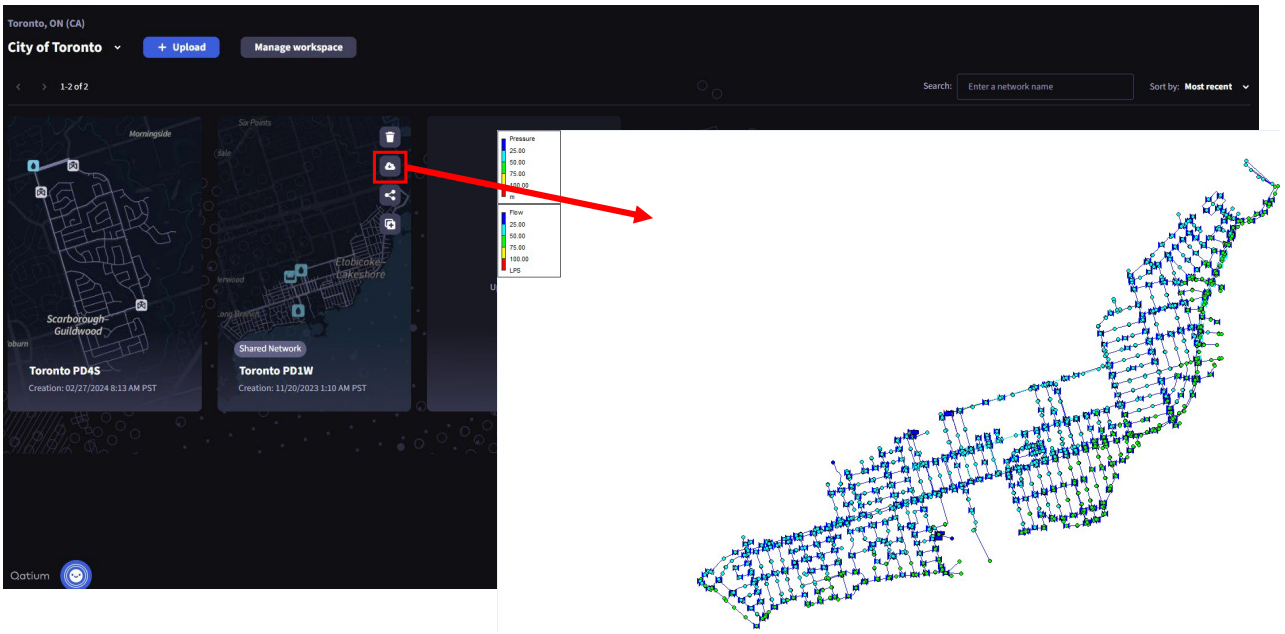
Integration with SCADA, IoT sensors, and AMI/AMR consumption data allows the platform to reflect actual operating conditions, simulate realistic demand patterns, and deliver accurate extended-period simulations. The Tool's fire flow simulation function allows for virtual hydrant testing at specified locations, automatically calculating available fire flows, residual pressures, and network impacts without the need for disruptive field testing. Water quality functionality includes dynamic water age modelling based on real consumption data, supporting tank turnover analysis, stagnation zone identification, and operational improvements such as optimized flushing or booster chlorination.



The platform also provides upstream and downstream contamination tracing, calculating travel times and impacted areas for both steady-state and transient events. Optional real-time alerts can be configured for abnormal pressures, tank level deviations, excessive water age, or other defined hydraulic and water quality conditions, enabling proactive response. Together, these capabilities ensure utilities can model, monitor, and optimize its distribution network with a high degree of technical accuracy, operational relevance, and decision-making efficiency.



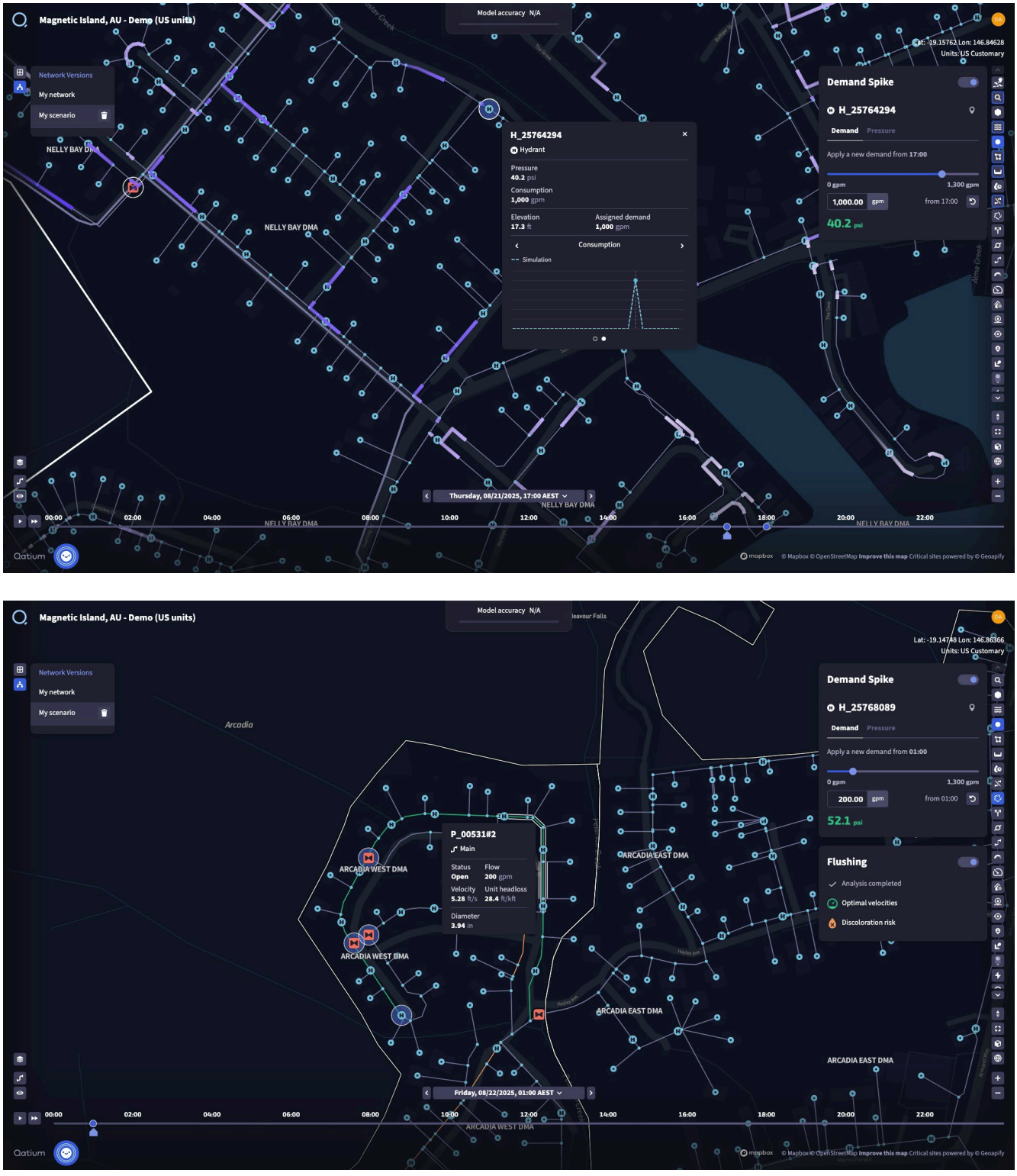
Real-time vs simulation data for same sensor



Model Export Functionality



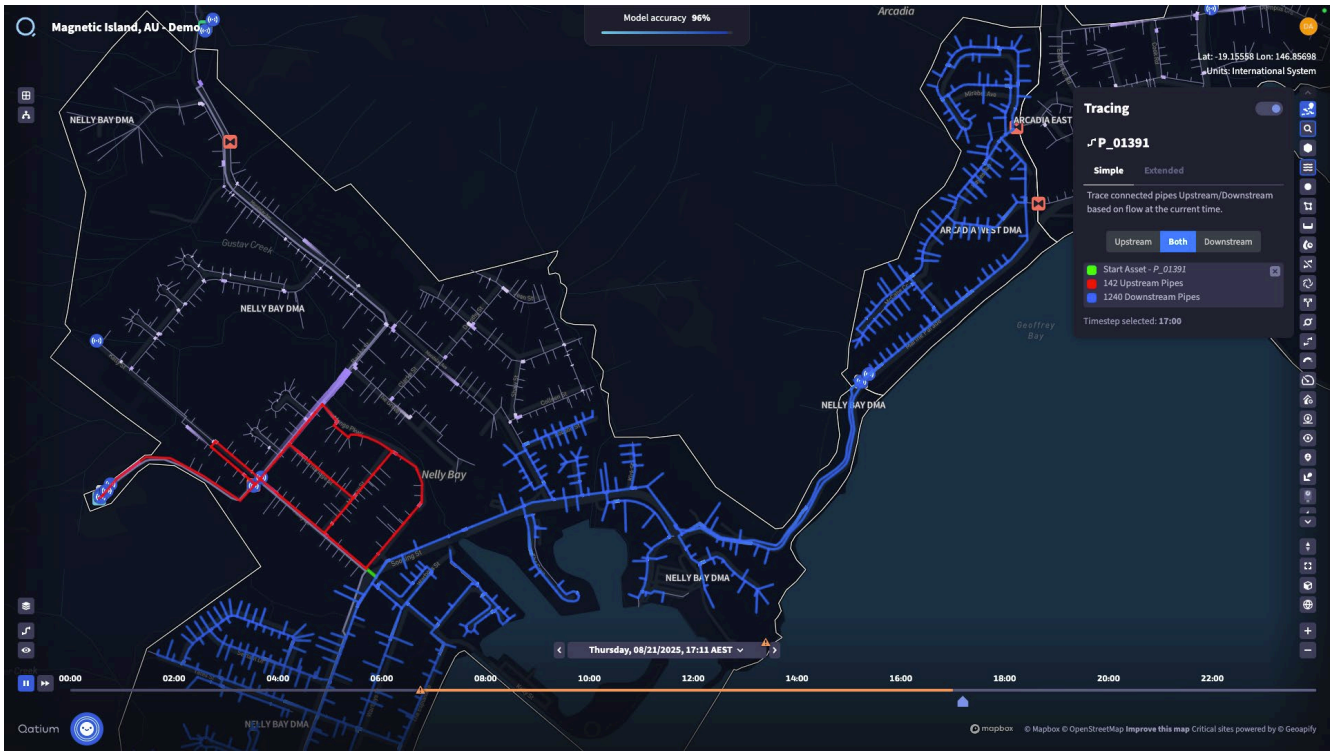
Hydraulic modeling of pressure and flow



Fire Flow Test Simulation



Water Age Modeling



Trace Contamination Modeling

Explore the power of Xylem Vue by scanning this QR code

This proposal made available to you by Xylem Inc. ("Xylem") is the sole and exclusive property of Xylem. You agree to keep this proposal strictly confidential and shall not disclose it to any third party without Xylem's written consent, except as required under applicable law, court order, or regulation. No third-party will acquire any proprietary rights in Xylem's equipment, systems, trade-secrets, software, technology, inventions (whether or not patentable), patents, patent applications, documentation, specifications, designs, data, databases, methods, processes or know-how ("Xylem Proprietary Technology") as provided or discussed herein. Any modifications or improvements to Xylem Proprietary Technology resulting herefrom will be the sole and exclusive property of Xylem.



Council Communication

Item Number: 33.

Date: June 22, 2026

From: Timothy Morales, City Manager

Subject: Hydrofluorosilicic Acid Purchase

Prepared By: Amanda Kiel, Assistant Superintendent of Water Treatment

Manager's Recommendation:

Approve the purchase with PVS Nolwood Chemicals, Inc. for $96,900 for 95 tons of Hydrofluorosilicic Acid for FY 2027 for the Water and Wastewater Treatment Services Department, Water Treatment Division.

Justification:

Fluoride is added to drinking water for the prevention of tooth decay. On June 2, 2026, a single qualified bid was received. The bid price of $1,020.00 per ton is an increase of 46% over the price paid in FY 2026.

This vendor meets all requirements of §14.33, "Vendors," of "Purchasing, Contracting, and Selling Procedure," of Chapter 14, "Finance and Purchasing," of Title I, "Administrative Code," of the Saginaw Code of Ordinances, O-204.

Funds are budgeted in the Water Operations and Maintenance Fund, Treatment & Pumping Division's Chemicals Account No. 591-542.01-727.000 for FY 2027.

Council Action:

Motion to approve the recommendation of the City Manager.

Attachments:

None

RESOLUTION AUTHORIZING INSTALLMENT PURCHASE CONTRACT FOR EQUIPMENT

Moved by Council Member _____, seconded by Council Member _____ to adopt the following resolution:

WHEREAS: it is determined to be necessary and desirable and in the best interest of the City of Saginaw (the "City") that the City acquire certain equipment as described in Exhibit A hereto (collectively, the "Property") and that the acquisition of the Property be financed all or in part by installment purchase authorized under Act 99, Public Acts of Michigan, 1933, as amended ("Act 99"), and more specifically by the acquisition of the Property pursuant to an installment purchase contract (the "Contract") with the seller thereof (the "Vendor") and Huntington Public Capital Corporation; and

WHEREAS: the aggregate outstanding balance, exclusive of interest, of all purchases made by the City pursuant to Act 99, including the Contract, does not exceed 1-¼% of the taxable value of the real and personal property in the City.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Saginaw, Saginaw County, Michigan, as follows:

1. It is hereby found to be necessary and desirable for the City to finance all or a portion of the cost of the Property, including costs of issuance of the Contract, which includes the cost of bond counsel, in the aggregate principal amount of not to exceed $1,514,170.30 by purchasing the Property pursuant to the terms and conditions of the Contract; and the City hereby pledges its full faith and credit for the payment of its obligations thereunder. The balance of the cost of the Property, if any, shall be paid by the City from available funds of the City.

2. The City shall include in its budget and pay the sum or sums necessary each year to meet the payments due pursuant to the provisions of the Contract.

3. The Contract shall be dated the date of delivery thereof. The interest rate on the outstanding principal balance of the Contract shall equal 4.75% per annum, and the Contract shall be payable as to principal and interest in thirty semiannual installments on the dates and in the amounts set forth in Exhibit A to the Contract. The Contract shall not be subject to prepayment.

4. The Contract, in the form presented to this meeting, are hereby approved, and the Mayor and the City Clerk are hereby authorized to execute and deliver the Contract in substantially the form approved, with such changes approved by them and consistent with the terms of this resolution. The approval of such changes shall be conclusively evidenced by their signatures on the Contract. The Contract may be executed in counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

5. The City covenants to comply with all provisions of the Internal Revenue Code of 1986, as amended, necessary to maintain the exclusion of interest on the Contract from gross income for federal income tax purposes.

6. The Mayor, the City Clerk, the Treasurer, the City Manager and other officers of the City as may be necessary are each hereby authorized to execute and deliver such documents, instruments and certificates as are necessary or desirable to consummate the described transactions and to maintain the exclusion of the interest on the Contract from gross income for federal income tax purposes.

7. The useful life of the Property is determined to be 15 years and upwards.

8. Dickinson Wright PLLC, Troy, Michigan, is hereby appointed as bond counsel with respect to the Contract.

9. All resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution are rescinded.

Ayes:
Nays:
Absent:

RESOLUTION DECLARED ADOPTED

I, Kristine Bolzman, City Clerk of the City of Saginaw, Michigan, do hereby certify that the foregoing is a true and complete copy of the resolution adopted by the City of Saginaw, Saginaw County, State of Michigan, at a public meeting held on June 22, 2026; the original thereof is on file in the records of my office; the meeting was conducted and public notice of said meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1976, as amended, and minutes of this meeting were kept and will be made available as required.

_____
Kristine Bolzman, MiPMC, CMC
City Clerk

EXHIBIT A

Vendor	Property	Unit Cost	Qty.	Vendor Cost	Contract Amt.
Sutphen Corporation	Fire truck	$1,514,170.30	1	$1,514,170.30	$1,514,170.30

STATE OF MICHIGAN)
) ss
COUNTY OF SAGINAW)

I, the undersigned, the duly qualified and acting City Clerk of the City of Saginaw, Saginaw County, Michigan, do hereby certify that the foregoing is a true and complete copy of a resolution adopted at a regular meeting of the City Council of said City held on June 22, 2026, the original of which resolution is on file in my office and is available to the public. I further certify that notice of said meeting was given in accordance with the Open Meetings Act.

Kristine Bolzman, MiPMC, CMC
City Clerk

4922-2477-0227 v1 [9052-125]

FORM OF INSTALLMENT PURCHASE CONTRACT

Dated: _____, 2026

1. The parties to this Installment Purchase Contract are the CITY OF SAGINAW, whose address is 1315 S. Washington Avenue, Saginaw, Michigan 48601-2599 (the "Buyer"), the SUTPHEN CORPORATION, 6460 Eiterman Road, Dublin Ohio 43016 (the "Seller"), and HUNTINGTON PUBLIC CAPITAL CORPORATION, whose address is 3993 Howard Hughes Parkway, Suite 250, Las Vegas, Nevada 89169-6754 ("Huntington").

2. The Seller agrees to sell, and the Buyer agrees to purchase, fire truck (the "Property") identified in the contract (the "Contract") between the Buyer and the Seller. The purchase price of the Property is $1,514,170.30, which amount shall be paid to the Seller (the "Purchase Price").

3. Huntington, as assignee of the Seller, agrees to pay to the Buyer the sum of One Million Five Hundred Fourteen Thousand One Hundred Seventy and 30/100 Dollars ($1,514,170.30) (the "Financing Proceeds") upon the execution and delivery of this Installment Purchase Contract to enable the Buyer to acquire the Property from the Seller in accordance with the Contract. The Buyer will use the Financing Proceeds to pay the Purchase Price of the Property.

4. The Buyer promises to pay Huntington the principal sum of One Million Five Hundred Fourteen Thousand One Hundred Seventy and 30/100 Dollars ($1,514,170.30) and interest on the principal balance from the date hereof and from time to time unpaid at the rate of 4.75% per annum. Interest shall be computed on the basis of a 360-day year comprised of twelve 30-day months. Principal and interest with respect to this Contract shall be due and payable in accordance with the schedule set forth on Exhibit A. All payments shall be payable at the address of Huntington set forth above, or to such other place or such other person as Huntington or any subsequent assignee may designate in writing. This Installment Purchase Contract is not subject to prepayment prior to maturity.

5. This Installment Purchase Contract is a general obligation of the Buyer. The Buyer shall include in its general operating budget and pay each year until this Installment Purchase Contract is paid in full such sum or sums as may be necessary each year to make payments of principal and interest thereon when and as the same become due; provided, however, it is understood that the Buyer is not authorized to levy taxes in excess of its legal limitations for such purposes without the approval of its electors.

6. The obligation of the Buyer hereunder to pay principal and interest shall be absolute and unconditional and shall not be subject to any abatement, reduction, setoff, defense, counterclaim or recoupment for any reason whatsoever, including, without limitation, abatements or reductions due to any present or future claims of the Buyer against the Seller. This Installment Purchase Contract shall not terminate, nor shall the obligation of the Buyer be affected by reason of any defect in or damage to or destruction of all or any part of the Property from whatever cause,

it being the intention of the parties hereto that the principal and interest payable hereunder shall be payable in all events.

7. All rights of Huntington shall inure to the benefit of Huntington's successors and assigns; and all obligations of the Buyer shall bind the Buyer's successors and assigns.

8. The Buyer may not pledge, encumber, sell, assign, transfer or otherwise dispose of its rights or obligations under this Installment Purchase Contract, except as may be consented to in writing by Huntington or any subsequent assignee.

9. The Buyer hereby waives any claim it might have against Huntington for any loss, damage or expense caused by the Property or any defect therein, or use or maintenance thereof, or servicing or adjustment thereto. The Buyer acknowledges that Huntington is not a dealer in the type of equipment defined herein as the Property. If the Property is unsatisfactory for any reason, the Buyer shall not make any claim against Huntington.

10. The Buyer represents and warrants that (a) it has complied with the provisions of Act 99, Public Acts of Michigan, 1933, as amended ("Act 99"), and all other applicable laws and regulations, and all acts or conditions precedent to the execution of this Installment Purchase Contract have been accomplished; (b) this Installment Purchase Contract does not require any approval or consent of any holders of any indebtedness or obligations of the Buyer, and does not contravene any law, regulation or order binding on the Buyer or contravene the provisions of, or constitute a default under, or result in the creation of any lien or encumbrance upon the property of the Buyer under any indenture, mortgage, contract or other agreement to which the Buyer is a party, or by which it may be bound or affected; (c) this Installment Purchase Contract constitutes a legal, valid and binding obligation of the Buyer enforceable against the Buyer in accordance with its terms; and (d) there are no pending or threatened actions or proceedings before any court or administrative agency which will materially adversely affect the condition or operations of the Buyer or the ability of the Buyer to perform its obligations under this Installment Purchase Contract.

11. The Buyer covenants to comply with existing provisions of the Internal Revenue Code of 1986, as amended necessary to maintain the exclusion of interest on this Installment Purchase Contract from gross income for federal income tax purposes.

12. The Buyer hereby warrants that the aggregate outstanding balance, exclusive of interest, of all purchases made by the Buyer pursuant to Act 99, including the purchase of the Property, does not exceed 1-¼% of the taxable value of the real and personal property within the boundaries of the Buyer as of the date hereof.

[Remainder of page intentionally left blank]

13. This Installment Purchase Contract may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

SELLER:
SUTPHEN CORPORATION

By: _____
Name:
Its:

BUYER:
CITY OF SAGINAW

By: _____
Brenda F. Moore
Its: Mayor

And: _____
Kristine Bolzman
Its: Clerk

ASSIGNEE:
HUNTINGTON PUBLIC CAPITAL CORPORATION

By: _____
Name:
Its:

EXHIBIT A

PRINCIPAL AND INTEREST PAYMENT SCHEDULE

Payment Number	Due Date	Principal	Interest	Total
1	07/01/2027	$ 70,000.00	$70,524.58	$140,524.58
2	07/01/2028	$ 75,000.00	$68,598.09	$143,598.09
3	07/01/2029	$ 80,000.00	$65,035.59	$145,035.59
4	07/01/2030	$ 80,000.00	$61,235.59	$141,235.59
5	07/01/2031	$ 85,000.00	$57,435.59	$142,435.59
6	07/01/2032	$ 90,000.00	$53,398.09	$143,398.09
7	07/01/2033	$ 95,000.00	$49,123.09	$144,123.09
8	07/01/2034	$100,000.00	$44,610.59	$144,610.59
9	07/01/2035	$105,000.00	$39,860.59	$144,860.59
10	07/01/2036	$110,000.00	$34,873.09	$144,873.09
11	07/01/2037	$115,000.00	$29,648.09	$144,648.09
12	07/01/2038	$120,000.00	$24,185.59	$144,185.59
13	07/01/2039	$125,000.00	$18,485.59	$143,485.59
14	07/01/2040	$130,000.00	$12,548.09	$142,548.09
15	07/01/2041	$134,170.30	$ 6,373.09	$140,543.39

COUNCIL COMMUNICATION R-2

From: Timothy Morales, City Manager

Subject: Objection to Transfer of Tax Reverted Properties

Prepared by: Cassi Zimmerman, Planning and Economic Development

Manager's Recommendation:

I recommend the approval of the Resolution to Object to Transfer of Tax Reverted properties.

Justification:

On May 22, 2026, the City of Saginaw was sent the Right of First Refusal letter, the list of parcels for the 2026 foreclosure and the waiver and application to purchase these properties.

The annual tax reversion process:

1. In the spring, all tax reverted properties fall under ownership of Saginaw County.
2. All local jurisdictions within the county have the ability to purchase these properties before July 1st if needed for a public purpose.
3. The County Treasurer holds an auction to sell all tax reverted properties in August or September.
4. All properties that did not sell will automatically revert to the local jurisdiction unless a resolution is passed to refuse these properties, then they will revert to land bank ownership.

We are currently on step 2 of the tax reversion process.

Below is a breakdown of the 182 properties on this list:
89 have houses
86 are vacant lots
1 have only a garage on the property
6 have commercial buildings

At this time, the city may purchase property for public use. Of this list, there were no properties the city is interested in purchasing to be used for a public purpose ie. road, utility, public building, etc.

Council Action:

This council communication is for informational purposes only of the resolution to be adopted.

RESOLUTION R-2

OBJECTION TO TRANSFER OF TAX REVERTED PROPERTIES

Moved by Council Member _____, seconded by Council Member _____ to adopt the following resolution:

WHEREAS, under Public Act 123 of 1999, all tax delinquent property not sold at the mandatory yearly auctions held by the Saginaw County Treasurer automatically revert to the city, township, or village in which the property is located unless written objection is received by Saginaw County; and

WHEREAS, the Saginaw County Treasurer submitted to the City of Saginaw Treasurer the attached list of tax delinquent property within the City of Saginaw that will be offered at public auction later this year; and

WHEREAS, City of Saginaw staff have reviewed the list and determined that the City of Saginaw has no public purpose or use for said delinquent property; and

WHEREAS, Council for the City of Saginaw wishes to object to any such transfer of the property to the City of Saginaw.

NOW, THEREFORE, BE IT RESOLVED that the City of Saginaw objects to the transfer of the tax delinquent properties on the attached list from Saginaw County to the City of Saginaw; and

NOW, THEREFORE, BE IT FURTHER RESOLVED, that a copy of this Resolution shall be sent to the Saginaw County Treasurer prior to July 1, 2026.

Ayes:
Nays:
Absent:

RESOLUTION DECLARED ADOPTED

I, Kristin Bolzman, City Clerk of the City of Saginaw, Michigan, do hereby certify that the foregoing is a true and complete copy of the resolution adopted by the City of Saginaw, Saginaw County, State of Michigan, at a public meeting held on June 22, 2026; the original thereof is on file in the records of my office; the meeting was conducted and public notice of said meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1976, as amended, and minutes of this meeting were kept and will be made available as required.

_____
Kristine Bolzman, MiPMC, CMC
City Clerk

	PARCEL	TAX DUE	INTEREST/FEES	TOTAL DUE	TAX YEARS DELINQUENT
1	90-10-0-06-9000-300	1,592.99	791.31	2,384.30	2025 2024 2023
2	90-10-0-35-8000-000	1,962.89	777.47	2,740.36	2025 2024 2023
3	90-10-0-37-9000-000	519.06	471.18	990.24	2025 2023
4	90-10-0-63-0000-000	50.04	466.53	516.57	2025 2024 2023
5	90-10-0-77-6000-000	2,463.61	1,591.95	4,055.56	2025 2024 2023 2022
6	90-10-0-90-0000-000	78.57	472.57	551.14	2025 2024 2023
7	90-30-0-45-4000-000	933.93	651.12	1,585.05	2025 2024 2023
8	90-40-0-26-5000-000	1,597.34	792.48	2,389.82	2025 2024 2023
9	90-40-0-31-8000-000	4,053.15	1,202.60	5,255.75	2025 2024 2023
10	90-40-0-35-6000-000	2,312.70	708.66	3,021.36	2025 2024 2023
11	90-40-0-35-7000-000	2,092.41	795.65	2,888.06	2025 2024 2023
12	90-40-0-35-8000-000	36.42	468.06	504.48	2025 2024 2023
13	90-40-0-52-6000-000	2,733.30	968.64	3,701.94	2025 2024 2023
14	90-40-0-62-2000-000	2,143.08	1,053.36	3,196.44	2025 2024 2023 2022
15	90-50-0-62-0000-000	68.47	473.66	542.13	2025 2024 2023
16	90-60-0-12-3000-000	4,500.87	2,180.41	6,681.28	2025 2024 2023 2022
17	90-60-0-21-8000-000	2,840.90	1,756.60	4,597.50	2025 2024 2023 2022
18	90-60-0-30-4000-000	2,749.45	1,492.36	4,241.81	2025 2024 2023 2022
19	90-60-0-65-8000-000	4,808.93	1,172.03	5,980.96	2025 2024 2023
20	90-60-0-68-1000-000	2,690.63	1,729.36	4,419.99	2025 2024 2023 2022
21	90-70-0-06-5000-000	5,253.14	2,527.52	7,780.66	2025 2024 2023 2022
22	90-70-0-06-9000-000	347.13	543.96	891.09	2025 2024 2023 2022
23	90-70-0-13-8000-000	4,682.02	1,346.27	6,028.29	2025 2024 2023
24	90-70-0-14-4000-000	438.55	541.42	979.97	2025 2024 2023
25	90-70-0-14-5000-000	316.71	538.83	855.54	2025 2024 2023
26	90-70-0-25-3000-000	12,120.68	5,498.60	17,619.28	2025 2024 2023 2022 2021
27	90-80-0-16-8000-000	155.38	488.07	643.45	2025 2024 2023
28	90-80-0-41-5000-000	3,985.17	1,293.40	5,278.57	2025 2024 2023
29	90-80-0-41-6000-000	7,199.16	1,902.71	9,101.87	2025 2024 2023
30	90-80-0-87-1000-000	5,369.69	1,319.45	6,689.14	2025 2024 2023
31	90-90-0-02-0A02-100	3,264.39	1,130.41	4,394.80	2025 2024 2023
32	90-90-0-02-0A02-200	3,470.36	1,189.76	4,660.12	2025 2024 2023

	PARCEL	TAX DUE	INTEREST/FEES	TOTAL DUE	TAX YEARS DELINQUENT
33	90-90-0-06-7000-000	116.21	488.52	604.73	2025 2024 2022
34	90-90-0-06-9000-000	116.21	488.52	604.73	2025 2024 2022
35	90-90-0-34-6000-000	3,231.84	1,382.49	4,614.33	2025 2024 2023
36	90-90-0-36-6000-100	2,532.27	1,030.96	3,563.23	2025 2024 2023
37	90-90-0-45-6000-000	61.14	458.20	519.34	2025 2023
38	90-90-0-97-9000-000	1,624.58	848.66	2,473.24	2025 2024 2023
39	90-90-1-01-3000-000	2,202.42	724.20	2,926.62	2025 2024 2023
40	91-00-0-02-4000-000	43.40	471.62	515.02	2025 2024 2022
41	91-00-0-07-7000-000	98.94	932.70	1,031.64	2025 2024 2023 2022
42	91-00-0-07-8000-000	4,947.37	1,144.77	6,092.14	2025 2024 2023
43	91-00-0-09-0000-000	7,229.20	4,093.16	11,322.36	2025 2024 2023 2022 2019
44	91-00-0-09-5000-000	90.30	483.94	574.24	2025 2024 2023
45	91-00-0-16-0000-000	5,056.10	1,289.24	6,345.34	2025 2024 2023
46	91-00-0-27-2000-000	114.56	483.12	597.68	2025 2024 2023
47	91-00-0-32-0000-000	48.43	469.16	517.59	2025 2024 2023
48	91-00-0-32-1000-000	69.11	472.28	541.39	2025 2024 2023
49	91-00-0-32-2000-000	1,619.54	797.05	2,416.59	2025 2024 2023
50	91-00-0-39-0000-000	2,136.47	1,522.85	3,659.32	2025 2024 2023 2022
51	91-00-0-46-5000-000	1,839.52	784.82	2,624.34	2025 2024 2023
52	91-00-0-55-0000-000	2,435.57	1,133.91	3,569.48	2025 2024 2023
53	91-00-0-56-7000-000	2,608.55	771.76	3,380.31	2025 2024 2023
54	91-00-0-60-6000-100	777.57	757.86	1,535.43	2025 2024 2023
55	91-00-0-74-5000-000	2,682.06	808.37	3,490.43	2025 2024 2023
56	91-00-0-97-4000-000	3,175.50	1,064.01	4,239.51	2025 2024 2023
57	91-00-0-97-5000-000	3,122.71	995.72	4,118.43	2025 2024 2023
58	91-00-1-18-0000-000	2,016.67	722.51	2,739.18	2025 2024 2023
59	91-00-1-19-1000-000	2,967.71	1,213.84	4,181.55	2025 2024 2023 2022
60	91-00-1-27-5000-000	91.90	478.43	570.33	2025 2024 2023
61	91-00-1-32-5000-000	115.01	483.30	598.31	2025 2024 2023
62	91-00-1-32-7000-000	1,176.57	707.71	1,884.28	2025 2024 2023
63	91-00-1-32-9000-000	830.42	634.54	1,464.96	2025 2024 2023
64	91-00-1-33-0000-000	545.80	572.82	1,118.62	2025 2024 2023

	PARCEL	TAX DUE	INTEREST/FEES	TOTAL DUE	TAX YEARS DELINQUENT
65	91-10-0-13-8000-000	357.91	532.91	890.82	2025 2024 2023
66	91-10-0-14-9000-000	92.80	478.47	571.27	2025 2024 2023
67	91-10-0-19-3000-000	15,252.38	16,800.14	32,052.52	2025 2024 2023 2022 2021 2020 2019 2018 2017 2016 2015
68	91-10-0-39-8000-100	289.92	597.66	887.58	2025 2024 2023 2022
69	91-10-0-50-9000-000	139.37	488.24	627.61	2025 2024 2023
70	91-10-0-54-9000-000	58.11	471.62	529.73	2025 2024 2023
71	91-10-0-79-1000-000	2,341.01	867.07	3,208.08	2025 2024 2023
72	91-10-0-79-2000-000	58.31	467.69	526.00	2025 2024 2023
73	91-10-0-85-5000-000	2,016.76	919.46	2,936.22	2025 2024 2023
74	91-10-1-17-3000-000	129.38	485.60	614.98	2025 2024 2023
75	91-10-1-17-4000-000	129.38	485.60	614.98	2025 2024 2023
76	91-10-1-28-6000-000	151.30	490.26	641.56	2025 2024 2023
77	91-10-1-31-1000-000	139.37	488.24	627.61	2025 2024 2023
78	91-10-1-31-2000-000	2,387.55	921.87	3,309.42	2025 2024 2023
79	91-10-1-48-6000-000	3,424.42	1,004.11	4,428.53	2025 2024 2023
80	91-10-1-60-3000-000	192.65	508.81	701.46	2025 2024 2023 2022
81	91-20-0-06-2000-000	4,824.15	1,499.69	6,323.84	2025 2024 2023
82	91-20-0-25-7000-000	3,850.67	1,311.70	5,162.37	2025 2024 2023
83	91-20-0-41-3000-000	3,857.27	1,130.25	4,987.52	2025 2024 2023
84	91-20-0-58-2000-000	2,094.01	907.50	3,001.51	2025 2024 2023
85	91-20-0-69-7000-000	126.08	485.04	611.12	2025 2024 2023
86	91-20-0-75-4000-000	2,302.31	936.95	3,239.26	2025 2024 2023
87	91-20-0-87-4000-000	126.08	485.04	611.12	2025 2024 2023
88	91-20-0-87-5000-000	1,470.48	776.79	2,247.27	2025 2023
89	91-20-0-87-6000-000	275.42	517.00	792.42	2025 2024 2023
90	91-20-0-88-2000-000	1,187.31	707.46	1,894.77	2025 2024 2023
91	91-20-0-91-4000-000	12,243.72	1,519.71	13,763.43	2025 2024 2023
92	91-20-1-10-6000-000	3,262.97	1,412.08	4,675.05	2025 2024 2023
93	91-20-1-12-3000-000	925.16	620.46	1,545.62	2025 2024 2023
94	91-20-1-23-7000-000	2,988.99	1,115.45	4,104.44	2025 2024 2023
95	91-20-1-41-8000-000	129.38	485.60	614.98	2025 2024 2023
96	91-20-1-41-9000-000	129.38	485.60	614.98	2025 2024 2023

	PARCEL	TAX DUE	INTEREST/FEES	TOTAL DUE	TAX YEARS DELINQUENT
97	91-2A-0-03-7000-000	3,067.49	852.37	3,919.86	2025 2024 2023
98	91-2A-0-17-5000-000	121.59	484.00	605.59	2025 2024 2023
99	91-2A-0-17-6000-000	120.93	483.88	604.81	2025 2024 2023
100	91-2A-0-17-9000-000	171.76	494.35	666.11	2025 2024 2023
101	91-30-0-14-8000-000	2,836.24	787.40	3,623.64	2025 2024 2023
102	91-30-0-35-7000-000	4,255.82	1,338.07	5,593.89	2025 2024 2023
103	91-30-1-00-4000-000	15,688.91	6,084.68	21,773.59	2025 2024 2023 2022 2021 2020
104	91-30-1-16-6000-000	3,495.13	1,337.51	4,832.64	2025 2024 2023
105	91-30-1-83-1000-000	153.54	499.07	652.61	2025 2024 2022
106	91-40-0-05-7000-000	7,934.35	4,412.16	12,346.51	2025 2024 2023 2022 2021
107	91-40-0-55-7000-000	3,076.53	780.30	3,856.83	2025 2024 2023
108	91-40-0-56-4000-000	240.55	508.68	749.23	2025 2024 2023
109	91-40-0-56-5000-000	312.85	523.60	836.45	2025 2024 2023
110	91-40-0-56-6000-000	71.85	473.97	545.82	2025 2024 2023
111	91-40-0-67-3000-000	1,565.97	749.59	2,315.56	2025 2023
112	91-40-0-75-7000-000	5,801.15	1,209.84	7,010.99	2025 2024 2023
113	91-40-0-98-0000-000	3,898.75	1,533.12	5,431.87	2025 2024 2023 2022 2021
114	91-40-0-99-3000-000	13,427.32	9,103.64	22,530.96	2025 2024 2023 2022 2021 2020 2019 2018 2017 2015 2014
115	91-40-1-71-9000-000	6,146.36	1,835.76	7,982.12	2025 2024 2023 2022
116	91-50-0-11-2000-000	1,290.73	729.24	2,019.97	2025 2024 2023
117	91-50-0-21-2000-000	3,818.80	1,207.12	5,025.92	2025 2024 2023
118	91-50-0-21-4000-100	47.72	469.94	517.66	2025 2024 2023
119	91-50-0-38-0000-000	4,511.60	1,390.60	5,902.20	2025 2024 2023
120	91-60-0-23-9000-000	118.15	471.37	589.52	2025 2024 2023
121	91-60-0-24-6000-000	317.86	524.37	842.23	2025 2024 2023
122	91-60-0-51-9000-000	200.60	500.27	700.87	2025 2024 2023
123	91-70-0-08-5000-000	166.79	503.46	670.25	2025 2024 2023 2022
124	91-70-0-08-6000-000	193.43	509.14	702.57	2025 2024 2023 2022
125	91-70-0-42-4000-000	7,770.67	4,423.51	12,194.18	2025 2024 2023 2022 2021 2020
126	91-80-0-03-1000-000	5,719.77	1,662.60	7,382.37	2025 2024 2023
127	91-80-0-60-8000-000	133.23	499.86	633.09	2025 2024 2023 2022
128	91-80-0-85-6000-000	17.67	464.92	482.59	2025 2024 2023

	PARCEL	TAX DUE	INTEREST/FEES	TOTAL DUE	TAX YEARS DELINQUENT
129	91-80-0-99-4000-000	4,998.50	1,087.23	6,085.73	2025 2024 2023
130	91-90-0-13-0000-000	6,040.03	1,648.76	7,688.79	2025 2024 2023
131	91-90-0-24-3000-000	5,654.23	1,548.57	7,202.80	2025 2024 2023
132	91-90-0-48-4000-000	74.12	474.33	548.45	2025 2024 2023
133	91-90-0-53-9000-000	601.16	566.57	1,167.73	2025 2024 2023
134	91-90-0-54-0000-000	1,577.53	798.91	2,376.44	2025 2024 2023
135	91-90-0-54-5000-000	263.64	513.22	776.86	2025 2024 2023
136	91-90-0-57-2000-000	6,496.88	3,632.51	10,129.39	2025 2024 2023 2022 2021
137	91-90-0-70-5000-000	8,642.50	2,391.09	11,033.59	2025 2024 2023
138	91-90-0-74-9000-000	202.93	485.70	688.63	2025 2024 2023
139	91-90-0-75-9000-100	119.18	481.37	600.55	2025 2024 2023
140	91-90-0-79-4000-000	6,511.58	1,801.22	8,312.80	2025 2024 2023
141	91-90-0-96-5000-000	3,806.49	1,245.80	5,052.29	2025 2024 2023
142	91-90-1-24-4000-000	2,418.57	772.66	3,191.23	2025 2024 2023
143	91-90-1-43-4000-000	420.41	590.49	1,010.90	2025 2024 2023
144	91-90-1-46-0000-000	4,408.19	1,259.85	5,668.04	2025 2024 2023
145	91-90-1-48-2000-000	5,858.43	1,893.57	7,752.00	2025 2024 2023
146	91-90-1-81-2000-000	7,668.86	1,846.06	9,514.92	2025 2024 2023
147	91-90-1-89-0000-000	5,534.53	1,764.36	7,298.89	2025 2024 2023
148	92-00-0-19-8000-000	4,937.38	1,477.99	6,415.37	2025 2024 2023
149	92-00-0-28-2000-000	3,982.98	1,386.64	5,369.62	2025 2024 2023
150	92-00-1-02-5000-000	329.56	562.25	891.81	2025 2024 2023 2022
151	92-00-1-97-8000-000	1,794.90	904.33	2,699.23	2025 2024 2023
152	92-10-0-01-0000-000	1,824.13	848.93	2,673.06	2025 2024 2023
153	92-10-0-13-2000-000	2,646.25	1,007.56	3,653.81	2025 2024 2023
154	92-10-0-43-5000-000	296.02	563.15	859.17	2025 2024 2023
155	92-10-0-63-9000-000	162.81	113.17	275.98	2025 2024 2023 2022
156	92-10-0-71-6000-000	2,496.31	979.52	3,475.83	2025 2024 2023
157	92-10-0-72-9000-000	3,119.39	1,101.84	4,221.23	2025 2024 2023
158	92-10-0-83-1000-000	54.94	466.96	521.90	2025 2024 2023
159	92-10-0-87-3000-000	968.82	562.57	1,531.39	2025 2024 2023
160	92-10-0-87-5A02-600	3,398.15	1,153.47	4,551.62	2025 2024 2023

	PARCEL	TAX DUE	INTEREST/FEES	TOTAL DUE	TAX YEARS DELINQUENT
161	92-10-0-87-5B02-000	3,469.20	1,179.53	4,648.73	2025 2024 2023
162	92-10-1-00-4000-000	5,096.52	1,408.35	6,504.87	2025 2024 2023
163	92-10-1-59-9000-000	19.66	465.27	484.93	2025 2024 2023
164	92-10-1-69-6000-000	1,726.51	771.39	2,497.90	2025 2024 2023
165	92-10-1-73-2000-000	81.01	490.55	571.56	2025 2024 2023 2022
166	92-10-1-86-5000-000	317.10	558.96	876.06	2025 2024 2023
167	92-10-2-06-8000-000	2,764.26	1,029.47	3,793.73	2025 2024 2023
168	92-10-2-39-3000-000	21.42	465.57	486.99	2025 2024 2023
169	92-10-2-44-5000-000	7,567.86	1,892.47	9,460.33	2025 2024 2023
170	92-10-2-72-3000-000	2,384.49	1,840.09	4,224.58	2025 2023 2021
171	92-10-2-76-7000-000	2,438.67	915.73	3,354.40	2025 2024 2023
172	92-10-2-79-8000-000	73.51	469.32	542.83	2025 2024 2023
173	92-10-2-86-0000-000	2,115.60	921.94	3,037.54	2025 2024 2023 2022 2021 2020 2019
174	92-10-2-91-9000-000	2,252.27	826.95	3,079.22	2025 2024 2023
175	92-10-3-16-1000-000	3,539.87	1,192.01	4,731.88	2025 2024 2023
176	92-10-3-18-0000-000	2,494.97	910.09	3,405.06	2025 2024 2023
177	92-10-3-18-8000-000	165.47	518.47	683.94	2025 2024 2023 2022
178	92-10-3-21-6000-100	12,882.45	1,468.61	14,351.06	2025 2024 2023
179	92-10-3-48-3000-100	68.84	473.80	542.64	2025 2024 2023
180	92-10-4-04-2000-700	112.23	474.21	586.44	2025 2024 2023
181	92-10-4-11-0000-000	363.15	576.31	939.46	2025 2024 2023
182	92-10-4-29-4000-000	2,965.74	1,066.56	4,032.30	2025 2024 2023