

**ADDENDUM NO. 1  
TO SPECIFICATIONS AND PLANS  
SEMINOLE HILLS WATER MAIN IMPROVEMENTS  
CITY OF PONTIAC, MICHIGAN**

ISSUED: December 12, 2023

HRC Job No. 20211066

This Addendum is issued prior to receipt of proposals to provide for certain changes and clarifications to the Specifications and/or the Drawings, as herein specified, and is hereby made a part of the Contract Documents and shall be taken into consideration in preparing the Proposal. All other conditions remain the same. **The Proposer shall acknowledge the receipt of this Addendum by signing below, including this with their proposals, and completing the Addenda section on Sheet P-5 of the Proposal Form.** Failure to utilize the Addendum No. 1 Proposal Form in the submission of the proposal may be justification for the proposal being rejected as non-responsive.

The following lists the extent of this Addendum. Descriptions of the changes or clarifications are given within each heading.

**CONTRACTOR QUESTIONS**

- Q: Is the CIPP mentioned in the project for the Sanitary Sewer?  
A: No, the CIPP mentioned in the project is for Sanitary Sewer Laterals.
- Q: Does the City of Pontiac own any properties within the project areas that could be used for a temporary storage area?  
A: No, however, the Owner has acquired temporary easements within the project area. See Sheet A of the Drawings and the Easement Documentations in the Specifications.

**GENERAL**

- The Meeting Summary from the Pre-Bid meeting is included at the end of this document.

**DRAWINGS**

**Title Page**

- Sheet R – Voorheis Detour Plan has been removed from the Drawings.

**Sheet B – Project Notes**

- Added Michigan Department of Transportation (MDOT) permit number.

**Sheet C-2 – Special Water Main Details**

- Added “Rod Restraint Detail” to detail sheet.

**Sheet R – Voorheis Detour Plan**

- Plan sheet has been removed from the Drawings.

**Sheet 6 – Seminole Street Division 1: Sanitary Work from P.O.B. to STA 6+50**

- Added quantity to “Sewer Lateral Lining, CIPP, 4-inch to 6-inch Dia”. Affected laterals are called out in the sanitary lateral tables.

Delhi Township 2101 Aurelius Rd. Suite 2A Holt, MI 48842 517-694-7760	Detroit 535 Griswold St. Buhl Building, Ste 1650 Detroit, MI 48226 313-965-3330	Grand Rapids 1925 Breton Road SE Suite 100 Grand Rapids, MI 49506 616-454-4286	Howell 105 W. Grand River Howell, MI 48843 517-552-9199	Jackson 401 S. Mechanic St. Suite B Jackson, MI 49201 517-292-1295	Kalamazoo 834 King Highway Suite 107 Kalamazoo, MI 49001 269-665-2005	Lansing 215 S. Washington SQ Suite D Lansing, MI 48933 517-292-1488
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- A note was added describing the work associated with the additional lead lining (listed above).

**Sheet 9 – Seminole Street Division 1: Road Work from P.O.B. to STA 7+50**

- Added road removal and restoration work associated with the additional sanitary lateral connection rehabilitation on Sheet 10.

**Sheet 10 – Seminole Street Division 2: Sanitary Work from STA 6+50 to 12+00**

- Added quantity to "Sewer Lateral Connection, Existing Factory Tap (Type 1)". The affected lateral connection is called out in the sanitary lateral table. The location of the affected lateral connection is called out in the plan view.

**Sheet 20 – Oneida Road Division 1: Sanitary Work from P.O.B. to STA 6+50**

- Added quantity to "Sewer Lateral Connection, with Saddle (Type 2)". The affected lateral connection is called out in the sanitary lateral table. The location of the affected lateral connection is called out in the plan view.

**Sheet 24 – Oneida Road Division 1: Road Work from P.O.B. to STA 8+50**

- Added road removal and restoration work associated with the additional sanitary lateral connection rehabilitation on Sheet 20.

**Sheet 36 – E. Iroquois Road: Sanitary Work from STA 6+50 to 12+00**

- Added quantity to "Sewer Lateral Connection, with Saddle (Type 2)". The affected lateral connections are called out in the sanitary lateral table. The location of the affected lateral connections is called out in the plan view.

**Sheet 38 – E. Iroquois Road: Sanitary Work from STA 17+50 to 23+00**

- Added quantity to "Sewer Lateral Connection, New Wye & Mainline Sewer (Type 3)". The affected lateral connection is called out in the sanitary lateral table. The location of the affected lateral connection is called out in the plan view.

**Sheet 46 – E. Iroquois Road: Road Work from STA 8+50 to 15+50**

- Added road removal and restoration work associated with the additional sanitary lateral connection rehabilitation on Sheet 36.

**Sheet 48 – E. Iroquois Road: Road Work from STA 22+00 to P.O.E.**

- Added road removal and restoration work associated with the additional sanitary lateral connection rehabilitation on Sheet 38.

**Sheet 53 – Cherokee Road: Sanitary Work from STA 17+50 to 23+00**

- Added quantity to "Sewer Lateral Connection, with Saddle (Type 2)". The affected lateral connection is called out in the sanitary lateral table. The location of the affected lateral connection is called out in the plan view.

**Sheet 62 – Cherokee Road: Road Work from STA 15+50 to 22+50**

- Added road removal and restoration work associated with the additional sanitary lateral connection rehabilitation on Sheet 53.

## **SPECIFICATIONS**

### **00010 Table of Contents**

- Specification 02990 Permits page count has changed.

### **00200 Coordination Clause**

- Under Article h, the date where temporary pavement shall be placed was changed from April 3 to April 30.

### **DC-116 Bid Advertisement**

- "Only potential Bidders who purchase Drawings and Specifications will be included on the plan holders list. To receive addenda and other notifications, Bidders must be on the plan holders list and must have purchased Drawings and Specifications." Has been removed.

### **DC-119 Information for Bidders**

- Language in Article 19 has changed.

### **DC-123 Proposal**

- Bid Item No. 77 quantity has changed.
- Bid Item No. 78 quantity has changed.
- Bid Item No. 79 quantity has changed.

### **WRC SC Supplementary Conditions**

- Article 1.03 has changed.
- Article 1.13 has changed.

### **01220 Bid Item Description**

- Description of Bid Item No. 89 has changed.

### **02990 Permits**

- Michigan Department of Transportation (MDOT) Permit Number has been added.
- Article 1.3.B and 1.3.C has been added.

Received and Acknowledged By:

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

Signature: \_\_\_\_\_

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

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

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



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Mansfield, Adam

OAKLAND COUNTY WATER RESOURCES COMMISSIONER  
CITY OF PONTIAC  
SEMINOLE HILLS WATER MAIN IMPROVEMENTS  
OAKLAND COUNTY, MICHIGAN  
HRC JOB No. 20211066

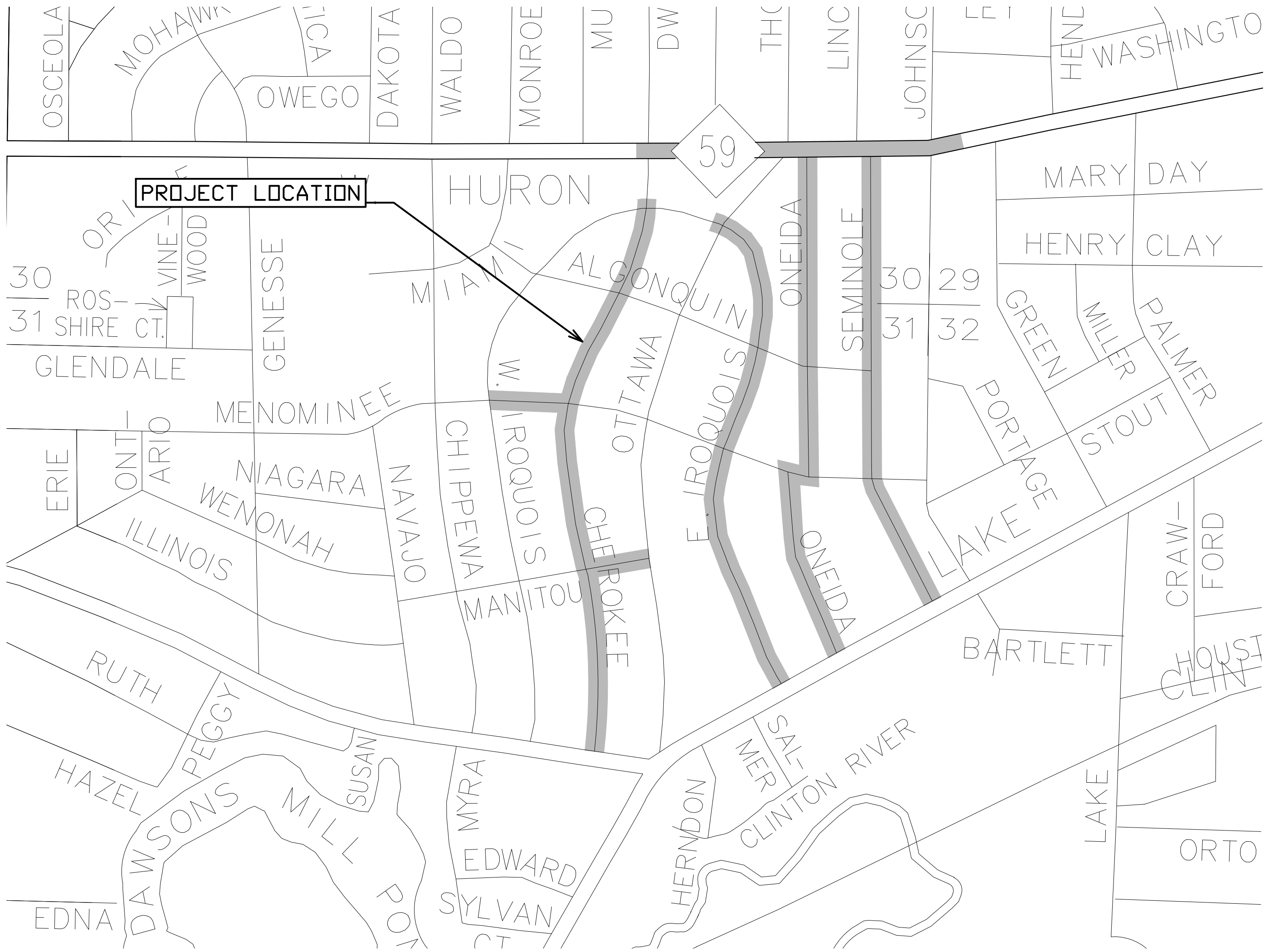
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WATER RESOURCES COMMISSIONER  
JIM NASH

CHIEF DEPUTY  
ANNE VAARA

CHIEF MANAGER  
STEVE KORTH, P.E.



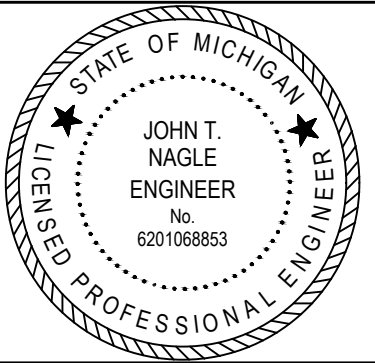
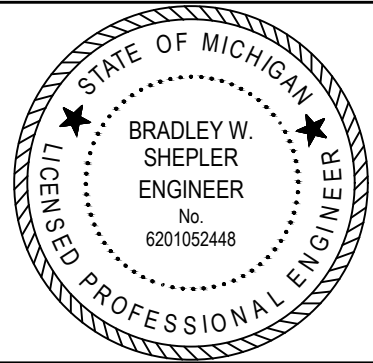
NOTICE:  
ALL EXISTING UTILITIES SHOWN ON THIS TOPOGRAPHIC SURVEY HAVE BEEN TAKEN FROM VISUAL OBSERVATION, AND RECORD MAPPING WHERE AVAILABLE. NO GUARANTEE IS MADE, OR SHOULD BE ASSUMED, AS TO THE COMPLETENESS OR ACCURACY OF THE UTILITIES SHOWN ON THIS DRAWING. PARTIES UTILIZING THIS INFORMATION SHALL FIELD VERIFY THE ACCURACY AND COMPLETENESS PRIOR TO CONSTRUCTION ACTIVITIES.

**811**  
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(3 WORKING DAYS)  
BEFORE YOU DIG  
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or 811

**HRC**  
HUBBELL, ROTH & CLARK, INC  
Consulting Engineers

555 HULET DRIVE  
BLOOMFIELD HILLS, MICH.  
P.O. BOX 824  
48303 - 0824  
PHONE: (248) 454-6300  
FAX (1st. Floor): (248) 454-6312  
FAX (2nd. Floor): (248) 338-2592  
WEB SITE: <http://www.hrc-engr.com>



DATE	DESCRIPTION
11-17-2023	ISSUED FOR BIDDING
05-24-2023	REISSUED FOR OWNERS REVIEW
05-23-2023	REISSUED FOR PERMITS
03-23-2023	ISSUED FOR OWNERS REVIEW
03-20-2023	ISSUED FOR PERMITS

ADDITIONS AND/OR REVISIONS



PROJECT NOTES

THE PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS

LIMITATIONS ON PRIVATE WORK: DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM ANY WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT WITHOUT PRIOR CITY AND OAKLAND COUNTY WATER RESOURCES COMMISSIONER (OCWRC) CONSENT.

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES FOR NOISE LEVELS, VIBRATIONS, OR ANY OTHER RESTRICTIONS WHILE PERFORMING ANY CONSTRUCTION OPERATIONS WITHIN THIS CONTRACT; COSTS TO BE INCLUDED IN THE RESPECTIVE ITEM OF WORK.

A LIST OF CONTACTS SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING AND THE CONTRACTOR SHALL NOTIFY ALL CONTACTS 72 HOURS IN ADVANCE OF PROPOSED WORK.

THE CONTRACTOR SHALL, BEFORE EACH DAYS WORK, OR WHEN MOVING TO A NEW AREA OF WORK, DETERMINE AND EVALUATE THE LOCATION OF ALL UNDERGROUND FACILITIES IN THE AREA. IF LOCATION STAKES HAVE BEEN MOVED OR DO NOT APPEAR CORRECT, THE CONTRACTOR SHALL NOT EXCAVATE UNTIL ALL UTILITIES HAVE HAD AN OPPORTUNITY TO CHECK OR RESTAKE THEIR LOCATIONS. ANY DELAYS INCURRED DUE TO THE CHECKING OR RESTAKING OF UTILITIES SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION.

PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY AND THEIR ACCURACY IS NOT GUARANTEED.

THE LOCATION OF ALL PUBLIC UTILITIES SHOWN ON THESE PLANS IS TAKEN FROM THE BEST AVAILABLE DATA. THE CITY OF PONTIAC, OCWRC AND HUBBELL, ROTH & CLARK, INC. WILL NOT BE HELD RESPONSIBLE FOR ANY OMISSION OR VARIATIONS FROM THE LOCATIONS PURSUANT TO ACT 53 OF THE PA OF 1974 AS A CONDITION OF THIS CONTRACT, NOTICE SHALL BE GIVEN TO MISS DIG PRIOR TO UNDERGROUND WORK TO BE PERFORMED IN ACCORDANCE WITH THIS CONTRACT. PHONE 811 OR (800)-482-7171 OR 647-7344.

CONTRACTOR TO SUBMIT DETAILED CONSTRUCTION SEQUENCE AND PROGRESS SCHEDULE AT THE PRE-CONSTRUCTION MEETING NOTING ALL CHANGES TO PROPOSED SCHEDULE OF WORK PROPOSED OR WORK PROPOSED TO OCCUR CONCURRENTLY WITH OTHER ITEMS OF WORK.

MISCELLANEOUS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE LIMITS OF CONSTRUCTION, INCLUDING EXISTING FENCING, LAWN, TREES, SHRUBBERY AND ANY AREAS AFFECTED BY IMPACTS OF CONSTRUCTION SUCH AS INSUFFICIENT IRRIGATION DUE TO DAMAGE TO SPRINKLER SYSTEM, UNCONTROLLED DUST, DIRT AND DEBRIS COLLECTION, EXCESSIVE VIBRATORY IMPACTS, ETC.

CONSUMERS GAS COMPANY STANDARD CONSTRUCTION NOTES

ADHERENCE TO THE COMPANY'S OWN OPERATION AND MAINTENANCE PROCEDURES IS A REQUIREMENT OF 49 CFR 192.605(g) AND THE MICHIGAN GAS SAFETY STANDARDS.

PRIOR TO COMMENCING ANY EXCAVATION OR DIGGING ON THE PREMISES, THE UTILITY COMMUNICATIONS SYSTEM (MISS DIG) - PHONE NUMBER 811 OR (800)482-7171 - SHALL BE CONTACTED PRIOR TO PERFORMING ANY EXCAVATION IN ACCORDANCE WITH MICHIGAN COMPILED LAW 460.701 ET SEQ., AS AMENDED BY PUBLIC ACT 174 OF 2013 AND ANY FUTURE AMENDMENTS.

THE LENGTH OF THE COMPANY'S PIPELINE THAT WILL BE EXPOSED SHALL BE LIMITED TO A MAXIMUM OF 25' AND THE BACKFILLING SHALL BE PERFORMED IN A MANNER TO AVOID DAMAGE TO THE PIPE COATING AND TO PROVIDE FIRM SUPPORT. HAND LABOR SHALL BE USED WHEN NECESSARY TO ASSURE THAT THE PIPELINE IS FULLY SUPPORTED ON COMPACTED BACKFILL. THE BACKFILL SHALL BE PLACED SO THAT, AFTER SETTLEMENT, THE GROUND SURFACE WILL BE AS NEAR ORIGINAL GRADE AS POSSIBLE. ADDITIONAL DEPTH OF COVER RESTORATION MAY BE MANDATED BY THE COMPANY. NO LARGE ROCKS, BOULDERS, CLODS OR REFUSE ARE ALLOWED IN THE BACKFILL MATERIAL. THE BACKFILL OPERATION WILL BE SUBJECT TO COMPANY INSPECTION.

ADDITIONAL RIGHT-OF-WAY RESTRICTIONS NOT LISTED HERE MAY BE SPECIFIED IN THE COMPANY'S LAND EASEMENT. RESTRICTIONS IN WHICH COMPANY-APPROVED EXCEPTIONS MAY BE ALLOWED WILL BE EVALUATED ON A CASE-BY-CASE BASIS, INDEPENDENT OF PREVIOUS COMPANY-APPROVED EXCEPTIONS, OR RIGHT-OF-WAY VIOLATIONS.

CONTRACTOR TO FOLLOW CONSUMERS ENERGY "EXCAVATOR DAMAGE PREVENTION GUIDE" WHILE IN THE VICINITY OF CONSUMERS ENERGY DISTRIBUTION AND TRANSMISSION GAS LINES.

CONTRACTOR TO CONTACT DAMAGE PREVENTION LEADER, LIA MASTRACCI (248) 752-2918 PRIOR TO CONSTRUCTION

REMOVAL NOTES

ALL PAVEMENT AND EXCAVATED MATERIAL TO BE REMOVED OFFSITE AND BECOMES THE PROPERTY OF THE CONTRACTOR.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROPER DISPOSAL OF ALL MATERIAL REMOVED FROM THE PROJECT AREA IN ACCORDANCE WITH LOCAL, COUNTY, STATE AND FEDERAL REGULATIONS.

SAWCUTTING FOR ALL PAVEMENT REMOVAL OPERATIONS IS REQUIRED AND WILL NOT BE PAID FOR SEPARATELY.

ADDITIONAL COMPENSATION WILL NOT BE MADE FOR UNDERCUTS DUE TO CONTRACTOR'S FAILURE TO PROTECT OPEN GRADE.

PRIOR TO THE REMOVAL OF ANY PAVEMENT, THE CONTRACTOR SHALL SAWCUT A CLEAN EDGE. THE OWNER SHALL NOT BE RESPONSIBLE FOR ANY ADDITIONAL PAVEMENT REMOVAL AND RESTORATION DUE TO THE CONTRACTOR'S FAILURE TO PROVIDE A CLEAN EDGE.

MDOT PERMITTING NOTES

CONTRACTOR SHALL REMOVE SNOW FROM ALL ROAD CLOSURES.

THE CONTRACTOR MUST CONTACT THE INSPECTOR A MINIMUM OF 72 BUSINESS HOURS PRIOR TO STARTING WORK TO RECEIVE APPROVAL TO START ANY WORK WITHIN MDOT RIGHT OF WAY.

MDOT SIGNALS ARE NOT PART OF THE MISS DIG SYSTEM AND WILL REQUIRE SEPARATE COMMUNICATION WITH THE ROAD COMMISSION FOR OAKLAND COUNTY FOR STAKING. CONTACT STEVE WHEELER TO COORDINATE STAKING.

ALL WORK AND LANE CLOSURE REQUESTS FOR WORK ON A SATURDAY, SUNDAY, OR MONDAY WILL REQUIRE NOTIFICATION TO MDOT INSPECTOR NO LATER THAN THE PRECEDING WEDNESDAY BY 4:00 PM.

ALL NIGHT WORK SHALL BE IN COMPLIANCE WITH MIOSHA STANDARDS FOR NIGHT LIGHTING.

ALL TRAFFIC CONTROL SIGNING SHALL BE FLAGGED WITH A COLORED RIBBON FOR EASY IDENTIFICATION.

SEMTOC SHALL BE CALLED AT 313-965-0777 WHEN ANY LANE/SHOULDER CLOSURES AND/OR TRAFFIC STOPPAGES ARE BEGINNING AND ARE BEING REMOVED ON ALL MDOT ROUTES. SEMTOC SHALL ALSO BE NOTIFIED WITHIN 30 MINUTES OF THE PLANNED IMPLEMENTATION OR COMPLETION TIME WITH SCHEDULE CHANGES.

FILL VOIDS UNDER THE CURB LINE WITH FLOWABLE FILL IN ACCORDANCE WITH MDOT FORM 3717.

MDOT CONSTRUCTION NOTES

ALL WATER MAIN IN MDOT R.O.W. SHALL BE ABANDONED IN ACCORDANCE WITH MDOT FORM 3717.

ALL BACKFILL WITHIN MDOT R.O.W. SHALL BE IN ACCORDANCE WITH MDOT STANDARD PLAN R-83-C.

CONTRACTOR SHALL SUBMIT A TRENCH BOX DESIGN THAT IS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF MICHIGAN PRIOR TO THE START OF CONSTRUCTION.

CONTACTS

THE FOLLOWING ENTITIES HAVE INTERESTS IN THIS PROJECT:

OAKLAND COUNTY WRC  
AMY PLOOF  
CHIEF ENGINEER  
WATER SYSTEMS OPERATIONS  
ONE PUBLIC WORKS DR.  
WATERFORD TWP. MI 48328  
(248) 452-2271

UNITED STATES POSTAL SERVICE  
THERESA M. MONARCH  
735 W. HURON ST  
PONTIAC, MI 48343  
THERESA.M.MONARCH@USPS.GOV  
800-275-8777

MICHIGAN DEPARTMENT OF  
TRANSPORTATION  
HASSAN ALWAN  
OPERATIONS STAFF ENGINEER  
800 VANGUARD DR.  
PONTIAC, MI 48341  
(313) 500-4277

CONTRACTOR TO SUBMIT DETAILED CONSTRUCTION SEQUENCE AND PROGRESS SCHEDULE AT THE PRE-CONSTRUCTION MEETING NOTING ALL CHANGES TO PROPOSED SCHEDULE OF WORK PROPOSED OR WORK PROPOSED TO OCCUR CONCURRENTLY WITH OTHER ITEMS OF WORK.

CONTACTS FOR UTILITIES

THE FOLLOWING ENTITIES HAVE INTERESTS IN THIS PROJECT:

CONSUMERS ENERGY CO.  
ERNEST MARTYNIUK  
4600 COOLIDGE HWY.  
ROYAL OAK, MI 48073  
(248) 433-5668  
EMER: (800) 477-5050

DETROIT EDISON  
STEVE SAWMAN  
37849 INTERCHANGE DR.  
FARMINGTON HILLS, MICHIGAN 48335  
(248) 745-5134 - OFFICE  
(586) 630-7326 - CELL

COMCAST  
DARYL WOOD  
25626 TELEGRAPH RD.  
SOUTHFIELD, MICHIGAN 48034  
(248) 809-2721

AT&T  
STEVE RUATTO  
54 N. MILL ST., BOX 33  
PONTIAC, MICHIGAN 48342  
(248) 972-0140

ALL UTILITIES WITHIN THE ZONE OF INFLUENCE OF PROPOSED WORK ARE TO BE FIELD LOCATED AND SOFT DUG IN ACCORDANCE WITH PUBLIC ACT 174

ALL GAS FACILITIES SHALL BE PROTECTED AND SUPPORTED PER CONSUMER ENERGY STANDARDS AS APPLICABLE.

PRIOR TO WORK ON FACILITIES BELONGING TO THE ABOVE AGENCIES, A MINIMUM OF 72 HOURS NOTICE MUST BE GIVEN IN ORDER TO INSURE PROPER INSPECTION BY THE RESPECTIVE AGENCIES.

CONCRETE, GRADE S3, SHALL BE USED TO ENCASE UTILITIES THAT ARE IN CLOSE PROXIMITY TO THE PROPOSED CONSTRUCTION ONLY AS DIRECTED BY THE ENGINEER.

THE EXISTING UTILITIES LISTED HEREIN AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM SURVEYS AND FROM UTILITY RECORD MAPS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO SATISFY HIMSELF AS TO THEIR ACCURACY OR OF HIS RESPONSIBILITY IN CASE UTILITIES HAVE BEEN CONSTRUCTED, RELOCATED OR REMOVED.

OWNERS OF PUBLIC UTILITIES WILL NOT BE REQUIRED TO MOVE ADDITIONAL POLES AND STRUCTURES THAT ARE NOT SPECIFICALLY INDICATED AS SUCH ON THE PLANS.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK, AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO INSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL DIAL 811 OR 800-482-7171 A MINIMUM OF 3 WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS, PRIOR TO EXCAVATING IN THE VICINITY OF UTILITY LINES. ALL "MISS DIG" PARTICIPATING UTILITY OWNERS 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.

OAKLAND COUNTY WRC  
TIM ARTES  
FIELD SUPERVISOR II  
WATER SYSTEMS OPERATIONS  
ONE PUBLIC WORKS DR.  
WATERFORD TWP. MI 48328  
(248) 431-4180

OAKLAND COUNTY SHERIFF  
110 E. PIKE STREET  
PONTIAC, MI 48342  
(248) 858-4951 OPTION 8  
(248) 758-3616

WATERFORD REGIONAL FIRE DEPT.  
55 W. WALTON BLVD.  
PONTIAC, MI 48340  
(248) 673-0405

STAR AMBULANCE  
63 OAKLAND AVE.  
PONTIAC, MI 48342  
866-973-9999

PONTIAC GENERAL HOSPITAL  
461 W. HURON ST.  
PONTIAC, MI 48341  
248-857-7200

PONTIAC GENERAL HOSPITAL  
WAYNE WALKER  
461 W. HURON ST.  
PONTIAC, MI 48341  
248-396-3180

MISC. ITEMS OF WORK:

SEVERAL PAY ITEMS INCLUDED IN THE PROPOSAL ARE NOT SPECIFICALLY SHOWN ON THE PLANS. THESE ITEMS MAY BE CONSTRUCTED AS DIRECTED BY THE PROJECT ENGINEER OR USED AS NEEDED. SEE CONTRACT DOCUMENTS AND MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION FOR PAY ITEM SPECIFICS. THEY ARE:

SIDEWALK, REM.....SYD  
LATERAL CLEANOUT, 4-INCH TO 6-INCH.....EA  
REMOVE AND REPLACE SEWER LATERAL.....LFT  
REMOVE AND REPLACE SEWER, LESS THAN 24 INCH.....LFT  
REMOVE AND REPLACE VALVE BOX.....EA  
STORM DRAIN STRUCTURE COVER.....EA  
TRENCH UNDERCUT AND BACKFILL.....CYD  
UNDERDRAIN, 6 INCH, SPECIAL.....LFT  
DR STRUCTURE COVER, TYPE K.....EA  
AGGREGATE BASE, 21AA, 8 INCH, CIP, SPECIAL.....SYD  
SUBGRADE UNDERCUTTING, TYPE II, SPECIAL.....CYD  
1"x3" CRUSHED CONCRETE, SPECIAL.....TON  
LARGE APERTURE GEOGRID.....SYD  
TURF RESTORATION.....SYD  
PROPERTY PROTECTION FENCE.....LFT  
MAINTENANCE GRAVEL.....TON  
TEMPORARY PAVEMENT.....LSUM  
PROJECT SIGN.....EA  
SANITARY SEWER MAIN TELEVISING.....LFT

CITY OF PONTIAC CONSTRUCTION NOTES

THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE OF ROAD CLOSURES TO THE OCCUPANTS OF ALL PROPERTIES WITHIN 500 FEET OF THE PORTION OF THE ROAD THAT IS TO BE CLOSED AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO COMMENCING OPERATION(S). THE CONTRACTOR SHALL PROVIDE THE CITY OF PONTIAC'S ENGINEERING DIVISION WITH WRITTEN CONFIRMATION THAT THE NOTICE THAT HAS BEEN PROVIDED IS CONSISTENT WITH THIS POLICY.

A LIST OF CONTACTS SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING AND THE CONTRACTOR SHALL NOTIFY ALL CONTACTS 48 HOURS IN ADVANCE OF ANY ROAD CLOSURES.

CONTRACTOR SHALL SCHEDULE INSPECTIONS UNDER THE CITY OF PONTIAC DEPARTMENT OF PUBLIC WORKS R.O.W. PERMIT. CONTRACTOR MUST BE PRESENT DURING ALL INSPECTIONS.

THE CONTRACTOR SHALL ADVISE THE CITY OF PONTIAC ENGINEERING DIVISION AT THE COMPLETION OF CONSTRUCTION OPERATIONS AND RESTORATION SO THAT THE FINAL INSPECTION MAY BE MADE. PERFORMANCE GUARANTEE MONIES SHALL NOT BE RELEASED UNTIL THE FINAL INSPECTION IS PERFORMED AND THE WORK IS APPROVED BY THE ENGINEERING DIVISION.

THE CONTRACTOR SHALL KEEP ROADWAYS FREE OF DIRT AND DEBRIS. ROADWAYS MUST BE SWEEPED ON A DAILY BASIS AND MORE FREQUENTLY IF CONDITIONS WARRANT.

REMOVAL OF EXISTING CURBING, SIDEWALKS AND CONCRETE PAVEMENT SHALL BE TO THE NEAREST JOINT OF AN EXISTING, ACCEPTABLE PAVEMENT SLAB OR CURB AND GUTTER SEGMENT IN THE OPINION OF THE ENGINEER.

THE EXISTING CONCRETE PAVEMENT, CURBING AND CURB AND GUTTER SHALL BE SAW CUT FULL DEPTH PRIOR TO REMOVAL OF THE PAVEMENT. THE PAVEMENT SHALL BE CUT SO THAT THE OPENING IS A MINIMUM OF FIVE (5) FEET WIDE AND AT LEAST ONE (1) FOOT WIDER ON EACH SIDE THAN THE TRENCH. ALL PAVEMENT REMOVALS SHALL BE EXTENDED TO THE NEAREST JOINT OF AN EXISTING, ACCEPTABLE PAVEMENT SLAB OR CURB AND GUTTER SEGMENT IN THE OPINION OF THE CITY OF PONTIAC.

CONCRETE PAVEMENT AND CURB AND GUTTER REPLACEMENT SHALL MATCH EXISTING THICKNESS AND SHALL BE ANCHORED TO THE EXISTING PAVEMENT WITH EXPANSION-ANCHORED LANE-TIES (3/4" FOR 8" OR THICKER PAVEMENT AND 5/8" FOR PAVEMENT LESS THAN 8") LOCATED AT THE CENTER OF THE PAVEMENT AND SHALL BE SPACED AT 36" CENTER TO CENTER.

USE OF MAINTENANCE GRAVEL FOR ROADWAY MAINTENANCE IS STRICTLY PROHIBITED FROM DECEMBER THROUGH THE END OF APRIL, UNLESS OTHERWISE APPROVED BY THE CITY OF PONTIAC.

CONTACT THE CITY OF PONTIAC ENGINEERING DIVISION, A MINIMUM OF 48 HOURS PRIOR TO ANY WORK PERFORMED WITHIN THE RIGHT-OF-WAY (248) 758-3930.

CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE TO ORIGINAL OR BETTER CONDITION ALL AREAS IMPACTED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES AND SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY OF PONTIAC

EXPLORATORY EXCAVATION AND UTILITY LOCATING NOTES:

- EXPLORATORY EXCAVATION AND UTILITY LOCATING WILL NOT BE PAID FOR IN AREAS TO BE EXCAVATED FOR ACCESS PITS OR AREAS OF OPEN CUT CONSTRUCTION WHERE THE CONFLICTING UTILITY IS WITHIN THE EXCAVATION NEEDED TO INSTALL THE UTILITY OR ITS APPURTENANCES OR IS NOT PHYSICALLY LOCATED.
- EXPLORATORY EXCAVATION OF SANITARY SEWER LEADS IN THE PROJECT AREA THAT DID NOT HAVE A SUCCESSFUL AND COMPLETE LATERAL LAUNCH WILL BE LOCATED VIA EXPLORATORY EXCAVATION. THE PURPOSE OF THIS IS TO DETERMINE WHICH SEWER LEADS ARE ACTIVE AND WHICH ONES ARE NOT, WITH THE PURPOSE OF MINIMIZING THE NUMBER OF SEWER LEADS THAT ARE GOING TO BE REHABILITATED. SANITARY LEADS THAT WILL BE LOCATED VIA EXPLORATORY EXCAVATION WILL BE NOTED ON THE SANITARY SHEETS IN THE TABLES UNDER THE "EX. ELEV. AT PROP. LINE" COLUMN AND LABELED AS "FIELD LOCATE". THE EXPLORATORY EXCAVATION OF THE SANITARY SEWER LEADS WILL BE PAID UNDER THE UNIT BID PRICE FOR "EXPLORATORY EXCAVATION AND UTILITY LOCATING, DAY - DAY".

EXISTING STORM DRAIN NOTES:

- UNLESS OTHERWISE NOTED ON THE DRAWINGS, EXISTING UTILITIES THAT CROSS THE WATER MAIN TRENCH ARE TO BE MAINTAINED AND SUPPORTED. NO COMPENSATION WILL BE CONSIDERED FOR THE CONTRACTORS FAILURE TO PROPERLY IDENTIFY AND SUPPORT UTILITY CROSSINGS DURING INSTALLATION ACTIVITIES. UTILITIES IN A CONDITION THAT CANNOT BE SAFELY SUPPORTED OR UPON DIRECTION OF THE PROJECT ENGINEER, EXISTING UTILITIES MAY BE REMOVED AND REPLACED WITH AS-NEEDED CONTRACT QUANTITIES.

PERMITS REQUIRED

MDOT CONSTRUCTION PERMIT

OCWRC WATER MAIN EXTENSION PERMIT

OCWRC SESC PERMIT

CITY OF PONTIAC R.O.W. PERMIT

EGLE PART 399 PERMIT

PERMIT NO. 63041-093228-23-111723

PERMIT NO. 0211-2023

PERMIT NO.

PERMIT NO.

PERMIT NO. ACT-262452

LEGEND

BUILDING

HMA, 5 EML; HMA, 4 EML

SIDEWALK, REM; SIDEWALK, CONC, 4 INCH

SIDEWALK, REM; SIDEWALK, CONC, 6 INCH

PAVT, REPR, REM; DRIVEWAY, NONREINF, CONC, 6 INCH

CONCRETE CURB AND GUTTER, DET F4, SPECIAL

EX GRAVEL

PROPOSED GRAVEL

EX BRICK

PROPOSED BRICK

PROPOSED DITCHING

STORM

SANITARY

WATERMAIN

GAS

UND. TELEPHONE

UND. ELECTRICAL

REMOVE

ADJUST STRUCTURE

RECONSTRUCT STRUCTURE

ABANDON

ABANDON

TRAVERSE LINE & TRAVERSE POINT

BENCH MARK SYMBOL

DEAD TREE

DECIDUOUS TREE

REMOVE TREE

DECIDUOUS SHRUB

CONIFERIOUS TREE

CONIFERIOUS SHRUB

STUMP

SQ. & RD. CATCH BASINS & INLETS IN PAVEMENT

STORM MANHOLE & PIPE END

UNSPECIFIED MH.

RISER & DOWN SPOUT

PUMP STATION

FIRE HYDRANT

GATE & VALVE, & WELL

CISTERN & WELL

WATER STOP BOX & SPRINKLER HEAD

WATER TOWER BASE & METER PIT

UTILITY POLE

LIGHT POLE

GUY WIRE ANCHOR

UNDERGROUND MARKER

RISER

GAS BOX & BLOW OFF

BUILD. CORNER & 1st FLOOR ELEV.

OF DITCH & TOE OF SLOPE

TOP OF BANK & RIDGE

TOP OF BERM & TOE OF BERM

EDGE OF WATER & WATER SURFACE

HEADWALL & RETAINING WALL

SIGNS & SIGN POST

LOCAL LOW POINT & LOCAL HIGH POINT

INCIDENTAL TO PROJECT CONSTRUCTION



**HRC**  
**HUBBELL, ROTH & CLARK, INC**  
CONSULTING ENGINEERS SINCE 1915  
555 HULET DRIVE  
BLOOMFIELD HILLS, MICH.  
P.O. BOX 824  
48303 - 0824  
PHONE: (248) 454-6300  
FAX (1st. Floor): (248) 454-6312  
FAX (2nd. Floor): (248) 454-6359  
WEB SITE: [http:// www.hrcngr.com](http://www.hrcngr.com)

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DESIGNED	
DRAWN	
CHECKED	
APPROVED	



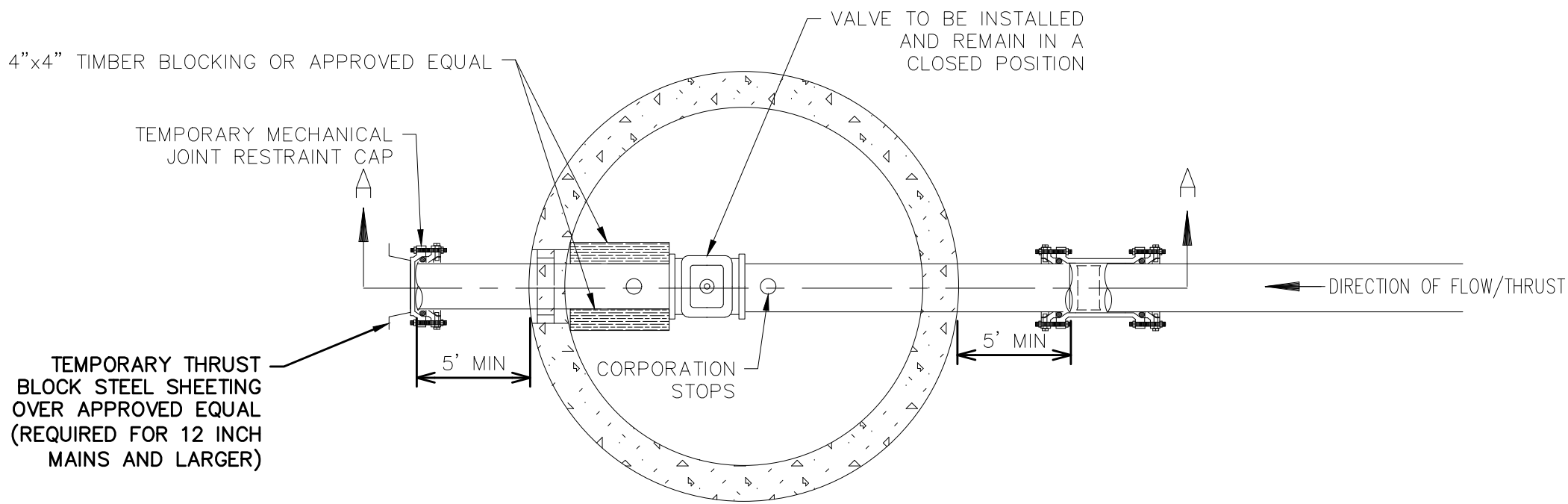
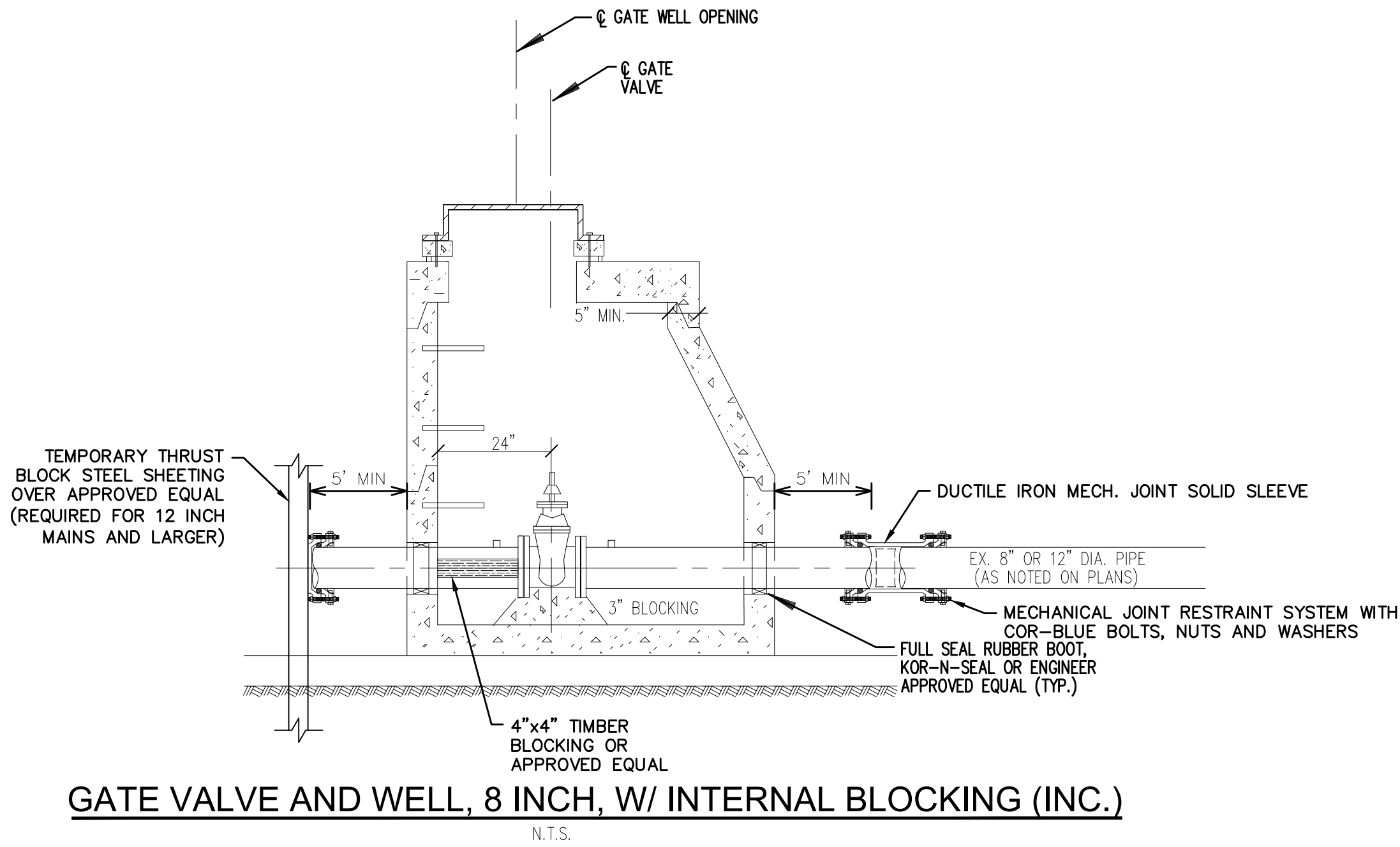
OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER

SEMINOLE HILLS WATER  
MAIN IMPROVEMENTS

PROJECT NOTES

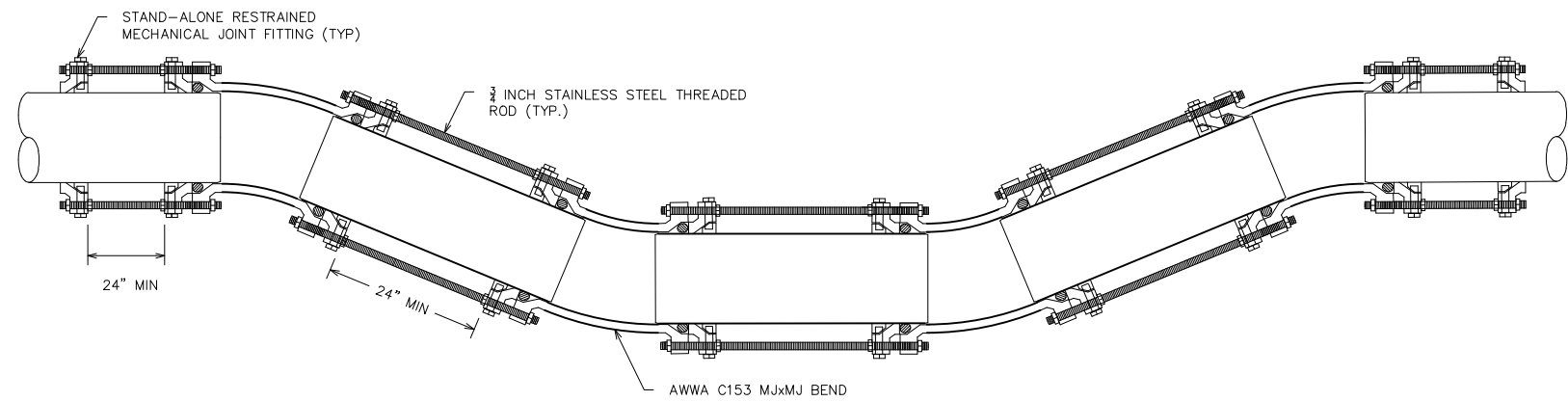
HRC JOB NO. 20211066	SCALE N.T.S.
DATE October 2023	SHEET NO. <b>B</b> OF





**NOTES:**

1. ALL TYPICAL WRC GATE VALVE AND WELL STANDARD DETAILS APPLY TO THIS DETAIL
2. THE FOLLOWING ARE ADDITIONAL REQUIREMENTS ABOVE AND BEYOND WRC STANDARDS
  - 2.1. TEMPORARY BLOCKING IS REQUIRED TO BE INSTALLED WITH THE GATE WELL AND REMOVED ONCE THE SYSTEM IS FULLY INTERCONNECTED
  - 2.2. EXISTING WATER MAIN WILL NEED TO BE SHUTDOWN AND DEPRESSURIZED TO INSTALL GATE VALVE AND APPROXIMATELY 14 TO 18 FEET OF EXISTING WATER MAIN WILL NEED TO BE REMOVED TO ACCOMMODATE THE NEW GATEWELL AND MINIMUM PIPING REQUIREMENTS
  - 2.3. INSTALL A MECHANICALLY RESTRAINED END CAP DOWN STREAM OF THE GATE VALVE AS SHOWN
  - 2.4. FOR GATE VALVES 12-INCH DIAMETER AND GREATER, AN ADDITIONAL TEMPORARY THRUST BLOCK SHALL BE INSTALLED BEARING AGAINST THE END CAP OF THE UNCONNECTED SIDE
3. INSTALL NEW GWV "P", KEEP VALVE IN CLOSED POSITION AND INSTALL TEMPORARY THRUST BLOCK WITHIN THE GATE WELL ON THE NORTH SIDE OF THE NEW VALVE, EXTEND NEW 8-INCH DIWM OUTSIDE ON BOTH SIDES OF THE GATE WELL A MINIMUM OF 5 FEET, CONNECT TO EXISTING 8-INCH WATER MAIN ON THE SOUTH SIDE, CAP THE NORTH SIDE.



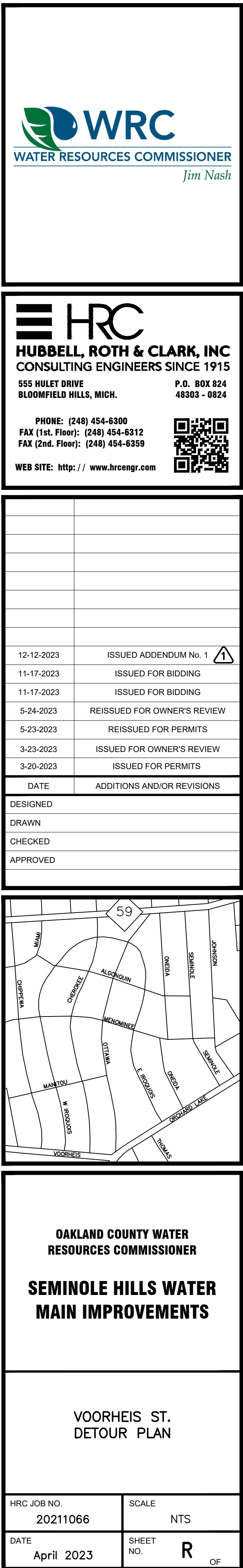
1. VERTICAL BENDS GREATER THAN 11.25 DEGREES WILL REQUIRE THRUST RESTRAINT VIA RODDED CONNECTIONS.
2. ALL CONNECTIONS TO FITTINGS REQUIRE MECHANICAL JOINT RESTRAINT SYSTEMS.
3. THREADED ROD SHALL BE TYPE 304 STAINLESS STEEL, ASTM A193 GRADE B8, FU = 75,000 PSI, MIN.
  - 3.1. MATERIAL SUITABILITY SHALL BE CONFIRMED FOR SITES WHERE CHLORIDES OR OTHER CHEMICALS MAY BE PRESENT IN THE SOIL.
4. HARDWARE SHALL MATCH THREADED ROD MATERIAL TYPE; FOR TYPE 304 STAINLESS STEEL, NUTS AND WASHERS SHALL BE ASTM A194 GRADE 8
5. THE NUMBER OF RESTRAINTS SHALL BE AS FOLLOWS:
  - 5.1. TWO (2) EQUALLY SPACED THREADED RODS FOR WATER MAIN 8 INCHES IN DIAMETER OR LESS
  - 5.2. FOUR (4) EQUALLY SPACED THREADED RODS FOR WATER MAIN BETWEEN 8 INCHES AND 12 INCHES
  - 5.3. PIPE GREATER THAN TWELVE (12) INCHES IN DIAMETER WILL REQUIRE ENGINEERING DESIGN CALCULATIONS FOR THRUST RESTRAINT USING TEST PRESSURE OR TWO TIMES THE NORMAL WORKING PRESSURE, WHICHEVER IS GREATER
6. ALL THREADED RODS SHALL BE NUTTED ON EACH SIDE OF THE CONNECTION TO THE FITTING
7. LUGS MAY BE USED IN THE INSTALLATION OF THE THREADED ROD FOR PIPE SIZES UP TO 24 INCH. LUGS SHALL BE ROMAC "DUCTILE LUGS" OR APPROVED EQUAL AND SHALL BE ABLE TO WITHSTAND A PULL FORCE OF AT LEAST 7,500 LBS
  - 7.1. LUGS SHALL BE POSITIONED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS
8. A NEVER SEIZE TYPE COMPOUND SHALL BE APPLIED TO THE THREADS OF STAINLESS STEEL RODS AND HARDWARE PRIOR TO INSTALLATION.

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DRAWN	JTN
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APPROVED	BWS

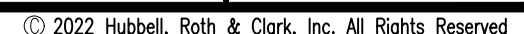


HRC JOB NO. 20211066	SCALE N.T.S.
DATE November 2023	SHEET NO. <b>C-2</b> OF

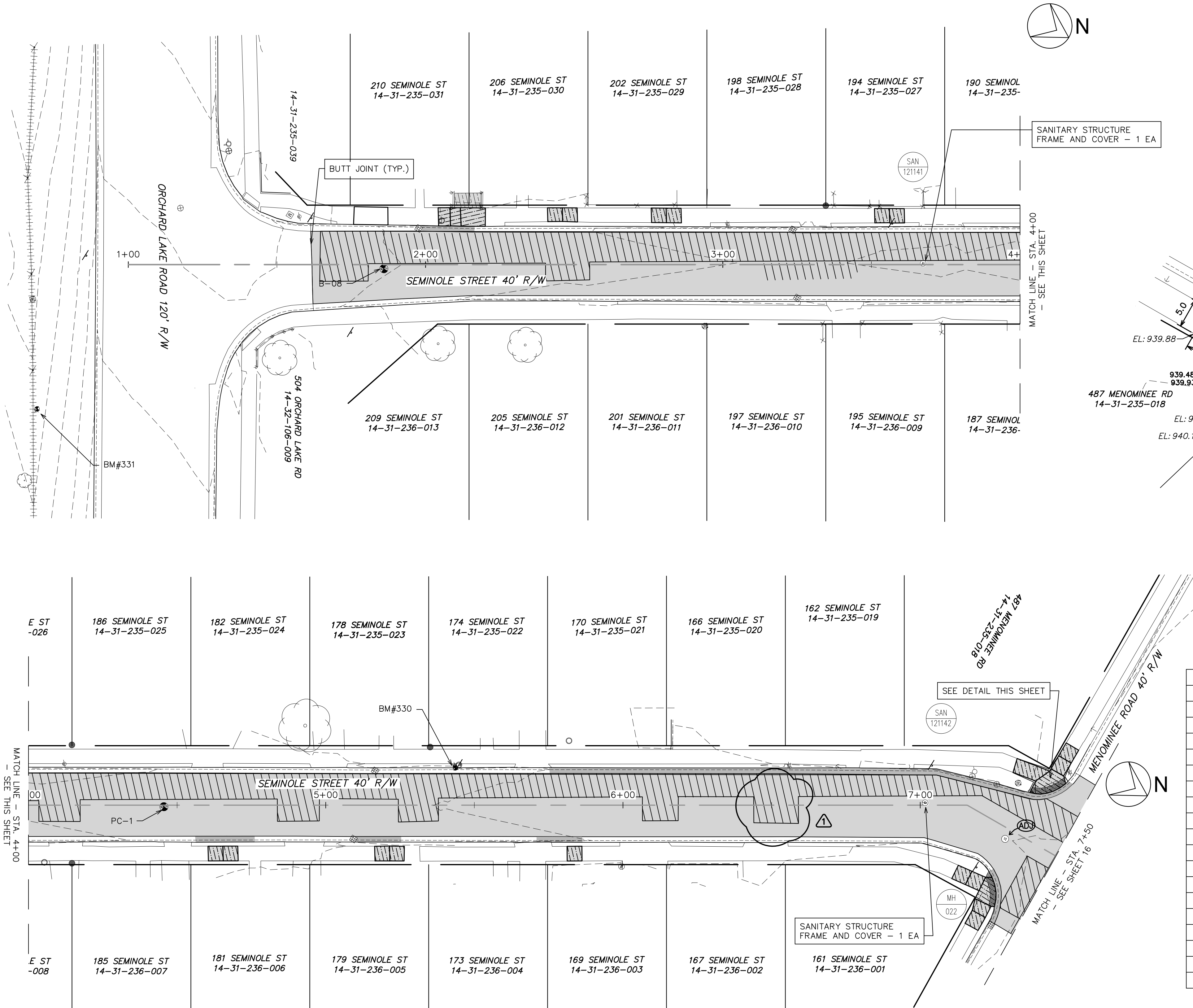












## LEGEND

	COLD MILLING, EXISTING 2 INCH, SPECIAL; HMA, 5EML
	HMA SURFACE, REM; HMA, 5EML; HAND PATCHING
	SIDEWALK, REM; SIDEWALK, CONC, 4 INCH
	SIDEWALK, REM; SIDEWALK, CONC, 6 INCH
	SIDEWALK, REM; SIDEWALK RAMP, CONC, 6 INCH
	PAVT, REPR, REM; DRIVEWAY, NONREINF, CONC, 6 INCH
	CONCRETE CURB AND GUTTER, DET F4, SPECIAL

## EXISTING STORM STRUCTURE TABLE

STRUCTURE	RIM ELEV.
MH022	939.97

## EXISTING SANITARY STRUCTURE TABLE

STRUCTURE	RIM ELEV.
121141	938.19
121142	940.01

QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
3	CURB AND GUTTER, REM	LFT	267
4	PAVT, REPR, REM, SPECIAL	SYD	5
5	COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL	SYD	1442
6	HMA SURFACE, REM	SYD	691
7	SIDEWALK, REM	SYD	75
57	STRUCTURE, ADJUST	EA	1
60	SANITARY STRUCTURE FRAME AND COVER	EA	2
65	CONCRETE CURB AND GUTTER, DET F4, SPECIAL	LFT	237
66	CURB RAMP OPENING, CONC, SPECIAL	LFT	30
69	AGGREGATE BASE, 21AA, CIP, SPECIAL	TON	277
70	SIDEWALK, CONC, 4 INCH	SFT	465
71	SIDEWALK, CONC, 6 INCH	SFT	97
72	SIDEWALK RAMP, CONC, 6 INCH	SFT	106
73	DETECTABLE WARNING SURFACE	LFT	20
74	DRIVEWAY, NONREINF, CONC, 6 INCH	SYD	5
75	HMA, 5EML, MOD	TON	159
76	HAND PATCHING	TON	96
80	TURF RESTORATION	SYD	1250

## BENCH MARKS

ELEVATION	DESCRIPTION
942.79	BM # 331 - NORTHWEST CORNER OF METAL BASE PLATE
939.23	BM # 330 - BENCH TIE ON EAST FACE OF LIGHT POLE ON WEST SIDE OF SEMINOLE

Know what's below.  
Call before you dig.

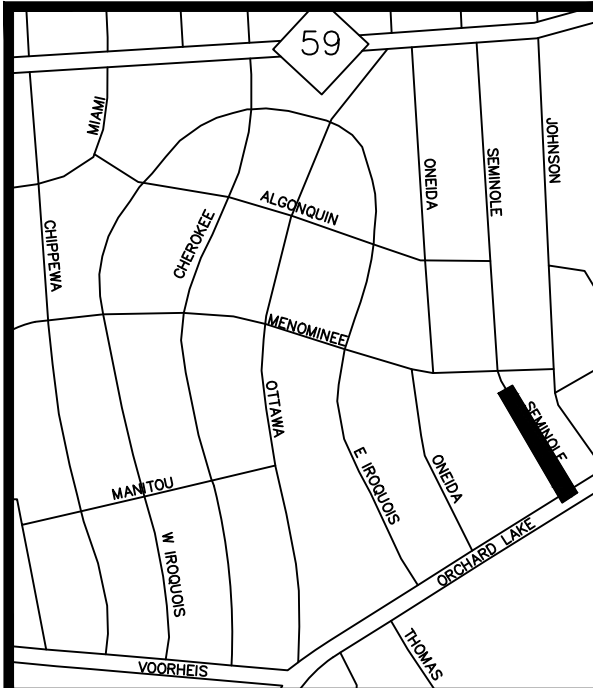
CALL 811.COM (TOLL FREE)

CALL MISS DIG  
72 HOURS  
(3 WORKING DAYS)  
BEFORE YOU DIG  
1-800-482-7171  
or 811

ORIGINAL PLOT SIZE: ANSI FULL BLEED D (22.00 X 34.00 INCHES)

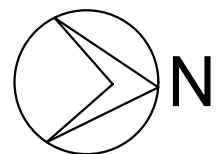


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DRAWN	TJP	
CHECKED	JTN	
APPROVED	BWS	



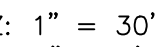
HRC JOB NO. 20211066	SCALE 1" = 20'
DATE November 2023	SHEET NO. 9 OF





▽ PROP. SAN. LATERAL CONNECTION REPAIR

EXISTING STORM STRUCTURE TABLE		
STRUCTURE	RIM ELEV.	INVERT ELEV.
MH022	939.97	929.12 36" W
		930.52 18" N
		936.27 12" E
		929.12 36" SE
CB055	939.58	936.88 12" SW
CB056	940.08	936.08 12" W
MH023	940.09	932.19 18" S
		935.79 12" N
		936.19 12" SE
		936.19 10" NW
CB057	939.81	936.01 12" S
CB058	939.98	936.68 10" SE
MH024	943.25	936.30 15" S
		936.30 15" N
		938.15 12" NW
		937.05 12" SW
CB059	942.85	938.65 12" SE
CB060	942.81	937.41 12" SW
MH025	944.81	937.86 15" S
		937.86 12" N



SANITARY LATERAL ELEVATION DATA TABLE (SAME SIDE OF STREET AS PROPOSED WATER MAIN)

SANITARY LATERAL ELEVATION DATA TABLE (OPPOSITE SIDE OF STREET AS PROPOSED WATER MAIN)

QUANTITIES THIS SHEET

1

\* ASSUMED BASED ON DIRECT MEASUREMENT FROM MAINLINE SEWER TO PROPERTY LINE ALONG PROJECTED HORIZONTAL ALIGNMENT.  
 \*\* DENOTES TRANSITION FROM 6-INCH TO 4-INCH IN SEWER LATERAL.  
 DETERMINE DISTANCE FROM MAINLINE DURING PRE-LINING CCTV.  
 \*\*\* THE ALIGNMENT OF THE SEWER LATERAL COULD NOT BE OBTAINED FROM THE CCTV LATERAL LAUNCH AND IS ASSUMED. NOTE THAT THE CAST IRON SEWER LEADS COULD NOT BE TRACKED WITH THE CCTV LATERAL LAUNCH.  
 U/D - LATERAL LAUNCH COULD NOT REACH THE PROPERTY LINE.

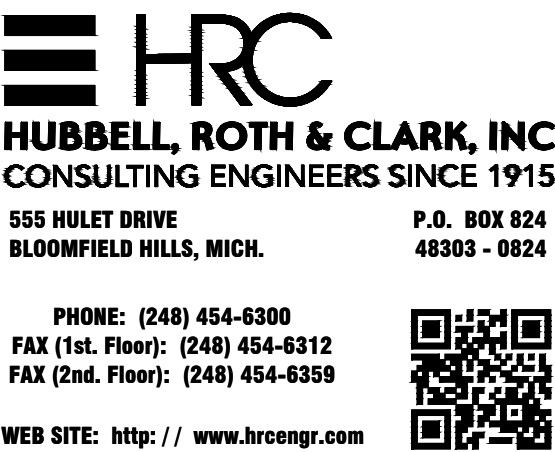
## BENCH MARKS


**Know what's below.  
Call before you dig.**

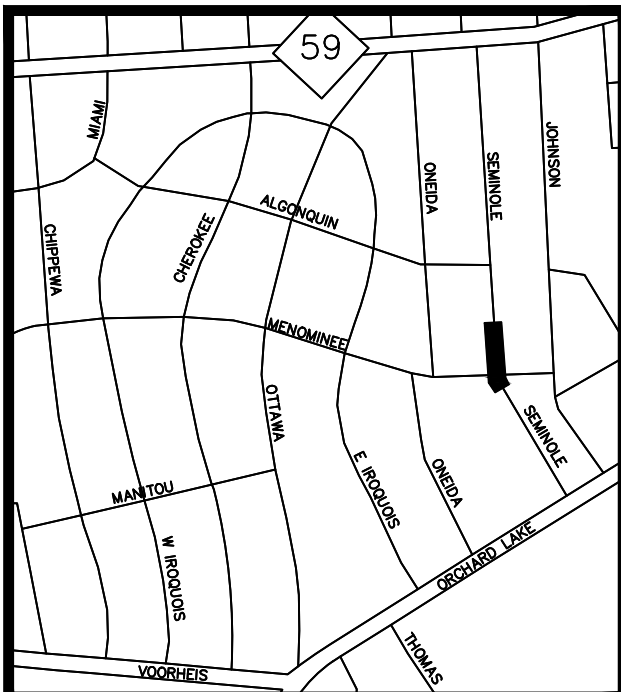
**CALL MISS DIG  
72 HOURS  
(3 WORKING DAYS)  
BEFORE YOU DIG  
1-800-482-7171  
or 811  
(TOLL FREE)**

ORIGINAL PLOT SIZE: ANSI FULL BLEED D (22.00 X 34.00 INCHES)

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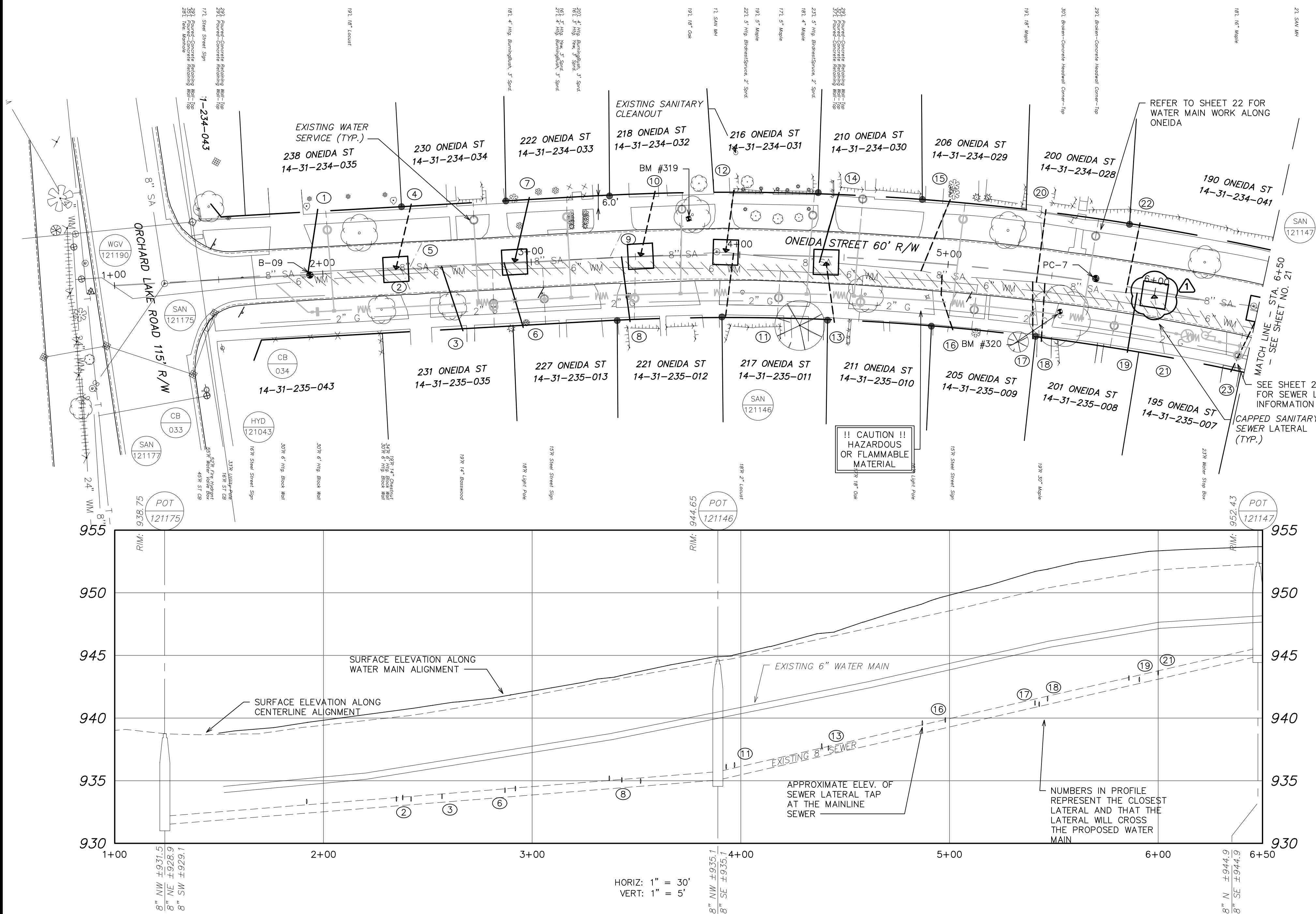
**OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER**

## SEMINOLE HILLS WATER MAIN IMPROVEMENTS

SEMINOLE ST. DIVISION 2  
SEWER SYSTEM IMPROVEMENTS  
STA 6+50 TO 12+00

HRC JOB NO. 20211066	SCALE 1"= 30'
DATE November 2023	SHEET NO. 10 OF





- LEGEND**
- EXISTING SAN. LATERAL CAPPED OR FOR VACANT LOT
  - SAN. LATERAL KNOWN ELEVATION AT PROPERTY LINE
  - SAN. LATERAL UNKNOWN ELEVATION AT PROPERTY LINE
  - ▽ PROP. SAN. LATERAL CONNECTION REPAIR

EXISTING WATER MAIN STRUCTURE TABLE		
STRUCTURE	RIM ELEV.	T/P ELEV.
121190	939.33	±930.42 8"

EXISTING SANITARY STRUCTURE TABLE		
STRUCTURE	RIM ELEV.	T/P ELEV.
121146	944.65	935.05 8" SE 935.05 8" NW
121147	952.43	944.93 8" N 944.93 8" SE
121175	938.75	931.50 8" NW 928.99 8" SE 929.09 8" SW
121177	940.48	928.99 8" N 928.89 8" NE

EXISTING STORM STRUCTURE TABLE		
STRUCTURE	RIM ELEV.	INVERT ELEV.
CB033	939.20	933.75 12" S 933.80 12" W
CB034	938.56	934.16 12" E

#### SEWER REHABILITATION NOTES:

1. ALL CONNECTIONS TO THE MAINLINE SEWER COMPLETED IN ACCORDANCE WITH THE SANITARY LATERAL REPLACEMENT DETAILS FOUND ON SHEET D.
2. THE SANITARY LATERAL CONNECTION DETAIL TO BE UTILIZED WILL BE DETERMINED IN THE FIELD BY THE OWNER'S FIELD REPRESENTATIVE.
3. ALL EXISTING SANITARY LATERAL ELEVATIONS AT THE MAINLINE SEWER ARE APPROXIMATE AND ASSUMED TO BE THE CENTER OF THE SANITARY LATERAL.
4. SEWER LATERALS WILL BE LINED TO THE PROPERTY LINE. THE WORK TO LINE THE SEWER LATERALS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA" AND "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE".

SANITARY LATERAL ELEVATION DATA TABLE (OPPOSITE SIDE OF STREET AS PROPOSED WATER MAIN)								
CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN		EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHT D FOR DETAILS)
			ELEV.	DEPTH				
238 ONEIDA	1	238 ONEIDA	933.34	(6'0")	934.53 (5'11")	28'		NO REPAIR NEEDED
230 ONEIDA ***	4	230 ONEIDA	933.54	(6'7")	U/D	32'	ROOT BLOCKAGE/OFFSET	TYPE 2
230 ONEIDA	5	230 ONEIDA	933.54	(6'9")	U/D	N/A	LATERAL IS CAPPED	NO REPAIR NEEDED
222 ONEIDA	7	222 ONEIDA	934.37	(7'3")	935.61 (6'7")	31'	WYE FRACTURES	TYPE 3
218 ONEIDA	9	218 ONEIDA	934.98	(8'1")	U/D	N/A	LATERAL IS CAPPED	NO REPAIR NEEDED
218 ONEIDA ***	10	218 ONEIDA	935.19	(8'4")	U/D	31'	ROOT BLOCKAGE NEAR CURB	TYPE 3
216 ONEIDA ***	12	216 ONEIDA	936.13	(8'7")	U/D	29'	UNABLE TO LAUNCH (OFFSET)	TYPE 3
210 ONEIDA	14	210 ONEIDA	937.77	(8'7")	942.06 (4'11")	33'		NO REPAIR NEEDED
206 ONEIDA ***	15	206 ONEIDA	939.60	(8'5")	U/D	36'	LATERAL IS CAST IRON	NO REPAIR NEEDED
200 ONEIDA ***	20	200 ONEIDA	941.11	(9'1")	U/D	34'	ROOT BLOCKAGE	NO REPAIR NEEDED
190 ONEIDA ***	22	190 ONEIDA	943.19	(8'4")	U/D	33'	ROOTS	LINING

QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
14	SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA	EA	4
15	SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE	LFT	102
18	SEWER LATERAL CONNECTION, WITH SADDLE (TYPE 2)	EA	2
19	SEWER LATERAL CONNECTION, NEW WYE & MAINLINE SEWER (TYPE 3)	EA	4

SANITARY LATERAL ELEVATION DATA TABLE (SAME SIDE OF STREET AS PROPOSED WATER MAIN)							
CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN		EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS
			ELEV.	DEPTH			
231 ONEIDA	2	231 ONEIDA	933.75	(6'5")	U/D	N/A	LATERAL CAPPED
230 ONEIDA	3	231 ONEIDA	933.65	(7'0")	937.17 (5'3")	31'	ROOTS
227 ONEIDA	6	227 ONEIDA	934.23	(7'3")	935.88 (6'6")	31'	
221 ONEIDA	8	221 ONEIDA	935.06	(8'2")	937.83 (5'11")	30'	
217 ONEIDA ***	11	217 ONEIDA	936.26	(8'7")	U/D	31'	ROOT BLOCKAGE
211 ONEIDA ***	13	211 ONEIDA	937.61	(8'9")	U/D	26'	LARGE OFFSET/BROKEN
205 ONEIDA ***	16	205 ONEIDA	939.84	(8'7")	U/D	27'	UNKNOWN BLOCKAGE/DEBRIS
201 ONEIDA ***	17	205 ONEIDA	941.20	(8'11")	U/D	28'	LATERAL IS CAST IRON
201 ONEIDA ***	18	201 ONEIDA	941.53	(8'9")	U/D	31'	DEBRIS
201 ONEIDA	19	201 ONEIDA	943.08	(8'6")	944.93 (7'5")	28'	NO REPAIR NEEDED
195 ONEIDA ***	21	195 ONEIDA	943.60	(8'2")	U/D	N/A	LATERAL CAPPED

- \* ASSUMED BASED ON DIRECT MEASUREMENT FROM MAINLINE SEWER TO PROPERTY LINE ALONG PROJECTED HORIZONTAL ALIGNMENT.
- \*\* DENOTES TRANSITION FROM 6-INCH TO 4-INCH IN SEWER LATERAL. DETERMINE DISTANCE FROM MAINLINE DURING PRE-LINING CCTV.
- \*\*\* THE ALIGNMENT OF THE SEWER LATERAL COULD NOT BE OBTAINED FROM THE CCTV LATERAL LAUNCH AND IS ASSUMED. NOTE THAT THE CAST IRON SEWER LATERALS COULD NOT BE TRACKED WITH THE CCTV LATERAL LAUNCH.

U/D - LATERAL LAUNCH COULD NOT REACH THE PROPERTY LINE

BENCH MARKS	
ELEVATION	DESCRIPTION
951.42	BM # 320 - VERT MAG ON THE WEST ROOT 30" MAPLE AT 201 ONEIDA
945.05	BM # 319 - VERT MAG ON THE SE ROOT 18" OAK AT 218 ONEIDA

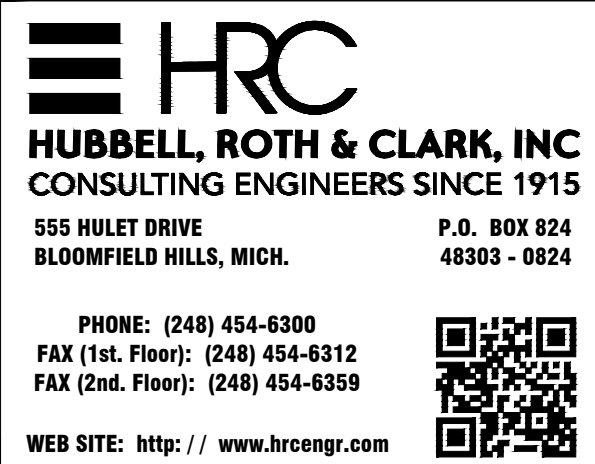
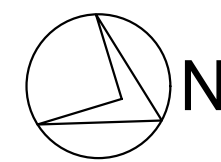


CALL 811.COM (TOLL FREE)

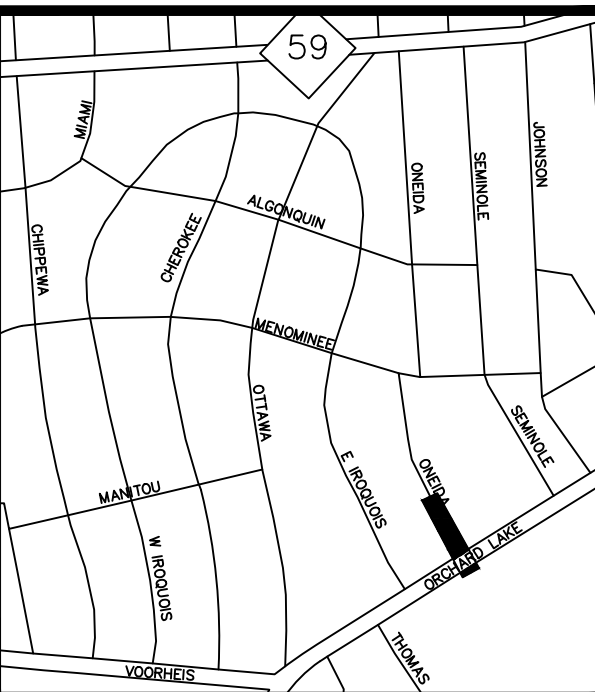
CALL MISS DIG  
72 HOURS  
(3 WORKING DAYS)  
BEFORE YOU DIG  
1-800-482-7171  
or 811

ONEIDA RD. DIVISION 1  
SEWER SYSTEM IMPROVEMENTS  
STA 1+00 TO 6+50

HRC JOB NO. 20211066	SCALE 1" = 30'
DATE November 2023	SHEET NO. 20 OF



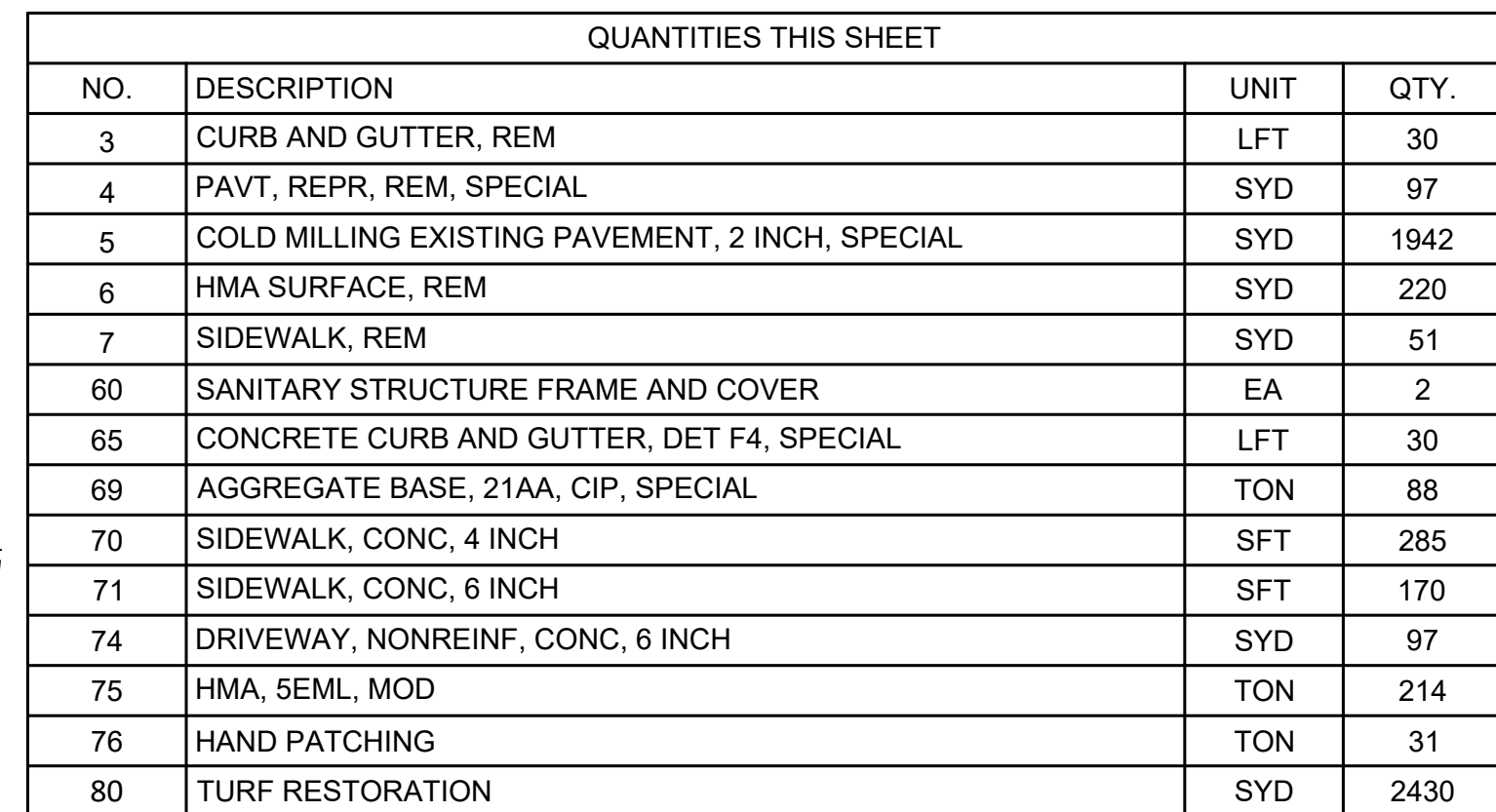
DATE	ADDITIONS AND/OR REVISIONS
12-12-2023	ISSUED ADDENDUM No. 1
11-17-2023	ISSUED FOR BIDDING
11-17-2023	ISSUED FOR BIDDING
5-24-2023	REISSUED FOR OWNER'S REVIEW
5-23-2023	REISSUED FOR PERMITS
3-23-2023	ISSUED FOR OWNER'S REVIEW
3-20-2023	ISSUED FOR PERMITS



OKLAND COUNTY WATER  
RESOURCES COMMISSIONER






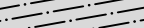
SEMINOLE HILLS WATER  
MAIN IMPROVEMENTS





- NOTES:**
1. LIMITS OF COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL AND HMA SURFACE, REM WILL BE BASED ON CONTRACTOR'S OPERATIONS. FINAL LIMITS SHALL BE MARKED BY THE OWNER'S FIELD REPRESENTATIVE AND THE CITY OF PONTIAC.
  2. THE CONTRACTOR SHALL CONSTRUCT A 2-FOOT MINIMUM BUTT JOINT AT ALL LOCATIONS WHERE REMOVED AND REPLACED PAVEMENT MEETS EXISTING PAVEMENT.  
  
2.1. SEE SHEET F FOR BUTT-JOINT DETAIL.
  3. SIDEWALK REMOVAL AND REPLACEMENT LOCATIONS ARE APPROXIMATE. LIMITS OF SIDEWALK REPLACEMENT ARE AT THE DISCRETION OF AND ONLY AFTER APPROVAL BY THE OWNER'S FIELD REPRESENTATIVE.
  4. A PROOF ROLL SHALL BE CONDUCTED AFTER THE EXISTING PAVEMENT SURFACE HAS BEEN MILLED. THE ENGINEER OR THE OWNER'S REPRESENTATIVE TO DETERMINE LIMITS OF BASE REPAIRS.
  5. STRUCTURE ADJUSTS SHALL BE COMPLETED AFTER THE EXISTING HMA SURFACE HAS BEEN MILLED AND PRIOR TO THE FINAL LAYER OF HMA IS PLACED. REMOVAL OF THE HMA SURFACE TO PERFORM THE ADJUSTMENT SHALL BE PAID FOR THE BID UNIT PRICE FOR "HMA SURFACE, REM-SYD". ALL OTHER ITEMS OF WORK DESCRIBED ON THE "STRUCTURE ADJUST DETAIL" ON SHEET F AND THE SPECIAL PROVISION FOR STRUCTURE, ADJUST SHALL BE INCLUDED IN THE BID PRICE FOR "STRUCTURE, ADJUST-EA".
  6. SANITARY FRAME AND COVERS SHALL BE REPLACED AFTER THE EXISTING HMA SURFACE HAS BEEN MILLED AND PRIOR TO THE FINAL LAYER OF HMA IS PLACED. ALL WORK TO REMOVE THE EXISTING FRAME AND COVER, INSTALL THE NEW FRAME AND COVER, AND ADJUST TO FINAL GRADE SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SANITARY FRAME AND COVER-EA" EXCEPT THE REMOVAL OF THE HMA TO PERFORM THE WORK, WHICH SHALL BE PAID FOR UNDER THE BID UNIT PRICE FOR "HMA SURFACE, REM-SYD".

### LEGEND

- |   |   |
|---|---|
|  | COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL;<br>HMA, 5EML |
|  | HMA SURFACE, REM; HMA, 5EML; HAND PATCHING                    |
|  | SIDEWALK, REM; SIDEWALK, CONC, 4 INCH                         |
|  | SIDEWALK, REM; SIDEWALK, CONC, 6 INCH                         |
|  | PAVT, REPR, REM; DRIVEWAY, NONREINF, CONC, 6 INCH             |
|  | CONCRETE CURB AND GUTTER, DET F4, SPECIAL                     |

STRUCTURE	RIM ELEV.
121146	944.65
121147	952.43
121175	938.75
121177	940.48

<u>BENCH MARKS</u>	
<u>ELEVATION</u>	<u>DESCRIPTION</u>
951.42	BM # 320 - VERT MAG ON THE WEST ROOT 30" MAPLE AT 201 ONEIDA
945.05	BM # 319 - VERT MAG ON THE SE ROOT 18" OAK AT 218 ONEIDA



**Know what's below.  
Call before you dig.**

CALL811.COM (TOLL FREE) <sup>or 811</sup>

CALL MISS DIG  
72 HOURS  
(3 WORKING DAYS)  
BEFORE YOU DIG  
1-800-482-7171  
or 811  
(TOLL FREE)

ORIGINAL PLOT SIZE: ANSI FULL BLEED D (22.00 X 34.00 INCHES)



WRC  
WATER RESOURCES COMMISSIONER  
*Jim Nash*



**HUBBELL, ROTH & CLARK, INC.**  
CONSULTING ENGINEERS SINCE 1915

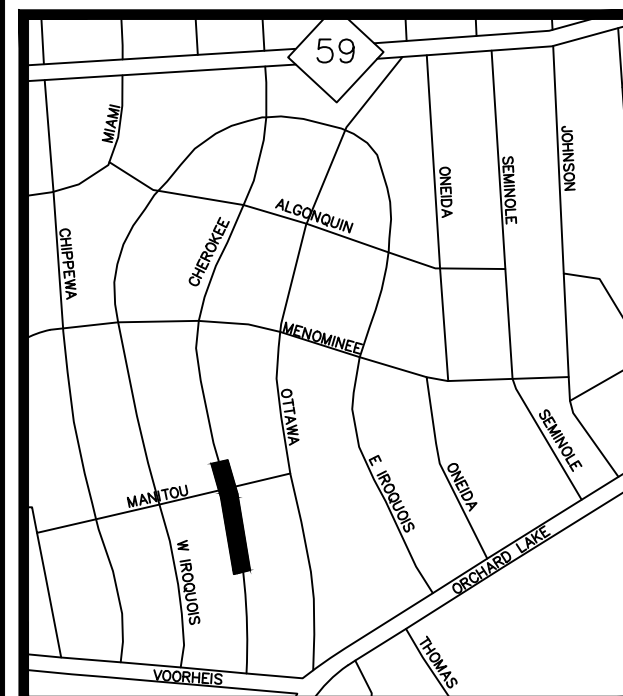
**555 HULET DRIVE** **P.O. BOX 824**  
**BLOOMFIELD HILLS, MICH.** **48303 - 0824**

**PHONE: (248) 454-6300**  
**FAX (1st. Floor): (248) 454-6312**  
**FAX (2nd. Floor): (248) 454-6351**



**WEB SITE:** <http://www.hrcengr.com>

12-12-2023	ISSUED ADDENDUM No. 1
11-17-2023	ISSUED FOR BIDDING
11-17-2023	ISSUED FOR BIDDING
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3-23-2023	ISSUED FOR OWNER'S REVIEW
3-20-2023	ISSUED FOR PERMITS
DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	JTN
DRAWN	TJP
CHECKED	JTN
APPROVED	BWS



**OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER**

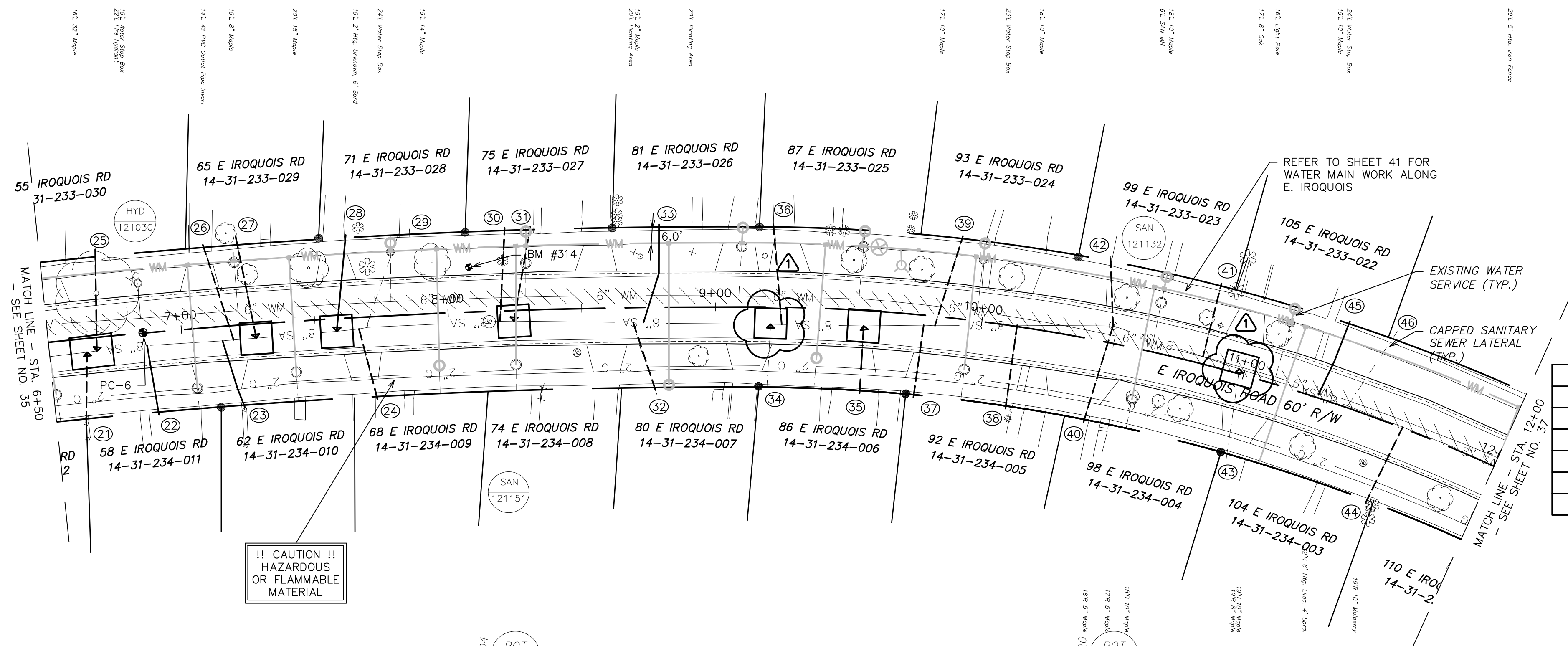
## SEMINOLE HILLS WATER MAIN IMPROVEMENTS

ONEIDA RD. DIVISION 1  
PAVING PLAN  
STA 1+00 TO 8+50

HRC JOB NO. 20211066	SCALE 1" = 20'
DATE October 2023	SHEET NO. 24 OF

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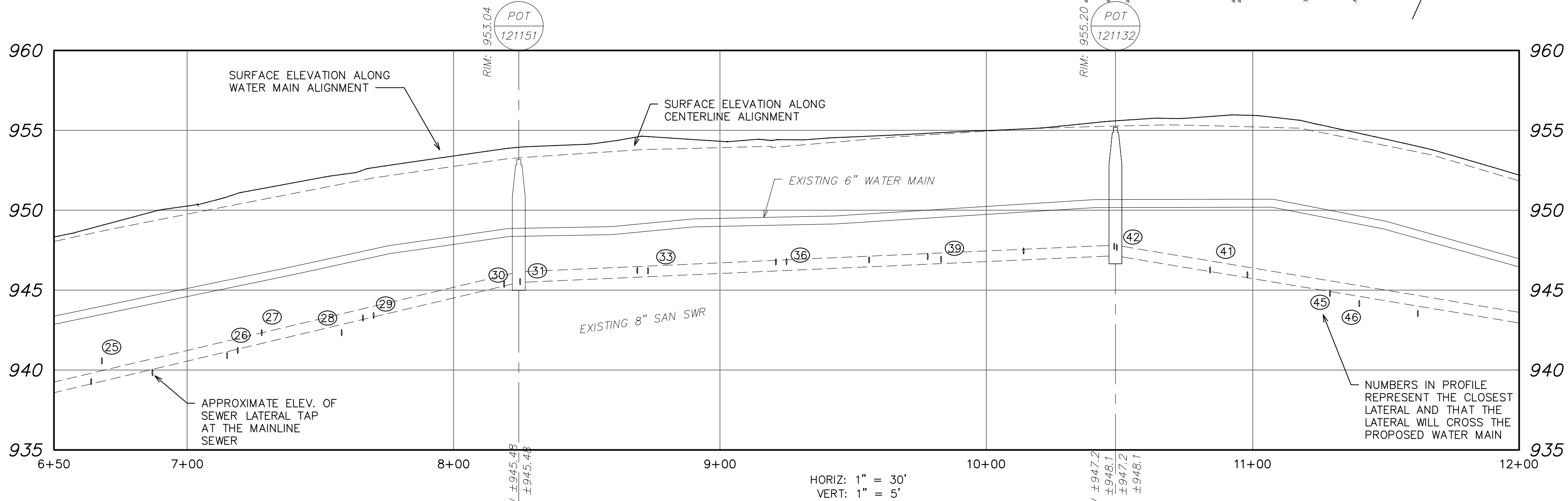


## LEGEND

- EXISTING SAN. LATERAL  
CAPPED OR FOR VACANT LOT
- SAN. LATERAL KNOWN  
ELEVATION AT PROPERTY LINE
- SAN. LATERAL UNKNOWN  
ALIGNMENT AND ELEVATION  
AT PROPERTY LINE
- ▽ PROP. SAN. LATERAL  
CONNECTION REPAIR

EXISTING SANITARY STRUCTURE TABLE		
STRUCTURE	RIM ELEV.	INVERT ELEV.
121151	953.04	945.48 8" NW 945.48 8" SE
121132	955.20	947.15 8" NE 948.10 6" E 947.15 8" SE 948.10 6" W

QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
14	SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA	EA	8
15	SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE	LFT	200
17	SEWER LATERAL CONNECTION, EXISTING FACTORY TAP (TYPE 1)	EA	1
18	SEWER LATERAL CONNECTION, WITH SADDLE (TYPE 2)	EA	3
19	SEWER LATERAL CONNECTION, NEW WYE & MAINLINE SEWER (TYPE 3)	EA	4



## SEWER REHABILITATION NOTES:

- ALL CONNECTIONS TO THE MAINLINE SEWER COMPLETED IN ACCORDANCE WITH THE SANITARY LATERAL REPLACEMENT DETAILS FOUND ON SHEET D.
- THE SANITARY LATERAL CONNECTION DETAIL TO BE UTILIZED WILL BE DETERMINED IN THE FIELD BY THE OWNER'S FIELD REPRESENTATIVE.
- ALL EXISTING SANITARY LATERAL ELEVATIONS AT THE MAINLINE SEWER ARE APPROXIMATE AND ASSUMED TO BE THE CENTER OF THE SANITARY LATERAL.
- SEWER LATERALS WILL BE LINED TO THE PROPERTY LINE. THE WORK TO LINE THE SEWER LATERALS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA" AND "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE".

SANITARY LATERAL ELEVATION DATA TABLE (SAME SIDE OF STREET AS PROPOSED WATER MAIN)

CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN		EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHT D FOR DETAILS)
			ELEV.	DEPTH				
65 E. IROQUOIS ***	25	55 E. IROQUOIS	940.57	(9'8")	U/D	N/A	APPEARS ABANDONED/ROOTBALL	TYPE 1
65 E. IROQUOIS ***	26	65 E. IROQUOIS	941.22	(9'4")	U/D	36'	APPEARS ABANDONED/DEBRIS	LINING
65 E. IROQUOIS ***	27	65 E. IROQUOIS	942.34	(9'1")	U/D	46'	ROOTS NEAR CURB/BREAK-IN	TYPE 3
71 E. IROQUOIS	28	71 E. IROQUOIS	942.34	(9'1")	945.78 (6'7")	35'	BREAK-IN	TYPE 3
71 E. IROQUOIS ***	29	71 E. IROQUOIS	943.41	(8'6")	N/A	N/A	LATERAL CAPPED	NO REPAIR NEEDED
75 E. IROQUOIS ***	30	75 E. IROQUOIS	945.36	(7'9")	U/D	34'	UNABLE TO LAUNCH (DIRT) APPEARS ABANDONED	LINING
75 E. IROQUOIS ***	31	75 E. IROQUOIS	945.53	(7'8")	U/D	35'	ROOT BLOCKAGE/BREAK-IN	TYPE 3
81 E. IROQUOIS	33	81 E. IROQUOIS	946.21	(7'6")	947.07 (7'5")	36'		NO REPAIR NEEDED
87 E. IROQUOIS	36	87 E. IROQUOIS	946.78	(7'2")	947.68 (6'9")	37'		NO REPAIR NEEDED
93 E. IROQUOIS ***	39	93 E. IROQUOIS	946.93	(7'5")	U/D	34'	ROOT BALL	LINING
99 E. IROQUOIS ***	41	99 E. IROQUOIS	946.26	(8'10")	U/D	25'	UNABLE TO LAUNCH (ROOTS)	LINING
99 E. IROQUOIS ***	42	99 E. IROQUOIS	947.69	(7'5")	U/D	26'	TIED INTO MANHOLE	NO REPAIR NEEDED
105 E. IROQUOIS ***	46	117 E. IROQUOIS	944.16	(10'4")	N/A	N/A	LATERAL CAPPED	NO REPAIR NEEDED
105 E. IROQUOIS	45	105 E. IROQUOIS	944.8	(9'10")	949.16 (6'1")	31'		NO REPAIR NEEDED

- \* ASSUMED BASED ON DIRECT MEASUREMENT FROM MAINLINE SEWER TO PROPERTY LINE ALONG PROJECTED HORIZONTAL ALIGNMENT.
- \*\* DENOTES TRANSITION FROM 6-INCH TO 4-INCH IN THE SEWER LATERAL. DETERMINE DISTANCE FROM MAINLINE DURING PRE-LINING CCTV.
- \*\*\* THE ALIGNMENT OF THE SEWER LATERAL COULD NOT BE OBTAINED FROM THE CCTV LATERAL LAUNCH AND IS ASSUMED. NOTE THAT THE CAST IRON SEWER LATERALS COULD NOT BE TRACKED WITH THE CCTV LATERAL LAUNCH.
- U/D - LATERAL LAUNCH COULD NOT REACH PROPERTY LINE.

SANITARY LATERAL ELEVATION DATA TABLE (OPPOSITE SIDE OF STREET AS PROPOSED WATER MAIN)

CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN	EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHT D FOR DETAILS)
58 E. IROQUOIS ***	21	58 E. IROQUOIS	939.27	(9'4")	U/D	25'	UNABLE TO LAUNCH (DIRT) APPEARS ABANDONED
58 E. IROQUOIS	22	58 E. IROQUOIS	939.84	(9'6")	944.19 (5'8")	25'	ROOTS
62 E. IROQUOIS	23	62 E. IROQUOIS	940.9	(9'5")	945.07 (6'1")	24'	NO REPAIR NEEDED
62 E. IROQUOIS ***	24	68 E. IROQUOIS	943.25	(8'5")	U/D	27'	ROOTS
80 E. IROQUOIS ***	32	80 E. IROQUOIS	946.23	(7'4")	U/D	29'	ROOT BLOCKAGE
86 E. IROQUOIS ***	34	86 E. IROQUOIS	946.76	(7'2")	N/A	N/A	LATERAL CAPPED
86 E. IROQUOIS ***	35	86 E. IROQUOIS	946.89	(7'3")	U/D	24'	LATERAL IS CAST IRON
92 E. IROQUOIS ***	37	92 E. IROQUOIS	947.10	(7'4")	U/D	27'	UNABLE TO LAUNCH (DIRT) APPEARS ABANDONED
92 E. IROQUOIS ***	38	92 E. IROQUOIS	947.45	(7'6")	U/D	29'	LATERAL IS CAST IRON
98 E. IROQUOIS ***	40	98 E. IROQUOIS	947.74	(7'5")	U/D	36'	TIED TO MANHOLE
104 E. IROQUOIS ***	43	104 E. IROQUOIS	945.96	(9'0")	N/A	N/A	LATERAL CAPPED
104 E. IROQUOIS ***	44	104 E. IROQUOIS	943.54	(10'4")	U/D	32'	UNABLE TO LAUNCH (ROOTS)

BENCH MARKS	
ELEVATION	DESCRIPTION
954.21	BM # 314 - SPIKE ON THE EAST FACE OF LIGHT POLE AT 71 E. IROQUOIS



Know what's below.  
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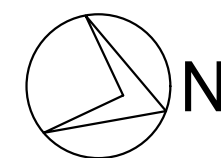
CALL MISS DIG  
72 HOURS  
(3 WORKING DAYS)  
BEFORE YOU DIG  
1-800-482-7171  
or 811

OKLAND COUNTY WATER  
RESOURCES COMMISSIONER

SEMINOLE HILLS WATER  
MAIN IMPROVEMENTS

E. IROQUOIS RD.  
SEWER SYSTEM IMPROVEMENTS  
STA 6+50 TO 12+00

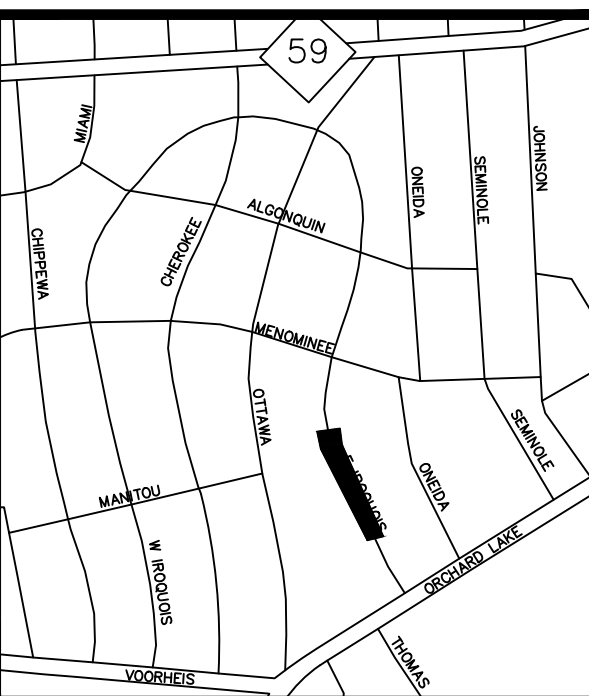
HRC JOB NO. 20211066	SCALE 1" = 30'
DATE November 2023	SHEET NO. 36 OF



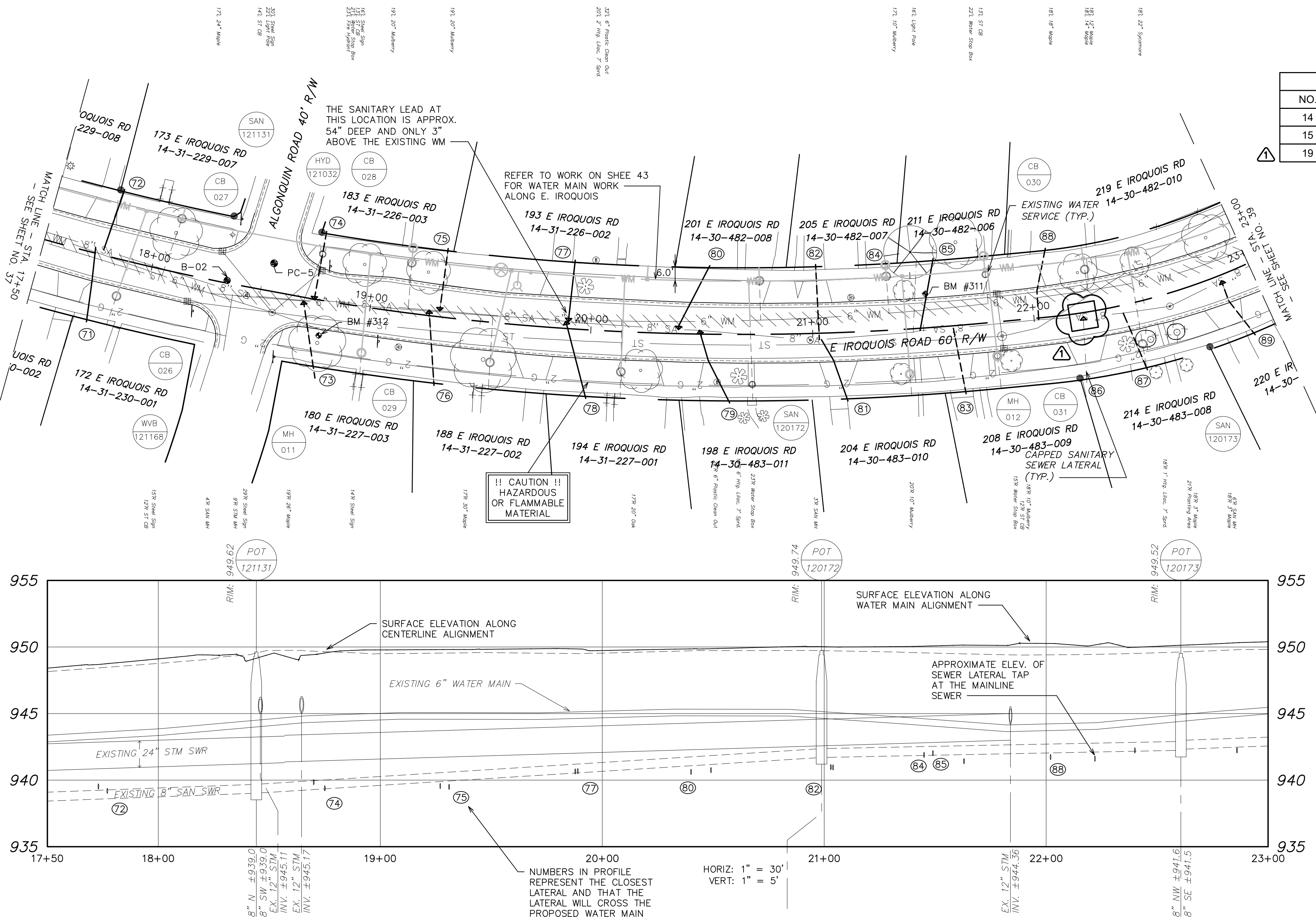
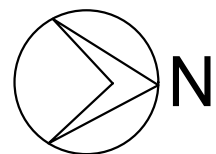
WRC  
WATER RESOURCES COMMISSIONER  
Jim Nash

HRC  
HUBBELL, ROTH & CLARK, INC  
CONSULTING ENGINEERS SINCE 1915  
555 HULET DRIVE  
BLOOMFIELD HILLS, MICH. P.O. BOX 824  
48303 - 0824  
PHONE: (248) 454-6300  
FAX (1st. Floor): (248) 454-6312  
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12-12-2023	ISSUED ADDENDUM No. 1
11-17-2023	ISSUED FOR BIDDING
11-17-2023	ISSUED FOR BIDDING
5-24-2023	REISSUED FOR OWNER'S REVIEW
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3-20-2023	ISSUED FOR PERMITS
DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	JTN/AWM
DRAWN	AWM
CHECKED	JTN
APPROVED	BWS







QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
14	SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA	EA	1
15	SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE	LFT	25
19	SEWER LATERAL CONNECTION, NEW WYE & MAINLINE SEWER (TYPE 3)	EA	1

## LEGEND

- EXISTING SAN. LATERAL CAPPED OR FOR VACANT LOT
- SAN. LATERAL KNOWN ELEVATION AT PROPERTY LINE
- SAN. LATERAL UNKNOWN ALIGNMENT AND ELEVATION AT PROPERTY LINE
- ▽ PROP. SAN. LATERAL CONNECTION REPAIR

## EXISTING SANITARY STRUCTURE TABLE

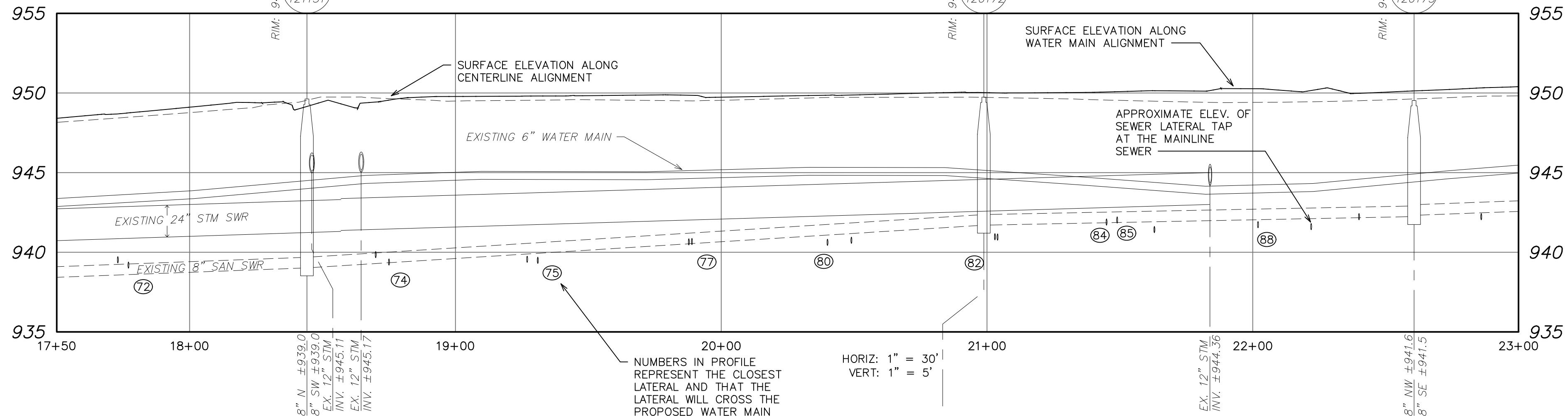
STRUCTURE	RIM ELEV.	INVERT ELEV.
121131	949.62	939.02 8" N 939.02 8" SW
120172	949.74	940.79 8" N 940.77 8" S
120173	949.52	941.57 8" NW 941.49 8" SE

## EXISTING WATER MAIN STRUCTURE TABLE

STRUCTURE	RIM ELEV.	T/P ELEV.
121168	STRUCTURE IS BELIEVED TO BE PAVED OVER	

## EXISTING STORM STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INVERT ELEV.
CB026	948.31	945.56 12" N
CB027	948.70	945.85 12" NE
MH011	949.56	944.71 12" N 941.31 36" SE 944.76 12" S 944.60 12" SW 944.81 12" W 941.37 36" NE
CB028	948.88	945.68 12" SE
CB029	949.10	944.90 12" SW
CB030	948.66	946.98 12" E
CB031	948.21	944.76 12" W
MH012	949.17	943.00 30" N 944.87 12" E 942.97 30" S 945.08 12" W



SANITARY LATERAL ELEVATION DATA TABLE (SAME SIDE OF STREET AS PROPOSED WATER MAIN)

CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN ELEV. - DEPTH	EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHT D FOR DETAILS)
173 E. IROQUOIS	72	173 E. IROQUOIS	939.19 (9'2")	942.23 (6'8")	28'		NO REPAIR NEEDED
183 E. IROQUOIS ***	74	183 E. IROQUOIS	939.92 (9'9")	U/D	31'	ROOT BLOCKAGE	OCWRC WILL REPAIR
183 E. IROQUOIS ***	75	183 E. IROQUOIS	939.49 (9'10")	U/D	28'	UNABLE TO LAUNCH APPEARS ABANDONED	OCWRC WILL REPAIR
193 E. IROQUOIS	77	193 E. IROQUOIS	940.67 (8'10")	944.42 (5'5")	28'		OCWRC WILL REPAIR
201 E. IROQUOIS	80	201 E. IROQUOIS	940.62 (9'1")	944.19 (5'9")	32'		OCWRC WILL REPAIR
205 E. IROQUOIS ***	82	205 E. IROQUOIS	940.97 (8'7")	U/D	33'	UNABLE TO LAUNCH (OFFSET)	NO REPAIR NEEDED
211 E. IROQUOIS ***	84	211 E. IROQUOIS	941.89 (7'7")	N/A	N/A	LATERAL CAPPED	NO REPAIR NEEDED
211 E. IROQUOIS	85	211 E. IROQUOIS	942.02 (7'5")	944.78 (5'6")	32'		NO REPAIR NEEDED
219 E. IROQUOIS ***	88	219 E. IROQUOIS	942.72 (7'1")	U/D	31'	APPEARS ABANDONED	NO REPAIR NEEDED

SANITARY LATERAL ELEVATION DATA TABLE (OPPOSITE SIDE OF STREET AS PROPOSED WATER MAIN)

CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN ELEV. - DEPTH	EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHT D FOR DETAILS)
172 E. IROQUOIS	71	172 E. IROQUOIS	939.52 (8'11")	943.81 (5'3")	34'		NO REPAIR NEEDED
180 E. IROQUOIS ***	73	180 E. IROQUOIS	939.85 (10'4")	U/D	41'	ROOT BLOCKAGE	OCWRC WILL REPAIR
188 E. IROQUOIS ***	76	188 E. IROQUOIS	939.56 (9'9")	U/D	34'	ROOT BLOCKAGE	OCWRC WILL REPAIR
194 E. IROQUOIS	78	194 E. IROQUOIS	940.65 (8'10")	946.19 (3'10")	35'		OCWRC WILL REPAIR
198 E. IROQUOIS	79	198 E. IROQUOIS	940.75 (8'11")	942.85 (7'4")	34'		OCWRC WILL REPAIR
204 E. IROQUOIS	81	204 E. IROQUOIS	940.95 (8'7")	945.53 (4'9")	28'		NO REPAIR NEEDED
208 E. IROQUOIS ***	83	208 E. IROQUOIS	941.42 (7'9")	U/D	30'	CALCIUM BLOCKAGE	LINING **
214 E. IROQUOIS ***	86	214 E. IROQUOIS	941.61 (7'6")	N/A	N/A	LATERAL CAPPED	TYPE 3
214 E. IROQUOIS ***	87	214 E. IROQUOIS	942.23 (7'2")	U/D	27'	APPEARS ABANDONED.	NO REPAIR NEEDED
220 E. IROQUOIS ***	89	220 E. IROQUOIS	942.23 (7'5")	U/D	29'	CALCIUM BLOCKAGE	OCWRC WILL REPAIR

\* ASSUMED BASED ON DIRECT MEASUREMENT FROM MAINLINE SEWER TO PROPERTY LINE ALONG PROJECTED HORIZONTAL ALIGNMENT.

\*\* DENOTES TRANSITION FROM 6-INCH TO 4-INCH IN THE SEWER LATERAL. DETERMINE DISTANCE FROM MAINLINE DURING THE PRE-LINING CCTV.

\*\*\* THE ALIGNMENT OF THE SEWER LATERAL COULD NOT BE OBTAINED FROM THE CCTV LATERAL LAUNCH AND IS ASSUMED. NOTE THAT THE CAST IRON SEWER LATERALS COULD NOT BE TRACKED WITH THE CCTV LATERAL LAUNCH.

U/D - LATERAL LAUNCH COULD NOT REACH THE PROPERTY LINE.

## SEWER REHABILITATION NOTES:

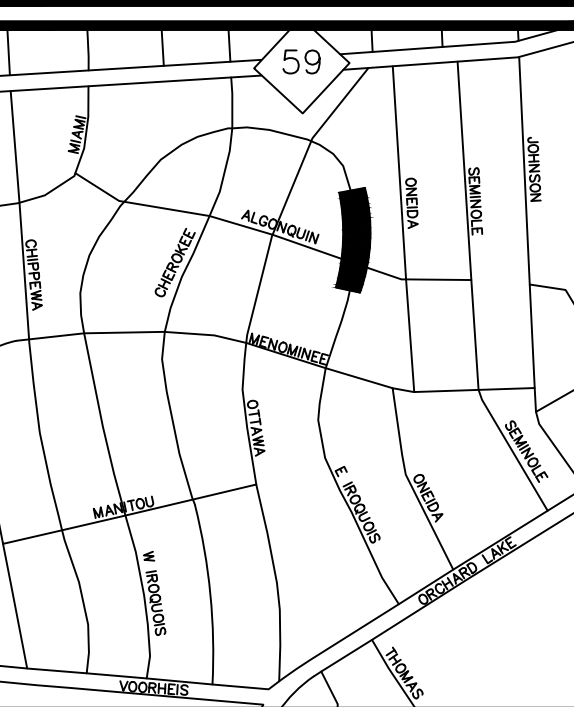
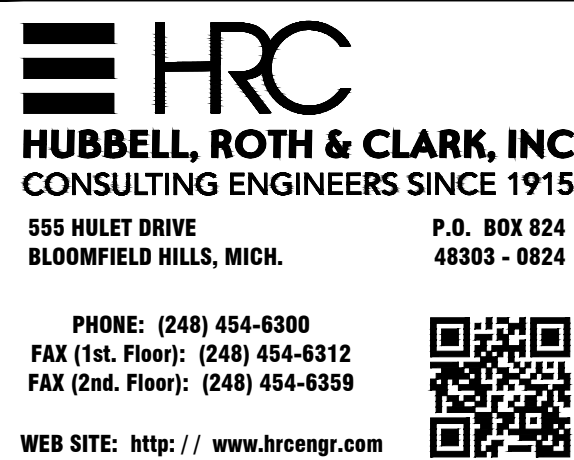
- ALL CONNECTIONS TO THE MAINLINE SEWER COMPLETED IN ACCORDANCE WITH THE SANITARY LATERAL REPLACEMENT DETAILS FOUND ON SHEET D.
- THE SANITARY LATERAL CONNECTION DETAIL TO BE UTILIZED WILL BE DETERMINED IN THE FIELD BY THE OWNER'S FIELD REPRESENTATIVE.
- ALL EXISTING SANITARY LATERAL ELEVATIONS AT THE MAINLINE SEWER ARE APPROXIMATE AND ASSUMED TO BE THE CENTER OF THE SANITARY LATERAL.
- SEWER LATERALS WILL BE LINED TO THE PROPERTY LINE. THE WORK TO LINE THE SEWER LATERALS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA" AND "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE".

BENCH MARKS	
ELEVATION	DESCRIPTION
949.70	BM # 311 - MAG NAIL FACE OF LIGHT POLE IN FRONT OF 211 E. IROQUOIS
950.17	BM # 312 - VERTICAL MAG NAIL ON THE SOUTH ROOT 24" MAPLE IN FRONT OF 180 E. IROQUOIS



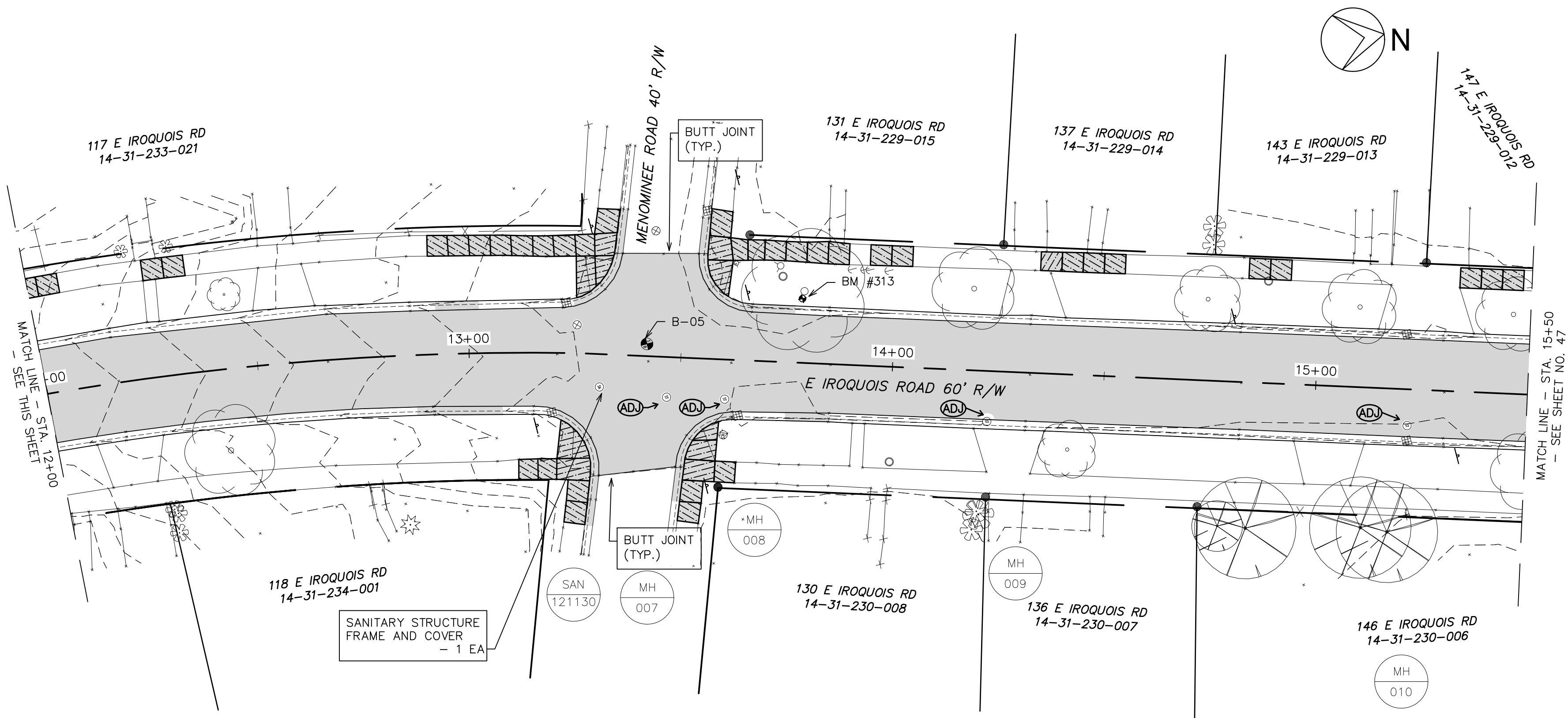
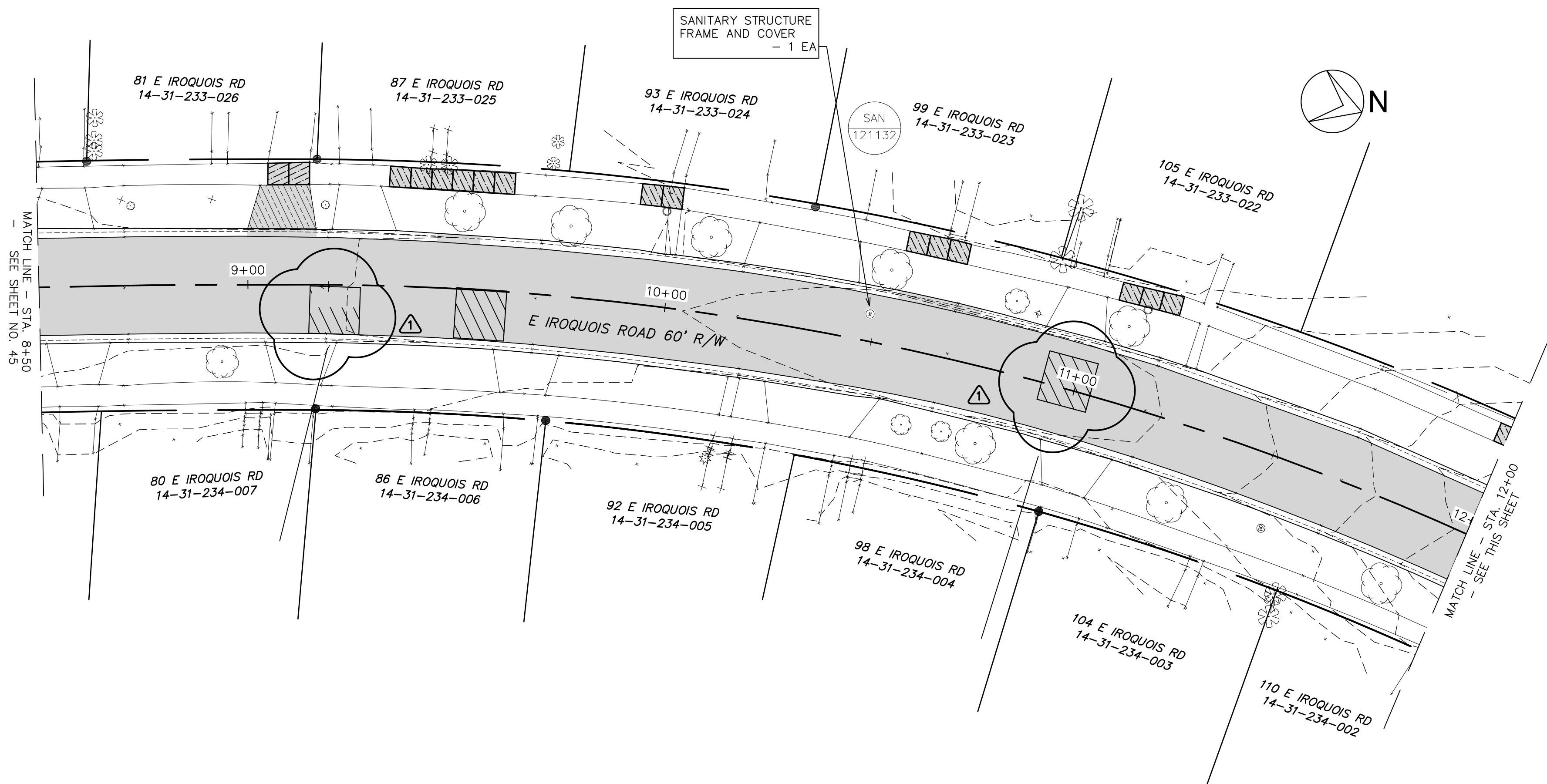
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OAKLAND COUNTY WATER  
RESOURCES COMMISSIONERSEMINOLE HILLS WATER  
MAIN IMPROVEMENTSE. IROQUOIS RD.  
SEWER SYSTEM IMPROVEMENTS  
STA 17+50 TO 23+00

HRC JOB NO. 20211066	SCALE 1" = 30'
DATE November 2023	SHEET NO. 38 OF





QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
3	CURB AND GUTTER, REM	LFT	205
4	PAVT, REPR, REM, SPECIAL	SYD	17
5	COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL	SYD	1850
6	HMA SURFACE, REM	SYD	127
7	SIDEWALK, REM	SYD	181
57	STRUCTURE, ADJUST	EA	4
60	SANITARY STRUCTURE FRAME AND COVER	EA	2
65	CONCRETE CURB AND GUTTER, DET F4, SPECIAL	LFT	120
66	CURB RAMP OPENING, CONC, SPECIAL	LFT	85
69	AGGREGATE BASE, 21AA, CIP, SPECIAL	TON	51
70	SIDEWALK, CONC, 4 INCH	SFT	1230
71	SIDEWALK, CONC, 6 INCH	SFT	75
72	SIDEWALK RAMP, CONC, 6 INCH	SFT	320
73	DETECTABLE WARNING SURFACE	LFT	60
74	DRIVEWAY, NONREINF, CONC, 6 INCH	SYD	17
75	HMA, 5EML, MOD	TON	204
76	HAND PATCHING	TON	18
80	TURF RESTORATION	SYD	2500

LEGEND

- COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL; HMA, 5EML
- HMA SURFACE, REM; HMA, 5EML; HAND PATCHING
- SIDEWALK, REM; SIDEWALK, CONC, 4 INCH
- SIDEWALK, REM; SIDEWALK, CONC, 6 INCH
- PAVT, REPR, REM; DRIVEWAY, NONREINF, CONC, 6 INCH
- CONCRETE CURB AND GUTTER, DET F4, SPECIAL

EXISTING SANITARY STRUCTURE TABLE

STRUCTURE	RIM ELEV.
121130	945.79
121132	955.20

EXISTING STORM STRUCTURE TABLE

STRUCTURE	RIM ELEV.
MH007	945.51
MH008	945.20
MH009	945
MH010	944.99

LEGEND

- COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL; HMA, 5EML
- SIDEWALK, REM; SIDEWALK, CONC, 4 INCH
- SIDEWALK, REM; SIDEWALK, CONC, 6 INCH
- SIDEWALK, REM; SIDEWALK RAMP, CONC, 6 INCH
- PAVT, REPR, REM; DRIVEWAY, NONREINF, CONC, 6 INCH
- CONCRETE CURB AND GUTTER, DET F4, SPECIAL

NOTES:

- LIMITS OF COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL AND HMA SURFACE, REM WILL BE BASED ON CONTRACTOR'S OPERATIONS. FINAL LIMITS SHALL BE MARKED BY THE OWNER'S FIELD REPRESENTATIVE AND THE CITY OF PONTIAC.
- THE CONTRACTOR SHALL CONSTRUCT A 2-FOOT MINIMUM BUTT JOINT AT ALL LOCATIONS WERE REMOVED AND REPLACED PAVEMENT MEETS EXISTING PAVEMENT.
  - SEE SHEET F FOR BUTT-JOINT DETAIL.
- SIDEWALK REMOVAL AND REPLACEMENT LOCATIONS ARE APPROXIMATE. LIMITS OF SIDEWALK REPLACEMENT ARE AT THE DISCRETION OF AND ONLY AFTER APPROVAL BY THE OWNER'S FIELD REPRESENTATIVE.
- A PROOF ROLL SHALL BE CONDUCTED AFTER THE EXISTING PAVEMENT SURFACE HAS BEEN MILLED. THE ENGINEER OR THE OWNER'S REPRESENTATIVE TO DETERMINE LIMITS OF BASE REPAIRS.
- STRUCTURE ADJUSTS SHALL BE COMPLETED AFTER THE EXISTING HMA SURFACE HAS BEEN MILLED AND PRIOR TO THE FINAL LAYER OF HMA IS PLACED. REMOVAL OF THE HMA SURFACE TO PERFORM THE ADJUSTMENT SHALL BE PAID FOR THE BID UNIT PRICE FOR "HMA SURFACE, REM-SYD". ALL OTHER ITEMS OF WORK DESCRIBED ON THE "STRUCTURE ADJUST DETAIL" ON SHEET F AND THE SPECIAL PROVISION FOR STRUCTURE, ADJUST SHALL BE INCLUDED IN THE BID PRICE FOR "STRUCTURE, ADJUST-EA".
- SANITARY FRAME AND COVERS SHALL BE REPLACED AFTER THE EXISTING HMA SURFACE HAS BEEN MILLED AND PRIOR TO THE FINAL LAYER OF HMA IS PLACED. ALL WORK TO REMOVE THE EXISTING FRAME AND COVER, INSTALL THE NEW FRAME AND COVER, AND ADJUST TO FINAL GRADE SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SANITARY FRAME AND COVER-EA" EXCEPT THE REMOVAL OF THE HMA TO PERFORM THE WORK, WHICH SHALL BE PAID FOR UNDER THE BID UNIT PRICE FOR "HMA SURFACE, REM-SYD".

BENCH MARKS	
ELEVATION	DESCRIPTION
945.99	BM # 313 - VERTICAL MAG NAIL EAST ROOT 30" MAPLE ON THE NW CORNER OF MENOMINEE AND E. IROQUOIS



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PHONE: (248) 454-6300  
FAX (1st. Floor): (248) 454-6312  
FAX (2nd. Floor): (248) 454-6359  
WEB SITE: [http:// www.hrcengr.com](http://www.hrcengr.com)

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3-20-2023	ISSUED FOR PERMITS
DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	JTN
DRAWN	TJP
CHECKED	JTN
APPROVED	BWS



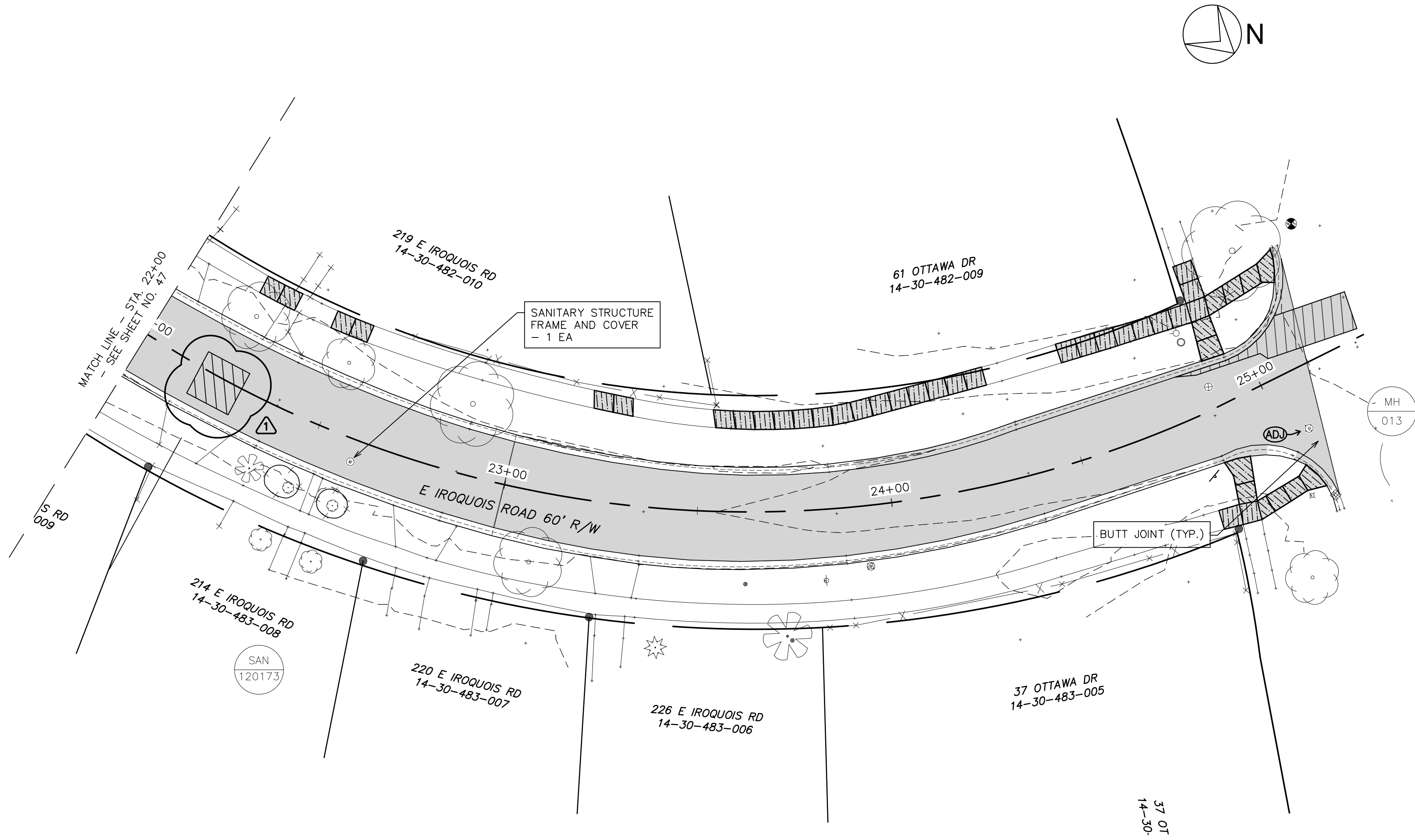
OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER

SEMINOLE HILLS WATER  
MAIN IMPROVEMENTS

E. IROQUOIS RD.  
PAVING PLAN  
STA 8+50 TO 15+50

HRC JOB NO. 20211066	SCALE 1" = 20'
DATE November 2023	SHEET NO. 46 OF





NOTES:

- LIMITS OF COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL AND HMA SURFACE, REM WILL BE BASED ON CONTRACTOR'S OPERATIONS. FINAL LIMITS SHALL BE MARKED BY THE OWNER'S FIELD REPRESENTATIVE AND THE CITY OF PONTIAC.
- THE CONTRACTOR SHALL CONSTRUCT A 2-FOOT MINIMUM BUTT JOINT AT ALL LOCATIONS WERE REMOVED AND REPLACED PAVEMENT MEETS EXISTING PAVEMENT.  
2.1. SEE SHEET F FOR BUTT-JOINT DETAIL.
- SIDEWALK REMOVAL AND REPLACEMENT LOCATIONS ARE APPROXIMATE. LIMITS OF SIDEWALK REPLACEMENT ARE AT THE DISCRETION OF AND ONLY AFTER APPROVAL BY THE OWNER'S FIELD REPRESENTATIVE.
- A PROOF ROLL SHALL BE CONDUCTED AFTER THE EXISTING PAVEMENT SURFACE HAS BEEN MILLED. THE ENGINEER OR THE OWNER'S REPRESENTATIVE TO DETERMINE LIMITS OF BASE REPAIRS.
- STRUCTURE ADJUSTS SHALL BE COMPLETED AFTER THE EXISTING HMA SURFACE HAS BEEN MILLED AND PRIOR TO THE FINAL LAYER OF HMA IS PLACED. REMOVAL OF THE HMA SURFACE TO PERFORM THE ADJUSTMENT SHALL BE PAID FOR THE BID UNIT PRICE FOR "HMA SURFACE, REM-SYD". ALL OTHER ITEMS OF WORK DESCRIBED ON THE "STRUCTURE ADJUST DETAIL" ON SHEET F AND THE SPECIAL PROVISION FOR STRUCTURE, ADJUST SHALL BE INCLUDED IN THE BID PRICE FOR "STRUCTURE, ADJUST-EA".
- SANITARY FRAME AND COVERS SHALL BE REPLACED AFTER THE EXISTING HMA SURFACE HAS BEEN MILLED AND PRIOR TO THE FINAL LAYER OF HMA IS PLACED. ALL WORK TO REMOVE THE EXISTING FRAME AND COVER, INSTALL THE NEW FRAME AND COVER, AND ADJUST TO FINAL GRADE SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SANITARY FRAME AND COVER-EA" EXCEPT THE REMOVAL OF THE HMA TO PERFORM THE WORK, WHICH SHALL BE PAID FOR UNDER THE BID UNIT PRICE FOR "HMA SURFACE, REM-SYD".

QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
3	CURB AND GUTTER, REM	LFT	200
5	COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL	SYD	802
6	HMA SURFACE, REM	SYD	61
7	SIDEWALK, REM	SYD	150
57	STRUCTURE, ADJUST	EA	1
60	SANITARY STRUCTURE FRAME AND COVER	EA	1
65	CONCRETE CURB AND GUTTER, DET F4, SPECIAL	LFT	120
66	CURB RAMP OPENING, CONC, SPECIAL	LFT	80
69	AGGREGATE BASE, 21AA, CIP, SPECIAL	TON	25
70	SIDEWALK, CONC, 4 INCH	SFT	775
72	SIDEWALK RAMP, CONC, 6 INCH	SFT	575
73	DETECTABLE WARNING SURFACE	LFT	40
75	HMA, 5EML, MOD	TON	89
76	HAND PATCHING	TON	9
80	TURF RESTORATION	SYD	1210

EXISTING SANITARY STRUCTURE TABLE	
STRUCTURE	RIM ELEV.
120173	949.52

EXISTING STORM STRUCTURE TABLE	
STRUCTURE	RIM ELEV.
MH013	950.71

LEGEND

- COLD MILLING EXISTING PAVEMENT, 2 INCH, SPECIAL; HMA, 5EML
- HMA SURFACE, REM; HMA, 5EML; HAND PATCHING
- SIDEWALK, REM; SIDEWALK, CONC, 4 INCH
- SIDEWALK, REM; SIDEWALK, CONC, 6 INCH
- SIDEWALK, REM; SIDEWALK RAMP, CONC, 6 INCH
- PAVT, REPR, REM; DRIVEWAY, NONREINF, CONC, 6 INCH
- CONCRETE CURB AND GUTTER, DET F4, SPECIAL



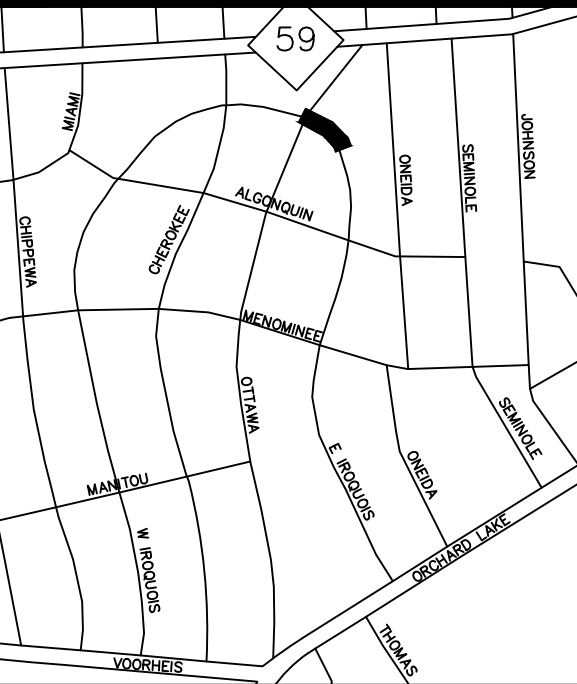
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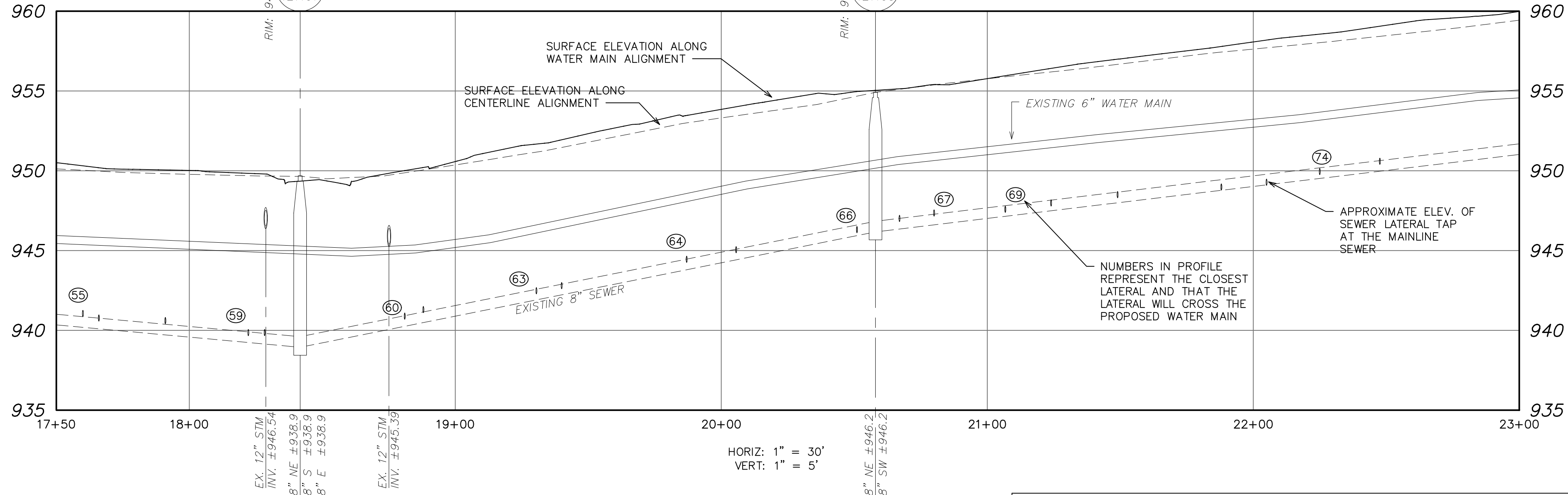
OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER

SEMINOLE HILLS WATER  
MAIN IMPROVEMENTS

E. IROQUOIS RD  
PAVING PLAN  
STA 22+00 TO P.O.E.

HRC JOB NO. 20211066	SCALE 1" = 20'
DATE November 2023	SHEET NO. 48 OF





EXISTING STORM STRUCTURE TABLE		
STRUCTURE	RIM ELEV.	INVERT ELEV.
CB011	949.16	946.76 12" E
CB012	949.37	946.22 12" NE 946.32 12" W
CB013	949.44	945.79 12" NE 945.69 12" NW
MH003	949.46	945.36 12" E 946.11 12" NW 945.81 12" SE 945.51 12" SW
CB014	949.33	946.58 12" S
CB015	948.89	946.49 8" E

QUANTITIES THIS SHEET			
NO.	DESCRIPTION	UNIT	QTY.
17	SEWER LATERAL CONNECTION, EXISTING FACTORY TAP (TYPE 1)	EA	1
18	SEWER LATERAL CONNECTION, WITH SADDLE (TYPE 2)	EA	5

- SEWER REHABILITATION NOTES:
1. ALL CONNECTIONS TO THE MAINLINE SEWER COMPLETED IN ACCORDANCE WITH THE SANITARY LATERAL REPLACEMENT DETAILS FOUND ON SHEET D.
  2. THE SANITARY LATERAL CONNECTION DETAIL TO BE UTILIZED WILL BE DETERMINED IN THE FIELD BY THE OWNER'S FIELD REPRESENTATIVE.
  3. ALL EXISTING SANITARY LATERAL ELEVATIONS AT THE MAINLINE SEWER ARE APPROXIMATE AND ASSUMED TO BE THE CENTER OF THE SANITARY LATERAL.
  4. SEWER LATERALS WILL BE LINED TO THE PROPERTY LINE. THE WORK TO LINE THE SEWER LATERALS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA" AND "SEWER LATERAL LINING, CIPP, 4-INCH TO 6-INCH DIA, ADD'L LINEAR FOOTAGE".

SANITARY LATERAL ELEVATION DATA TABLE (SAME SIDE OF STREET AS PROPOSED WATER MAIN)								
CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN		EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHEET D FOR DETAILS)
			ELEV.	DEPTH				
142 CHEROKEE	55	142 CHEROKEE	941.06	(8'10")	945.20 (5'4")	40'	ROOT BLOCKAGE	OCWRC WILL REPAIR
136 CHEROKEE ***	59	136 CHEROKEE	939.86	(9'9")	U/D	36'	LATERAL IS CAST IRON	NO REPAIR NEEDED
124 CHEROKEE ***	60	124 CHEROKEE	941.20	(8'8")	U/D	33'	ROOT BLOCKAGE	NO REPAIR NEEDED
118 CHEROKEE	63	118 CHEROKEE	942.48	(8'7")	945.52 (6'6")	35'		NO REPAIR NEEDED
112 CHEROKEE	64	112 CHEROKEE	944.45	(8'7")	946.73 (7'0")	35'		NO REPAIR NEEDED
106 CHEROKEE ***	66	106 CHEROKEE	946.31	(8'4")	N/A	N/A	LATERAL CAPPED	NO REPAIR NEEDED
106 CHEROKEE	67	106 CHEROKEE	947.35	(7'11")	948.80 (6'6")	31'		NO REPAIR NEEDED
100 CHEROKEE ***	69	100 CHEROKEE	947.66	(8'1")	U/D	35'	LATERAL IS CAST IRON	NO REPAIR NEEDED
86 CHEROKEE ***	74	90 CHEROKEE	949.95	(7'11")	U/D	39'	ROOT BLOCKAGE	TYPE 2

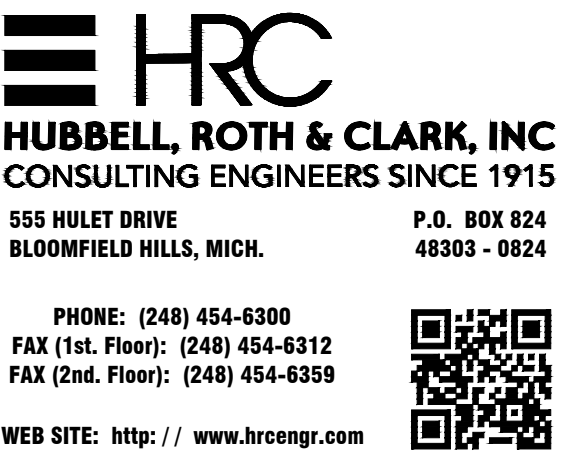
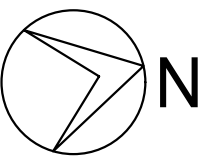
CCTV ADDRESS	No.	ASSUMED LOT SERVICED	EX. ELEV. AT MAIN		EX. ELEV. AT PROP. LINE (DEPTH)	EXISTING LENGTH OF SERVICE *	CCTV COMMENTS	ANTICIPATED DESIGN DECISION (SEE SHT D FOR DETAILS)
			ELEV.	DEPTH				
141 CHEROKEE	56	141 CHEROKEE	940.77	(9'1")	945.23 (5'9")	25'		NO REPAIR NEEDED
137 CHEROKEE ***	57	137 CHEROKEE	940.61	(9'0")	U/D	27'	LATERAL IS CAST IRON	NO REPAIR NEEDED
137 CHEROKEE ***	58	137 CHEROKEE	939.86	(9'9")	N/A	N/A	LATERAL CAPPED	NO REPAIR NEEDED
123 CHEROKEE ***	61	123 CHEROKEE	941.30	(8'6")	U/D	28'	APPEARS ABANDONED	NO REPAIR NEEDED
123 CHEROKEE ***	62	123 CHEROKEE	942.80	(8'8")	U/D	29'	LATERAL IS CAST IRON	TYPE 2
111 CHEROKEE	65	111 CHEROKEE	945.05	(8'6")	947.52 (6'11")	37'		TYPE 2
105 CHEROKEE	68	105 CHEROKEE	947.01	(8'0")	950.11 (5'5")	35'		TYPE 1
99 CHEROKEE ***	70	99 CHEROKEE	947.98	(8'0")	N/A	N/A	LATERAL CAPPED	TYPE 2
99 CHEROKEE	71	99 CHEROKEE	948.50	(7'11")	950.53 (6'8")	23'		NO REPAIR NEEDED
93 CHEROKEE ***	72	93 CHEROKEE	948.98	(8'2")	N/A	N/A	LATERAL CAPPED	NO REPAIR NEEDED
93 CHEROKEE ***	73	93 CHEROKEE	949.28	(8'3")	U/D	25'	ROOT BLOCKAGE	NO REPAIR NEEDED
85 CHEROKEE ***	75	85 CHEROKEE	950.59	(8'0")	U/D	34'	LARGE OFFSET	TYPE 2


\* ASSUMED BASED ON DIRECT MEASUREMENT FROM MAINLINE SEWER TO PROPERTY LINE ALONG PROJECTED HORIZONTAL ALIGNMENT.  
 \*\* DENOTES TRANSITION FROM 6-INCH TO 4-INCH IN THE SEWER LATERAL. DETERMINE DISTANCE FROM MAINLINE DURING THE PRE-LINING CCTV.  
 \*\*\* THE ALIGNMENT OF THE SEWER LATERAL COULD NOT BE OBTAINED FROM THE CCTV LATERAL LAUNCH AND IS ASSUMED. NOTE THAT THE CAST IRON SEWER LATERALS COULD NOT BE TRACKED WITH THE CCTV LATERAL LAUNCH.  
 U/D - LATERAL LAUNCH COULD NOT REACH THE PROPERTY LINE.



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ORIGINAL PLOT SIZE: ANSI FULL BLEED D (22.00 X 34.00 INCHES)



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DRAWN	AWM
CHECKED	JTN
APPROVED	BWS



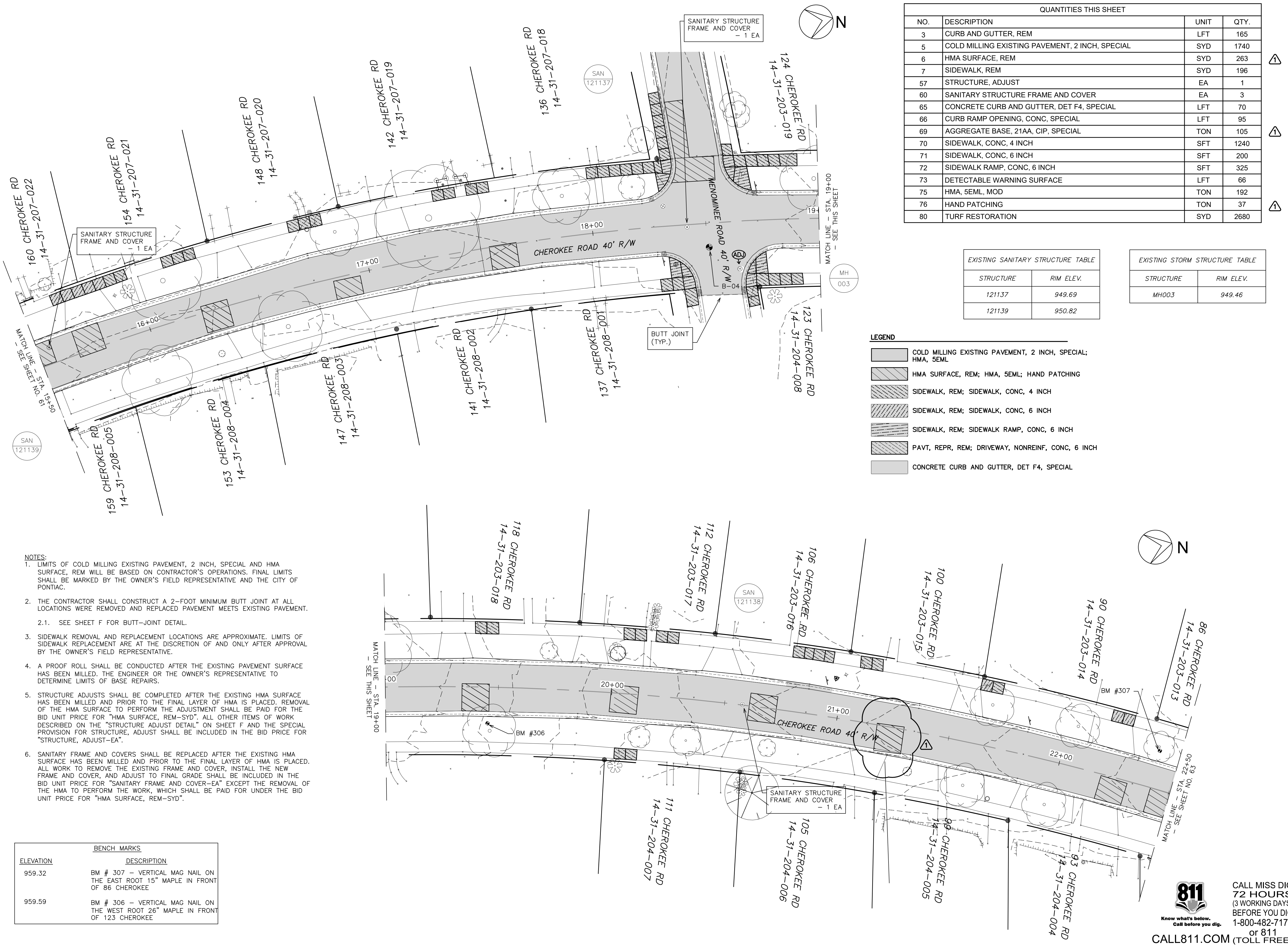
**OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER**

## SEMINOLE HILLS WATER MAIN IMPROVEMENTS

CHEROKEE RD.  
SEWER SYSTEM IMPROVEMENTS  
STA 17+50 TO 23+00

HRC JOB NO. 20211066	SCALE 1" = 30'
DATE October 2023	SHEET NO. 53 OF





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CONSULTING ENGINEERS SINCE 1915  
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DESIGNED	JTN
DRAWN	TJP
CHECKED	JTN
APPROVED	BWS



OAKLAND COUNTY WATER  
RESOURCES COMMISSIONER

SEMINOLE HILLS WATER  
MAIN IMPROVEMENTS

CHEROKEE RD  
PAVING PLAN  
STA 15+50 TO 22+50

HRC JOB NO. 20211066	SCALE 1" = 20'
DATE June 2023	SHEET NO. 62 OF

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NOTICE TO BIDDERS  
COORDINATION CLAUSE

HRC

1 of 6

10/23/2023

**Description**

The Contractor must conduct operations so as to cooperate with and interfere as little as possible with activities of other contractors, utilities, or City of Pontiac staff on or near the project area in conformance with the General Conditions of the Contract Article 9 “Other Work – Coordination” and the General Specifications of the Contract Article 8 “Public and Private Utilities – Road Permits”.

This clause summarizes the currently known conflicts, cooperation and coordination to aid in the successful construction of the project.

As an acknowledgement that this Coordination Clause has been reviewed and understood, a signature line has been provided at the end of this Section **which must be completed and submitted with the Bid** to be considered complete and responsive.

**a. Meetings**

A comprehensive list of meetings and agendas is provided in Section 01039.

A preconstruction meeting will be scheduled within two (2) weeks of the Notice to Proceed.

Progress meetings will be held every two (2) weeks during active construction of the project at a time and location to be determined at the preconstruction meeting or virtually.

**b. Public Utilities**

Comply with Public Act 174 of 2013 (MISS DIG Underground Facility Damage and Protection Act) to reduce the incidences of damage to underground facilities

The Project Notes (Sheet B) of the drawings show a list of utility companies that have facilities located within the Project Area.

Refer to the Special Provision for Exploratory Excavation and Utility Locating for requirements on exposing and documenting the location of existing utilities, monitoring of the bore head through existing utilities in close proximity to the proposed utility and the backfill requirements.

**c. Known Utility Conflicts:**

Utility conflicts are based on review of record documents and information disclosed by various utility companies and are shown on the Drawings utilizing the best available information. No guarantee is given as to the completeness or accuracy of the utilities shown on the Drawings.

**d. Known Road Projects in the Area**

The follow is a listing of known road construction projects within the local vicinity that may have an impact on this project. Please note that this listing may not be complete and the Contractor shall verify any other projects within the local vicinity that may impact this project.

- Oakland County Seminole Hills Sewer Lining Pilot Program

The Contractor shall coordinate its work on this project with that by the Contractor on other projects, and as directed by the Engineer. No additional compensation will be allowed for costs incurred by the Contractor due to coordinating with or delays caused by other projects.



**e. Permits**

Oakland County Water Resources Commissioner's Office (WRC) Water– will be issued following the execution of the Agreement. This is a no fee permit, Contractor is required to pick up the permit at the WRC offices (One Public Works Dr, Bldg 95 E, Waterford MI, 48328). Special conditions shall be reviewed but as represented do not change or alter the plans and specifications.

EGLE Part 399 – permit has been received and is included in the Contract Documents. This is a no fee permit and requires no further action by the Contractor. Special conditions shall be reviewed but as represented do not change or alter the plans and specifications.

MDOT ROW – This is a no fee permit, however requires further action from the Contractor. Special conditions shall be reviewed in the Contract Documents, however the following items shall be noted:

Contractor shall notify MDOT 72 hours prior to work commencing in the MDOT R.O.W.  
Hassan Alwan (313-500-4277) or Wioletta Bilan (248-388-0020)

Backfill within the MDOT R.O.W. shall be completed in accordance with the MDOT Standard Detail for Utility Trench Backfill, R-83-Series.

The stability of any trenchwork/excavation pits must be ensured by using appropriate and adequate means per MDOT 2012 Standard Specifications for Construction, such as trench-boxes, sheet piling, etc. The sheeting/shoring design shall adhere to MDOT standards, shall be completed by a licensed Professional Engineer in the State of Michigan, and shall be submitted to the Permit Agent for verification.

- a. In the case that the Contractor will be developing the Temporary Earth Retention System (TERS) for any open cut/bore pit section the TERS plans shall be signed and sealed by a licensed PE in the State of Michigan.
- b. The TERS shall be provided to the MDOT Inspector to coordinate MDOT review.
- c. MDOT requires a minimum three-week review time frame.
- d. MDOT approval of the TERS is required prior to start of work.

No mainline pavement removal is allowed from November 15 to April 15 unless emergency work.

City of Pontiac ROW – Once the Agreement is Executed, the Contractor is required to pick up the permit at the City of Pontiac Department of Public Works Office (47450 Woodward Ave., Pontiac, MI 48342). Special Conditions shall be reviewed in the Contract Documents, however the following items shall be noted:

Forty-eight (48) hours advance notice shall be given to the Engineering Division prior to the commencement of any proposed work within City Right-of-Way.

Oakland County SESC – Once the Agreement is Executed, the Project Engineer will apply for the permit. This is a no fee permit, Contractor is required to pick up the permit at the WRC offices (One Public Works Dr, Bldg 95 E, Waterford MI, 48328). The SESC Plan and details associated with the permit are located on the Drawings.

**f. Project Area Considerations**

A representative of the Oakland County Water Resources Commissioner's Office (WRC) is required to be present during the filming of the pre-construction video. Coordinate with the Project Engineer for staff assignment.



Active excavations within the roadway (defined as excavations that have not been backfilled to grade) require barricades in accordance with WRC Standard Water Main Details and General Conditions Article 14 "Protection of Work and Property" and Article 19 "Safety and Protection". Active excavations with workers present that restrict the roadway to one lane of two-way traffic also require traffic regulators in accordance with General Specifications Article 16 "Maintenance of Traffic".

The General Contractor will be responsible for coordination of the activities between contractors.

#### **g. Pontiac General Hospital**

Pontiac General Hospital is located between S. Johnson Ave. and Seminole St. on the South side of W. Huron St. The Main Entrance to the hospital is on Johnson Ave. The staff entrance is also on Johnson Ave. with staff parking on the east side of Johnson St. across from the hospital.

Emergency response access for the hospital is located on Seminole St. Access to the Urgent Care entrance is required to be maintained at all times. Therefore access to Seminole St. from W. Huron St. or Menominee Rd. (at least one point of access) must be maintained at all times and notification of closure to either of these access points or modifications to traffic control require 72 hours' notice to the hospital. Refer to Maintaining Traffic Plans for Seminole St. (Sheet K) and Huron St. (Sheet P) for additional information.

Pontiac General Hospital has redundant water supply connections from S. Johnson Ave. and Seminole St. However, hospital staff has no experience using a single supply from just one of the feeds even though each connection has the ability to be isolated. Coordination for the connection of the two (2) 6-inch feeds to the hospital on Seminole St. requires 72 hours' advanced notice and should be planned to minimize the duration of the shutdown. Both connections must be done at the same time.

#### **h. Special Conditions – Winter Work and Temporary Pavement**

Accumulated snowfall of over 3-inches must be removed from the roadway within all working areas and areas barreled/barricaded for traffic control purposes.

All HMA pavement removed between November 16<sup>th</sup> and April 30<sup>th</sup> in any given year during construction, shall be backfilled, compacted, and temporarily resurfaced with approved asphaltic patching materials (defined hereinafter as "temporary pavement") in accordance with the detail on Sheet F. Temporary pavement shall be placed within 14 days of pavement removal from November 16 to ~~April 3~~ **April 30**.

Temporary pavement will be required to be maintained, to the satisfaction of the City of Pontiac and the Engineer, until a permanent pavement repair or final paving in accordance with the Local HMA Road Repair section located on Sheet G - H can be made.

Maintenance gravel is an acceptable form of temporary pavement to maintain traffic before final Temporary Pavement can be placed. Maintenance gravel may be used from May 1<sup>st</sup> through November 15<sup>th</sup> in any given year during construction only. Maintenance gravel may be used as temporary pavement for a maximum of 12 weeks from the time the pavement is removed from May 1 through November 15 only. Once the 12-week period has expired, a two-inch (min) layer of hot mixed asphalt must be used for temporary pavement at no additional cost to the Owner and regardless of time before permanent roadway rehabilitation is scheduled.



**i. Special Conditions – Scheduling & Sequencing of Roadway Rehabilitation**

For the four (4) main roads in the project area (Cherokee, E. Iroquois, Oneida and Seminole), only two (2) will be allowed to be under “full construction” at one time unless otherwise authorized by the Engineer and Owner. “Full construction” in this context is defined as the contractor commencing water main installation activities. The intent of this sequencing requirement is to reduce the duration of construction activities for portions of the project area. The contractor shall plan to mobilize their roadway rehabilitation crews at least two (2) times between the Notice to Proceed and Substantial Completion Dates to accommodate this sequencing and scheduling.

**j. Owner Supplied Materials**

The WRC will furnish the 8-inch diameter bell and spigot ductile iron pipe with standard rubber (SBR) gaskets for the project. Refer to Section 01215, the General Conditions and the Supplementary Conditions for additional information. All bends, fittings, valves, hydrants, restrained joint ductile iron pipe and any other materials or appurtenances necessary for the project are the responsibility of the contractor.

**k. Temporary Water Supply (Seasonal Restrictions)**

The installation of a temporary water supply is required for the installation of the water main on Seminole St. between Orchard Lake Road and Menominee Rd. (Division 1). The temporary water supply may only be in operation between June 1<sup>st</sup> through August 31<sup>st</sup>.

**l. Hydrant Installation Details**

Updated hydrant installation detail has been provided on Sheet C. Installations for traffic rated models require a concrete collar be installed around the riser at or near ground level.

**m. Tracer Wire**

An updated special provision has been added for tracer wire design, installation and testing. The special provision requires more defined connection points, grounding, termination details and more thorough testing requirements, specifically testing before and after “subsequent” work is completed to locate potential breaks in continuity.

**n. Information on Sewer Laterals in the Project Area**

Information on the sewer laterals in the project area has been provided on the Drawings. This information is the best data available at this time and was collected in 2022. Mainline and lateral CCTV videos and mainline PACP inspection reports noting lateral locations and cursory information on the tap condition will be made available to the awarded contractor for their use during the project. Laterals that were televised were located during the televising process, marked at the surface and recorded a depth from ground surface at the marked location. The marked location was then surveyed and added to the Drawings to denote a location and depth of the sewer lateral. The plan views and tables provided on the Sewer System Improvements Drawings incorporate, to the best of the Engineers ability, the existing lateral information as interpreted from the CCTV information provided. There will be no additional payment for the televising of sewer laterals as part of this project. All contractor driven sewer lateral televising shall be included in the cost of the project.



**o. Horizontal Directional Drilling Depths (Water Main Installations)**

In general, water mains shall be installed with a minimum depth of cover of six (6) feet to the top of pipe and shall not be installed at a depth greater than nine (9) feet to the top of pipe unless otherwise noted on the plans or authorized by the Owner's field representative. Upon locating utilities along the bore path in which the depth is unknown or assumed (typically utilities with a diameter of 12-inches or less as utilities larger than that have more available as-built information), the Contractor shall record depths and make the general decision that horizontal directionally drilled water main shall go under utilities with a depth of cover at seven (7) feet or less and shall go over utilities that are greater than seven (7) feet in depth. Contractor shall modify the planned profile as necessary to accommodate the specified decision model and stay within the depth of cover limits as described.

**p. Sewer Lateral Replacement**

The age and condition of the sewer laterals in the project area and the impacts of exposing these laterals during the required pre-HDD exploratory excavation may be an issue during construction and is a concern. Soft excavation methods are required when exposing these sewer laterals, however, a quantity of the bid item "Remove and Replace Sewer Lateral" has been provided in the Proposal for laterals that appear to have been damaged prior to the Contractor exposing the utility. Consequently, sewer laterals damaged by careless excavation or other contractor related activities, at the discretion of the Owner's field representative, shall not be paid for separately but shall be removed and replaced at no additional cost to the Owner.

**q. Water Service Line Replacements**

Ahead of this project, the WRC completed a Lead Service Line Replacement (LSLR) project to replace all full LSLs (where both public and private side were lead or galvanized steel) or where the private-side only was lead or galvanized steel. All public-side only LSLs (meaning the existing private-side service line was copper or plastic) were left to be completed as part of this project. All full LSLRs received a new curb stop and stop box under the LSLR project. The addresses in which full LSLRs were completed are recorded on the plans sheets as "Replaced 2023". All other public service lines will be replaced with new Type K copper tubing and a new curb stop and stop box connected to the new water main.

The addresses with full LSLRs completed will still need to be reconnected to the new water main. Short side connections will intercept the new copper service line and connect directly to the new main. Long side services will need to be extended to meet the new copper service line. Long side service line connections from 0' to 10' long shall connect at the location of the existing water main. Long side service line connection greater than 20' long shall be drilled beneath the road and connected to the curb stop in the opposing green belt. The connection point for long side service line connections between 10' long and 20' long shall be at the discretion of the Owner's field representative based on field conditions, location of the exiting water main in the roadway and impediments in the opposing green belt.

**r. W. Huron St. and S. Johnson Ave. Intersection**

The purpose of the proposed scope of the work at the W. Huron St. and S. Johnson Rd. intersection, beyond connecting the new 8-inch diameter water main along W. Huron St. to the existing water main on S. Johnson Rd., is to remove an assumed bottleneck in the north/south water main along S. Johnson Ave. However, the records that detail the water main connections in this area are not clear. Therefore, preliminary investigation shall be completed during construction to determine if the assumed bottleneck is in fact in place. This intersection is a critical intersection for the City of Pontiac and the Pontiac General Hospital so minimizing the scope of work and duration of the traffic control is important.



The Contractor shall acknowledge that they have reviewed and agree to the coordination and special conditions described in this Section by signing below.

Acknowledged By:

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

Signature: \_\_\_\_\_

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

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

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



**Seminole Hills Water Main Improvements  
CITY OF PONTIAC  
OAKLAND COUNTY, MICHIGAN**

Sealed proposals will be received by the Office of the Oakland County Water Resources Commissioner, Oakland County, Michigan, Building 95 West, One Public Works Drive, Waterford, Michigan 48328-1907 ("Owner") for the construction of certain facilities and structures, including the following approximate primary items and quantities:

- 9,900 linear feet of eight-inch diameter HDPE SDR 11 water main installed via horizontal directional drilling method
- 1,900 linear feet of eight-inch diameter Class 54 ductile iron water main installed via open-cut method
- 20 linear feet of 12-inch diameter Class 54 ductile iron water main installed via open-cut method
- 10,900 linear feet of water main abandonment
- 32 gate valves and wells, 24 fire hydrants, 27 connections to existing water main (6", 8", and 12")
- 80 sanitary sewer tap repairs via open-cut method
- 3,100 linear feet of one-inch diameter Type K copper water service
- 120 one-inch diameter water service curb stops and curb boxes
- 1,300 linear feet of sewer lateral lining
- 27,000 square yards of two-inch depth cold milling asphalt
- 3,000 tons of hot mix asphalt
- 2,500 linear feet of curb and gutter removal and replacement
- 2,400 square yards of sidewalk removal and replacement
- 32,000 square yards of turf restoration

**PROPOSALS TO BE RECEIVED AND PUBLICLY OPENED AND READ AT THE FOLLOWING DATE AND TIME: Wednesday, December 20, 2023 at 2:00 PM**

Bidders shall review and comply with the Information for Bidders, which is incorporated by reference, and carefully review all Contract Documents, as defined in the Information for Bidders. Bids submitted after the exact time specified for receipt will not be considered.

Starting on Friday, November 17, 2023, the Drawings and Specifications under which the work will be performed will be on file and may be examined at the Office of the Oakland County Water Resources Commissioner at Building 95 West, One Public Works Drive, Waterford, Michigan 48328 and online from <https://www.bidnetdirect.com/>.

Copies thereof for bidding purposes may only be obtained for a non-refundable fee of \$90.00 Dollars if picked up, or \$115.00 Dollars if mailed, (Check Only – Payable to Hubbell, Roth & Clark, Inc. for each set of Contract Documents from the Office of Hubbell, Roth & Clark, Inc. located at 555 Hulet Drive, Bloomfield Hills, MI 48302)

~~Only potential Bidders who purchase Drawings and Specifications will be included on the plan holders list. To receive addenda and other notifications, Bidders must be on the plan holders list and must have purchased Drawings and Specifications.~~

A virtual pre-bid meeting is scheduled for Tuesday, November 28, 2023 at 10:00 AM, local time. Only bidders who purchase Drawings and Specs and that are included on the plan holders list will be invited to this meeting. All prospective Bidders are requested to attend this meeting.

Questions, comments, or concerns of any Bidder regarding bidding or the Contract Documents or the project, must be submitted in writing by no later than Friday, December 8, 2023 at 5:00 PM local time. No inquiry received after this date/time will be given consideration. Submit all questions(in writing) to

**JIM NASH  
OAKLAND COUNTY WATER RESOURCES COMMISSIONER**



Engineer at:

Jack Nagle, P.E.  
Hubbell, Roth & Clark, Inc.  
Email: [jnagle@hrcengr.com](mailto:jnagle@hrcengr.com)  
Phone: 248-454-6397

Addenda issued to Bidders prior to the date of receipt of proposals shall become a part of the Contract Documents and all proposals shall include the work described in each and every Addenda issued.

Failure to attend the pre-bid meeting shall not relieve the Bidder from compliance with all applicable federal and state laws and regulations, including without limitation the Equal Employment and Minority, Small, and Women's Business Regulations.

A certified or cashier's check or bid bond for a sum not less than five percent (5%) of the amount of the proposal will be required for each proposal.

Owner reserves the right to accept any proposal, to reject any proposal and to waive irregularities in the proposals.

Jim Nash  
Oakland County Water Resources Commissioner



**1. SCOPE OF WORK**

The work under this Contract shall consist of the items listed in the Proposal, including all incidentals necessary to fully complete the project in accordance with the Contract Documents.

**2. RECEIPT AND OPENING OF BID PROPOSALS**

- A. Sealed bid proposals will be received as indicated in the Advertisement for Bids and opened and read aloud at the offices of the Oakland County Water Resources Commissioner.
- B. Proposals must be submitted only on forms provided by Owner. All blank spaces for bid prices must be filled in, in ink or typewritten, and the bid form must be fully executed when submitted and not modified in any way.
- C. Proposals must be enclosed in a sealed envelope marked:

Jim Nash  
Oakland County Water Resources Commissioner  
Building 95 West – One Public Works Drive  
Waterford, Michigan 48328-1907  
Project: Seminole Hills Water Main Improvements  
Bid Opening: December 20, 2023 @ 2:00 PM  
Attention: Mike Walsh, P.E., Civil Engineer III

Shall be delivered to the Office of the Oakland County Water Resources Commissioner on or before the time specified in the Advertisement for Bids.

The Bidder's name and address shall be clearly identified on the outside of the sealed envelope.

- D. Proposals shall be made in full conformity with all the instructions, requirements and conditions set forth in the Information for Bidders and in the Drawings, Specifications and other Contract Documents. Bids are firm, and no bid may be withdrawn for a period of **120 days** after opening of bids. Withdraw of the bid will result in the forfeiture of the Bidder's Bid Bond.
- E. **Any bid received at the office designated in the solicitation after the exact time specified for receipt will not be considered and will be returned to the Bidder unopened.** This material requirement is not subject to waiver by Owner.
- F. Bidders are strongly encouraged to hand-deliver their bids to the Office of the Oakland County Water Resources Commissioner. Email and facsimile bids shall not be considered. Bids delivered by certified, registered or express mail will be accepted, however, subject to the following conditions:
  - 1) The sealed envelope containing the Proposal shall be enclosed in a separate envelope plainly marked on the outside with the notation "PROPOSAL ENCLOSED".

- 2) Bidder is responsible to make all necessary inquiries to ensure delivery of its Bid to the appropriate person(s) at the offices of the Oakland County Water Resources Commissioner.
- 3) Submit 2 unbound hard copies of the bid (1 original and 1 copy) and 1 electronic copy on a flash drive or other electronic media.

### **3. ~~ESCROW BID DOCUMENTS~~**

~~The three (3) lowest Bidders will be required to place their Bid Documents in escrow within one (1) business day of the Bid opening in accordance with the attached Escrow Bid Documents Provision Specification. In addition, Owner reserves the right to require additional Bidders to place their Bid documents in escrow also, as provided in the attached Escrow Bid Documents Specification. Such additional Bidders will be notified within 24 hours of the Bid. Contractors bidding this project are required to maintain all bid notes, take offs, and other Bidding Documents required for inclusion in the Escrow Bid Documents. Failure to submit the Escrow Bid Documents as required may result in a rejection of the Bid.~~

### **4. DEFINITIONS**

Certain terms used in the Contract Documents shall have the meanings indicated in the General Conditions and Supplementary Conditions which are part of the Contract Documents.

### **5. INSPECTION OF SITE, INSPECTION OF CONTRACT DOCUMENTS, PLANNING AND ANALYSIS**

- A. Before submitting a proposal, each Bidder is responsible for inspecting the site of the proposed work, and the surrounding premises, to arrive at a clear understanding of the conditions under which the work is to be performed.
- B. Before delivery of its proposal, each Bidder is held to have compared the conditions of the site where work is to be performed with the Contract Documents and to have satisfied itself as to the conditions of the site and surrounding premises, including any obstructions, all excavating, filling in, and quantities, and any other conditions affecting the carrying out of the work, including the weather conditions of the project area. Each Bidder must obtain first-hand information concerning the available facilities for receiving, transporting, handling and storing construction equipment and materials and concerning other local conditions that may affect its work. Each Bidder must acquaint itself with the character and extent of the operations of the Owner and any other contractors in the area of the work, so that the Bidder can plan its work accordingly.
- C. Bidders must estimate the quantity of materials, labor and equipment required for the work by examination of the site and a review of the Contract Documents including Addenda, and by carefully considering all other relevant factors. Bidder warrants that by submitting its Bid, it had no misunderstanding concerning the quantities or nature of the work to be performed, and the Bidder will assert no such claim asserting such a misunderstanding.
- D. No allowances or extra payment will be made to Contractor because of costs or



expenses occasioned by Contractor's failure to comply with the provisions of this section, or by reason of error or oversight on the part of the Bidder, or on account of interference by the activities of the Owner or any other contractor where those activities are apparent, or are made known to the Bidders during the bidding process.

- E. For bidding purposes, the Bidder is responsible for evaluating the compatibility of proposed construction methods with the Contract Documents, and soil and site information. Bidders must carefully study and compare all portions of the Contract Documents and must notify the Engineer, in writing, prior to the deadline for pre-bid questions, of any concerns, questions, apparent ambiguities, conflicts, incompatibilities, apparent errors, or other discrepancies evident in the Contract Documents.
- F. The successful Bidder must complete the work under whatever conditions it may create by its own actions or inactions, sequence of construction, construction means and methods, or other conditions it may create or cause to be created at no additional cost to Owner.

## **6. UNDERGROUND CONDITIONS**

- A. The Engineer performed investigations and issued reports which are available to the Contractor.
- B. Bidders only may rely on technical data contained in such reports except where indicated otherwise in the Contract Documents. Evaluations, analyses, recommendations, or conclusions contained in such reports shall not be relied upon in formulating any Bid for the work. This data is offered to the Bidders as information about underground and site conditions only at the locations at which any soil borings, sampling, or other data collection were made. The Owner does not represent or warrant that the underground conditions encountered at or near the site during construction will generally or specifically conform to underground conditions described in the data in these borings or any accompanying descriptive report.
- C. Each Bidder and the Contractor awarded the project shall draw their own conclusions as to site, underground or soil conditions from their own experience, independent knowledge and investigation of the site, and they should each secure such other and additional information and data as they consider necessary or desirable to check and supplement the provided underground data for specific locations. The Contractor is required to complete the work under any job or field condition which was present and/or ascertainable prior to Bidding.
- D. All Bidders that seek to conduct any additional underground or site exploration or testing must do so at their own expense as necessary. Such Bidders must contact the Owner and obtain its written permission before proceeding.
- E. Any additional exploration conducted by Bidders must be performed in a manner which precludes unnecessary disruption of the soils or which impedes construction operations and must be performed in compliance with the Mineral Well Act, Act No. 315 of the Public Acts of 1969, as amended, MCL 319.211, et. seq. Any Bidder performing exploration work must restore all areas of exploration to its original condition. By entering the site to conduct such investigation and testing, the Bidder agrees to indemnify, defend

and hold harmless all of the persons identified in the indemnity provisions of the General and Supplementary Conditions to the full extent of the indemnity obligation set forth in those Contract Documents.

## **7. AWARD OF CONTRACT**

- A. The Contract, if awarded, will be awarded to the lowest, responsive, and responsible bidder, subject to the final approval by the Oakland County Water Resources Commissioner. The Contract will be awarded subject to receipt of funds to finance the project and acquisition of easements, during which time the proposal guarantees of the lowest three responsive, responsible Bidders will be held.
- B. The party to whom the Contract is awarded will be required to execute the Agreement and obtain the Performance Bond, Labor and Material Bond and Maintenance and Guarantee Bond and shall provide proofs of insurance coverage in accordance with the Contract Documents within ten (10) calendar days of the delivery date of the Notice of Award to the successful Bidder. The necessary Agreement and Bond forms shall accompany the Notice of Award. If the Contractor awarded the project fails to execute the Agreement, submit Performance Bond, Labor and Material Bond and Maintenance and Guarantee Bond and provide proofs of insurance coverage in accordance with the Contract Documents within ten (10) calendar days of the delivery date of the Notice of Award, the Owner may declare the Contractor in default, in which case the Proposal Guarantee accompanying the Proposal will be forfeited to the Owner.

## **8. INTERPRETATION OF CONTRACT DOCUMENTS**

- A. Neither Owner nor the Engineer will give verbal instructions prior to the award of the Contract. Any verbal statements regarding the Contract by any person are not authorized and do not constitute representations, warranties, modifications, agreements, or promises, express or implied, and may not be relied upon by Bidders.
- B. Bidders seeking explanations regarding the project or the Contract Documents must submit written requests to the Engineer, and if explanations are necessary, a reply will be made in the form of an Addendum, a copy of which will be forwarded to all parties that have taken out Contract Documents. The determination of the necessity of explanations will be in the sole discretion of the Engineer and Owner and no obligation to provide a reply or addendum will be implied.
- C. Questions, comments, or concerns of any Bidder regarding bidding or the Contract Documents or the project, must be submitted in writing and in advance of the opening of bids per the time period specified in the Advertisement
- D. Addenda issued to Bidders prior to the date of receipt of proposals shall become a part of the Contract Documents and all proposals shall include the work described in each and every Addenda issued.

## **9. NAME AND STATUS OF BIDDER**

- A. The name and legal status of the Bidder, that is, as a corporation, limited liability company, partnership, limited partnership or individual, must be stated in the Proposal.



- B. The place of residence of Bidder, or the office address in the case of a firm or company with county and state, must be stated in the Proposal.
- C. Unless the legal status of the Bidder is an Individual, the signature(s) of the signing official(s) must be accompanied by the appropriate Resolution or Certificate Form found at the end of the Proposal, properly executed, authorizing the official(s) to sign both the Proposal Form and the Contract. Failure to submit this form is basis for rejecting the Bid.

#### **10. QUALIFICATION OF BIDDERS AND SUBCONTRACTORS**

- A. Except as otherwise reserved herein, Owner will only award the Contract to a responsible Bidder. A finding that the Contractor is not responsible in connection with this project shall not necessarily preclude the Bidder from bidding and performing work on other projects for the Owner.
- B. Factors to be considered in determining whether Owner's standard of responsibility has been met shall include, but not be limited to, whether the Contractor has:
  - 1) The appropriate financial, material, equipment, facilities, and personnel resources and expertise available, or the ability to obtain them, necessary to indicate it is capable of meeting all contractual requirements;
  - 2) A satisfactory record of performance;
  - 3) A satisfactory record of integrity;
  - 4) Qualified legally to contract with Owner and has supplied all necessary information in connection with the inquiry concerning responsibility.
  - 5) If Contractor has been deemed non-responsible in the past, provided a detailed explanation of its remedial actions subsequent to the determination to address any concerns expressed by the authority making the declaration such that the authority would consider awarding a contract to the Contractor, notwithstanding past concerns about Contractor's performance.
- C. The Contractor must supply information requested by Owner concerning the responsibility of the Bidder. If the Bidder fails to supply the requested information, the Owner must base the determination of responsibility upon any available information or may find the Bidder non-responsible if such failure is unreasonable. A finding that the Bidder has failed to make a required disclosure or submitted false information may result in immediate disqualification of the Bidder.
- D. Within 10 days after bids are received by the Owner, the Contractor who has submitted the low bid must, upon request of the Owner, complete and submit to the Owner the following:
  - 1) MIOSHA Form 300 – "Log of Work-Related Injuries" for the last 3 years.
  - 2) MIOSHA Form 300A - "Summary of Work-Related Injuries & Illnesses" for the

last 3 years.

- E. In addition to meeting the criteria set forth in this Article, and the submission of the required information requested herein, the ability of the Contractor and its identified Subcontractors to proficiently handle technical issues, safety, scheduling, and administrative issues as demonstrated by its past performance on projects for the Owner, as well as projects for other public agencies, will be considered in determining whether a Contractor is a responsible contractor for this project. Past performance issues to be considered include, but are not limited to, the following:
- 1) Failure to adhere to and/or comply with Contractor's obligations in the Contract Documents
  - 2) Failure to follow administrative procedures and provisions in the Contract Documents
  - 3) Submission of false claims or falsely inflated claims
  - 4) Failure to prosecute the work in accordance with the Plans and Specifications included in the Contract Documents
  - 5) Failure to follow bidding instructions.
- F. The Bidder shall promptly submit upon request by the Owner, any additional information necessary to satisfy the Owner that the Bidder is adequately prepared to fulfill the Contract.
- G. The existence of any judgment, citation, default, finding of non-responsibility or other negative information disclosed by Contractor in its Experience and Qualification Statement or independently discovered by Owner, or Contractor's failure to provide the certifications required by this Article, will be considered, among all other factors, in determining whether a Contractor is a responsible Bidder for this project. As part of its response, Contractor may submit an explanation of the facts giving rise to the judgment, citation, default, or negative finding, or reasons why the required certifications cannot be provided, and ask Owner to deem the Contractor both responsive and responsible notwithstanding such facts or omissions.
- H. The requirements identified above are not an exhaustive or exclusive list of all qualifications required of the Contractor, its Subcontractors, or personnel. The minimum requirements indicated above are in addition to any other requirements contained elsewhere in the Contract Documents and/or typically considered under state or federal procurement law.
- I. Owner may, when circumstances warrant, accept any Bidder as a responsible Bidder despite its failure to meet all of the minimum standards set out herein. To the extent that special circumstances exist which a Bidder believes render the Bidder a qualified and responsible Bidder for this project, despite the failure to meet one or more of the standards for qualification set out herein, the Bidder may submit a notarized sworn statement explaining the special circumstances and requesting consideration of its Bid. Notwithstanding the foregoing, Owner has no obligation to consider such special



circumstances, or to disregard the requirements set forth in this Article and elsewhere in the Contract Documents and deem the Bidder responsible.

- J. Bidder must attend a pre-award conference to satisfy the Owner that the Bidder is adequately prepared to fulfill the Contract.
- K. If a Bidder who otherwise would have been awarded a contract is found non-responsible, a written determination of non-responsibility setting forth the basis of the finding will be prepared by the Owner upon request. A copy of the determination will be sent promptly to the non-responsible Bidder. The final determination will be made part of the bid file.
- L. The Contractor must self-perform at least **51%** of the construction trade work as determined by dollar value. This does not include General Conditions.

#### **11. CONTRACTOR AND SUBCONTRACTOR INFORMATION AND LISTING**

- A. Bidder must provide a completed Experience and Qualification Statement (DC-118) with its bid. Additional qualification information as requested by Owner shall be submitted within 10 days after bids are received by the Owner including but not limited to a completed Experience and Qualification Statement (DC-118) for each and every Subcontractor who will work on the project.
- B. Bidders shall submit with their bid a list by name, trade and scope of work each and every Subcontractor who will perform Work with a value in excess of 10 % of Bid Total.

#### **12. PRELIMINARY SCHEDULE**

- A. Each Bidder shall submit with their bid a Preliminary Schedule demonstrating the Bidder's plan to complete the construction work within the time allowed in the Agreement and to achieve the completion of any milestones identified in the Contract Documents. The requirements of the Preliminary Schedule are described in the General Specification.
- B. Failure to provide the requested schedule may result in the Contractor being declared non-responsive.
- C. The Bidder's Preliminary Schedule shall be based on a Notice to Proceed date identified in the Proposal.

#### **13. ADDITIONAL BIDDING INFORMATION**

The Advertisement, which precedes the "Information for Bidders" and the Contract Documents as defined in the General Conditions may contain additional bidding information and is considered a part of these instructions.

#### **14. EQUALS AND SUBSTITUTIONS**

Anticipated proposed Equals and Substitutions shall not be the basis for any bid pricing. For the purpose of bidding, Bidders shall base their bid on the design and any specified products.

Equals or Substitutions may be submitted for consideration after the award of the Contract. Approval of proposed Equals or Substitutions are discretionary, and Contractor waives the right to make a claim on that basis. Bidders shall not assume that any contemplated Equal or Substitutions will be approved. The Contractor will be responsible for Engineer Fees for review, analysis, tests and/or all other costs necessary to review, analyze and/or implement a proposed Substitution regardless of whether the proposal is approved.

**15. ~~OWNER CONTROLLED INSURANCE PROGRAM~~**

~~Owner may provide an Owner Controlled Insurance Program ("OCIP") for this project. If provided, Bidders, including Subcontractors and vendors, will include the cost of the insurance required by the Contract Documents, including those in the General Conditions and Supplementary Conditions in their Bid Proposal. Eligible Contractors, Subcontractors and vendors are required to enroll in, and be approved for the OCIP program prior to starting work on the project. If approved and enrolled in the OCIP, the insurance costs and mark up on the insurance of the Contractor, Subcontractors and vendors will be deducted from the Contract Price using a deductive change order for the lines of insurance coverage provided in the OCIP. Determination of the lowest Bidder will be made with the cost of insurance included in the Bid, pursuant to the General and Supplementary Conditions of the Contract. The OCIP information is identified in an Appendix to the Contract Documents. Copies of the OCIP Policy documents are attached to the Contract Documents. In submitting a Bid for this project, Bidders, including Subcontractors and vendors, accept the terms of the OCIP and the coverage shown in the attached policy documents. Any other insurance coverages deemed necessary by Bidder shall be obtained by Bidder at Bidder's exclusive cost and expense and no premiums for additional coverage shall be charged to Owner.~~

**16. PROPOSAL GUARANTEE (BID BOND)**

- A. Each proposal shall be accompanied by a Bid deposit in the form of a certified check, a cashier's check or Bid Bond executed by the Bidder and a qualified, acceptable Surety Company, payable to the Oakland County Water Resources Commissioner in the amount of Five Percent (5%) of the accompanying Bid, as guarantee on the part of the Bidder that it will, if called upon to do so, enter into a Contract in the form of the Contract Documents, perform the work required by the Contract Documents, at the prices stated, and furnish acceptable surety for its faithful and entire fulfillment.
- B. The Bid deposits of all, except the three (3) lowest Bidders, will be returned within 48 hours after the Bids are opened. The Bid deposits of the apparent second and third lowest Bidders that the Owner has retained will be returned after the signed Contract has been delivered and the required bonds and insurance of the Contractor have been finally approved by the Owner, or after rejection of all Bids.

**17. GUARANTEE BONDS**

- A. In addition to the Bid Bond, the Contractor shall furnish the Owner the following bonds prior to the Contract being executed:
  - 1) A Performance Bond in an amount at least equal to 100% of the Contract Price as security for faithful performance on the Contract.



- 2) A separate Labor and Material Payment Bond in an amount at least equal to 100% of the Contract Price as security for payment of all persons performing labor and furnishing materials in connection with the Contract.
- 3) A Maintenance and Guarantee Bond in an amount at least equal to 100% of the Contract Price.

## 18. BOND REQUIREMENTS

A. All bonds required of Bidder or Contractor shall meet the following requirements:

- 1) The Bidder or Contractor shall pay the premiums.
- 2) The form of the bonds shall be as appended herewith (NOTE: the form of Bid Bond is NOT incorporated in the Contract Documents).
- 3) The surety on the bonds shall be a corporate bonding company named on the current list of Surety Companies acceptable on Federal Bonds as published in the U.S. Treasury Department Circular Number 570. In the event that the surety is ever delisted on the cited Circular, Owner may, in Owner's sole discretion, demand and Contractor shall provide replacement Bonds from a then listed surety at no additional cost to Owner
- 4) The surety shall be a corporate bonding company authorized and admitted to transact business in Michigan and subject to service of process and personal jurisdiction in Michigan. A copy of the certificate issued by the State of Michigan evidencing such authorization shall be furnished to Owner.
- 5) The surety shall be a corporate bonding company, which is otherwise satisfactory to Owner. Without limiting the other factors upon which Owner may determine the acceptability of a surety, Owner specifically reserves the right to reject any surety which has denied, delayed or obstructed payment or discharge of the sureties' obligations under a prior bond in favor of Owner.
- 6) Attorneys-in-Fact who sign bonds must file with each bond a certified copy of a currently effective and dated Power of Attorney.
- 7) The Owner may, but is not obligated to, require the substitution of any of the bonds by Bidder or Contractor upon the occurrence of any of the events referred to herein and in the General Conditions or Supplementary Conditions.
- 8) Providing the bonds required hereunder shall not establish that a Bidder is qualified, responsive or responsible, and shall not limit Owner's right to review Bidder's qualifications and reject any Bid.

## 19. PRE-BID MEETING & SITE TOUR

~~All Bidders must attend the pre-bid meeting.~~ *All Bidders are requested to attend this meeting.* Bidders shall refer to the Advertisement (ADV-1) found elsewhere in these specifications for pre-bid meeting and site tour requirements.

**20. REJECTION OF BIDS**

Owner reserves the right to reject any or all Bids. The Owner further reserves the right to waive any non-material irregularity or informality in the Bids. The Owner reserves the right to reject any Bid submitted by any Bidder that the Owner determines is not a responsive or responsible Bidder based on information supplied by the Bidder or on any other information that the Owner receives or acquires on its own, including the past experience of the Owner and/or any other public agency owner with the Bidder. Owner's rights in this regard may be exercised in Owner's sole discretion and Owner shall not have any obligation to exercise or refrain from exercising these rights.

**21. OVERTIME COMPENSATION**

Refer to the Labor Standards Provisions, EPA Form 5720-4 and the U.S. Department of Labor Memorandum No. 143 for further information. Labor compensation, including Overtime shall be governed by applicable local, federal and state law and regulations.

**22. WORK WITHIN VARIOUS MUNICIPALITIES, CONSTRUCTION PERMITS, ROAD PERMITS, ETC.**

- A. The Contractor shall conform to the various requirements of the municipality within which work is being performed and shall obtain, at its own expense, all permits required.
- B. In addition, certain public highways and subdivision roads are under the jurisdiction of the Michigan Department of Transportation, Road Commission for Oakland County, and/or the local municipality. Contractor shall obtain, at Contractor's own expense, all permits required by these organizations to use the roads under their jurisdiction.
- C. If the scope of the work requires work to be performed within other private properties/easements, Contractor shall comply with the conditions of these easements at its own expense. Applicable easement documents will be made available before work begins.

**23. CONTRACT DOCUMENTS**

Each Bidder is obligated to carefully review all materials included or referenced in the Contract Documents including, without limitation, the General and Supplementary Conditions. The Contract Documents are defined in the General and Supplementary Conditions and the Bidder must familiarize itself with all provisions, terms and conditions of all Contract Documents.

**24. OWNER'S RESERVATION OF RIGHTS**

- A. In addition to Owner's rights in Article 20 - Rejection of Bids above, Owner reserves the following rights in connection with this Invitation to Bid:
  - 1) Withdraw the Invitation to Bid at any time, in the Owner's sole discretion.
  - 2) Make an award under the Invitation to Bid in whole or in part.



- 3) Disqualify any Bidder whose conduct and/or proposal fails to conform to the requirements of the Invitation to Bid.
- 4) Seek clarifications and revisions of proposals.
- 5) Use proposal information obtained through site visits, management interviews and Owner's investigation of a Bidder's qualifications, experience, ability or financial standing, and any material or information submitted by the Bidder in response to the Owner's request for clarifying information in the course of evaluation and/or selection under the Invitation to Bid.
- 6) Prior to the bid opening, direct Bidders to submit proposal modifications addressing subsequent Invitation to Bid amendments.
- 7) Change any of the scheduled dates.
- 8) Eliminate any mandatory, non-material specifications that cannot be complied with by all of the prospective Bidders.
- 9) Waive any requirements that are not material.
- 10) Negotiate with the successful Bidder within the scope of the Invitation to Bid in the best interests of the Owner.
- 11) Conduct contract negotiations with the next responsible Bidder, should the Owner be unsuccessful in negotiating with the lowest, responsible Bidder.
- 12) Utilize any and all ideas submitted in the proposals received.
- 13) Require clarification at any time during the procurement process and/or require correction of arithmetic or other apparent errors for the purpose of assuring a full and complete understanding of a Bidder's proposal and/or to determine a Bidder's compliance with the requirements of the solicitation.

**PROPOSAL FOR THE CONSTRUCTION OF  
SEMINOLE HILLS WATER MAIN IMPROVEMENTS**

NAME OF BIDDER: \_\_\_\_\_

CONTACT NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

DATE: \_\_\_\_\_ TELEPHONE NO. \_\_\_\_\_

CONTACT NAME EMAIL: \_\_\_\_\_

TO: Jim Nash  
Oakland County Water Resources Commissioner County Agency  
c/o Michael Walsh, P.E., Civil Engineer III  
Building 95 West – One Public Works Drive  
Waterford, Michigan 48328-1907

The undersigned, as Bidder, hereby declares this bid is made in good faith without fraud or collusion with any persons bidding or proposing to supply materials or labor, and that it has examined the Contract Documents including but not limited to the Agreement, Contract Drawings, Advertisement, Information for Bidders, Proposal, Specifications, General Conditions, and the Supplementary Conditions and has also examined the soil boring logs, and other geotechnical information referenced in the Information For Bidders, and is familiar with the location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performance.

The Bidder acknowledges that it has not received or relied upon any representations or warranties of any nature whatsoever from the Office of the Oakland County Water Resources Commissioner, its agents, representatives, or employees, as to any conditions to be encountered in accomplishing the work specifically, but not exclusively, including underground conditions, and that its bid is based solely upon the Bidder's own independent judgment.

The following documents shall be submitted with the Bid:

<b>Item Number</b>	<b>Description</b>
1.	Proposal, completed and signed acknowledging all addenda
2.	Proposal Guarantee/Bid bond (5%)
3.	Preliminary Schedule based on the Time noted in the Agreement and an anticipated Notice to Proceed date of: February 12, 2024
4.	Completed Form DC-118 Experience and Qualification Statement
5.	Signed Vendor Certification that it is not an "Iran Linked Business"
6.	Signed Acknowledgement of Coordination Clause
7.	Horizontal Directional Drilling Project and Personnel Experience (Refer to Section 02336, Article 1.5, Part D and E) for the company listed in Form DC-118 Experience and Qualification Statement that the Bidder intends to use for Horizontal Directional Drilling
8.	Credentials of all fusion operators for HDPE pipe (refer to Section 02662, Article 1.4, Part C)

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9.	Sewer Lateral Lining minimum qualifications (refer to Section 02745, Article 1.7, Part E) for the company listed in Form DC-118 Experience and Qualification Statement that the Bidder intends to use for Sewer Lateral Lining
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The Bidder hereby certifies that it has examined the Drawings, Specifications, Geotechnical Data, and other data provided by the Owner for bidding purposes. Further, the undersigned certifies that it has reviewed the proposed construction methods and finds them compatible with the conditions, which it anticipates from the above listed information, provided for bidding.

The Bidder shall complete the work under any job or field condition which was present and/or ascertainable prior to bidding. In addition, it shall also complete the work under whatever conditions it may create by its own sequence of construction, construction methods, or other conditions it may create, at no additional cost to the Owner.

The Bidder declares that it has familiarized itself with the location of the proposed work and the conditions under which it must be constructed; also, that it has carefully examined the Plans, Specifications, and Contract Documents (including the Geotechnical Data), which it understands and accepts as sufficient for the purpose, and agrees that it will contract with the Oakland County Water Resources Commissioner to furnish all labor, material, tools and equipment necessary to do all the work specified and prescribed for the completion of the above mentioned Contract for the following named unit prices:

#### BID SHEET

Item No.	Description	Quantity	Unit	Unit Price	Amount
1	Mobilization, Max 5%	1	LSUM		
2	Color Audio-Video Route Survey	1	LSUM		
3	Curb And Gutter, Rem	2,471	LFT		
4	Pavt, Repr, Rem, Special	632	SYD		
5	Cold Milling Existing Pavement, 2 inch, Special	27,217	SYD		
6	HMA Surface, Rem	3,004	SYD		
7	Sidewalk, Rem	2,408	SYD		
8	Sign, Remove, Salvage and Reinstall	25	EA		
9	Sewer, Rem, Less Than 24 Inch (As-Needed)	200	LFT		
10	Remove and Replace Sewer, Less Than 24 Inch (As Needed)	100	LFT		
11	Tree Rem, 6 Inch To 18 Inch, Special	11	EA		
12	Tree Rem, 19 Inch To 36 Inch, Special	11	EA		
13	Tree Rem, 37 Inch and Larger, Special	10	EA		
14	Sewer Lateral Lining, CIPP, 4-Inch To 6-Inch Dia	48	EA		
15	Sewer Lateral Lining, CIPP, 4-Inch To 6-Inch Dia, Add'L Linear Footage	1,078	LFT		
16	Lateral Cleanout, 4-Inch To 6-Inch (As Needed)	35	EA		
17	Sewer Lateral Connection, Existing Factory Tap (Type 1)	18	EA		
18	Sewer Lateral Connection, With Saddle (Type 2)	38	EA		
19	Sewer Lateral Connection, New Wye & Mainline Sewer (Type 3)	22	EA		

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Item No.	Description	Quantity	Unit	Unit Price	Amount
20	Remove And Replace Sewer Lateral	900	LFT		
21	Abandon Existing Sewer, 8 Inch	339	LFT		
22	Sanitary Manhole, Abandon	2	EA		
23	Sewer Bulkhead, 8 Inch	4	EA		
24	Remove And Replace Valve Box (As Needed)	5	EA		
25	Abandon Existing Water Main	10,863	LFT		
26	Gate Well, Abandon	6	EA		
27	Valve Box, Abandon	13	EA		
28	Gate Valve and Box, Rem	2	EA		
29	Fire Hydrant Assembly, Rem	19	EA		
30	Temporary Water Service	1	LSUM		
31	Water Main, DIWM CL 54, 4 inch, OC	22	LFT		
32	Water Main, DIWM CL 54, 6 inch, OC	16	LFT		
33	Water Main, HDPE SDR 11, 8 inch, HDD	9,869	LFT		
34	Water Main, DIWM CL 54, 8 inch, OC (Pipe Furnished by Owner per Section 01215)	1,188	LFT		
35	Water Main, DIWM CL 54, 8 inch, OC W/ Restrained Joints (Pipe Furnished by Owner per Section 01215)	752	LFT		
36	Water Main, DIWM CL 54, 12 inch, OC	17	LFT		
37	Gate Valve and Well, 8 inch	32	EA		
38	Gate Valve and Box, 4 inch	1	EA		
39	Gate Valve and Box, 6 inch	2	EA		
40	Fire Hydrant Assembly, Complete	24	EA		
41	Fire Hydrant Assembly, Complete, Special	1	EA		
42	Water Main Connection, 6 inch To Existing 6 inch	2	EA		
43	Water Main Connection, 8 inch To Existing 6 inch	3	EA		
44	Water Main Connection, 8 inch To Existing 8 inch	19	EA		
45	Water Main Connection, 12 inch To Existing 12 inch	2	EA		
46	Water Main Connection, 12 inch To Existing 6 inch	1	EA		
47	Concrete Restraining Block	10	EA		
48	Water Service, Type K Copper, 1 inch	3,122	LFT		
49	Water Service Connection, 1 inch	234	EA		
50	Water Service Curb Stop And Stop Box, 1 inch	117	EA		
51	Water Service, Type K Copper, 1.5 inch	31	LFT		
52	Water Service Connection, 1.5 inch	1	EA		
53	Water Service Curb Stop And Stop Box, 1.5 inch	1	EA		
54	Water Service, Type K Copper, 2 inch	10	LFT		
55	Water Service Connection, 2 inch	1	EA		
56	Water Service Curb Stop And Stop Box, 2 inch	1	EA		
57	Structure, Adjust	30	EA		



Item No.	Description	Quantity	Unit	Unit Price	Amount
58	Structure, Reconstruct	100	VFT		
59	Storm Drain Structure, Remove and Replace	10	EA		
60	Sanitary Structure Frame and Cover	28	EA		
61	Storm Drain Structure Cover (As Needed)	15	EA		
62	Dr Structure Cover, Type K	10	EA		
63	Dr Structure Cover, EJ 5100 Type M3 5105 ADA Grate	2	EA		
64	Trench Undercut And Backfill	500	CYD		
65	Concrete Curb and Gutter, Det F4, Special	1,644	LFT		
66	Curb Ramp Opening, Conc, Special	827	LFT		
67	Pavt, Repr, Nonreinf Conc, 9 Inch, Special	259	SYD		
68	Underdrain, 6 Inch, Special, As Needed	500	LFT		
69	Aggregate Base, 21AA, CIP, Special	1,370	TON		
70	Sidewalk, Conc, 4 inch	16,435	SFT		
71	Sidewalk, Conc, 6 inch	1,914	SFT		
72	Sidewalk Ramp, Conc, 6 inch	3,129	SFT		
73	Detectable Warning Surface	514	LFT		
74	Driveway, Nonreinf, Conc, 6 inch	373	SYD		
75	HMA, 5EML, Mod	2,984	TON		
76	Hand Patching	450	TON		
77	Subgrade Undercutting, Type II, Special	<b>150</b>	CYD		
78	1"X3" Crushed Concrete, Special	<b>490</b>	TON		
79	Large Aperture Geogrid	<b>1,350</b>	SYD		
80	Turf Restoration	31,756	SYD		
81	Property Protection Fence	500	LFT		
82	Maintaining Traffic	1	LSUM		
83	Maintenance Gravel (As-Needed)	150	TON		
84	Temporary Pavement	1	LSUM		
85	Soil Erosion and Sedimentation Control	1	LSUM		
86	Exploratory Excavation and Utility Locating, Pavement	99	EA		
87	Exploratory Excavation and Utility Locating, Non-Pavement	596	EA		
88	Allowance For Permit Fees	1	LSUM	\$35,000	\$35,000.00
89	Miscellaneous Easement Conditions	1	LSUM		
90	Project Sign	1	EA		
91	Sanitary Sewer Main Televising	10,000	LFT		
92	Value of Owner-Furnished Ductile Iron Pipe per Specification Section 01215	1,940	LFT	\$49.84	\$96,689.60

TOTAL CONTRACT PRICE \$ \_\_\_\_\_  
(Items 1 thru 92)

Note: In case of discrepancy, unit prices shall be used to determine the total amount of this bid.

**TAXES**

The foregoing unit prices include all applicable Federal, State and Local taxes.

**ADDENDA**

This Proposal is based on the following Addenda in the table below:

Addendum Number	Date Issued

**SUBCONTRACTORS AND MAJOR EQUIPMENT MANUFACTURERS/SUPPLIERS**

The Bidder agrees, in accordance with the Information For Bidders, that it is concurrently with this bid, furnishing the Owner the required information relative to the qualifications of Bidder and Subcontractors required to be identified pursuant to the Information For Bidders. Bidder also agrees that Bidder will provide all other information as required with this bid and/or within the times specified in the Information For Bidder or other Contract Documents. Bidder acknowledges that this bid may be rejected if Bidder fails to provide any of the required information with this bid and/or within the times outlined in the Information For Bidders or other Contract Documents.

**BID GUARANTEE**

The Bidder encloses a certified or cashier's check or bid bond in the amount of Five Percent (5%) of the accompanying total bid.

\_\_\_\_\_ Certified Check  
\_\_\_\_\_ Cashier's Check  
\_\_\_\_\_ Bid Bond

The Bidder hereby declares that this bid was prepared by qualified personnel of its employ who inspected the Plans and Specifications, read and interpreted the Geotechnical Data and other information furnished by the Owner, and developed the Bidder's intended construction methods.

If this Proposal is accepted by the Owner and the undersigned shall fail to contract as aforesaid and to furnish the required surety bonds within ten (10) calendar days of the delivery date of the Notice of Award to the successful Bidder, then the undersigned shall be considered to have abandoned the Contract, and the Certified Check, Cashier's Check or Bid Bond accompanying this Proposal shall be forfeited to the Oakland County Water Resources Commissioner and/or the Drainage District.

If the Bidder enters into the Contract in accordance with this Proposal, or if its Proposal is rejected, then the accompanying bid guarantee shall be returned to the Bidder.

By submission of the Bid, each Bidder certifies, and in the case of a joint BID each party thereto certifies as to its own organization, that this Bid has been arrived at independently, without consultation,

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**OAKLAND COUNTY WATER RESOURCES COMMISSIONER**



communication, or agreement as to any matter relating to this BID with any other Bidder or with any competitor.

In submitting this bid it is understood that the right is reserved by the Oakland County Water Resources Commissioner and/or the Drainage District to reject any and all bids, to waive non-material irregularities and/or informalities, and to evaluate the responsiveness and responsibility of each Bidder. The Owner reserves the right to reject any bid submitted by any Bidder that the Owner determines is not a responsive and responsible Bidder based on information supplied by the Bidder or on any other information that the Owner receives or acquires on its own, including the Owner's past experience with the Bidder. The Owner further reserves the right to reject any bid submitted by any bidder, based on the sole preference of the Owner.

The Bidder shall indicate its legal status as provided herein.

**LEGAL STATUS OF BIDDER**

(The Bidder shall fill out the appropriate form below and strike out the other three listed below and complete the appropriate Resolution or Certificate.

A **Corporation** duly organized and doing business under the laws of the State of \_\_\_\_\_ for whom \_\_\_\_\_ whose signature is affixed to this Proposal, is duly authorized to execute Contracts.

A **Limited Liability Company** duly organized and doing business under the laws of the State of Michigan for whom \_\_\_\_\_ whose signature(s) is (are) affixed to this Proposal, is (are) duly authorized to execute Contracts.

A **Partnership or Joint Venture**, all members of which, with addresses, are:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

An **Individual**, whose signature is affixed to this Proposal.

\_\_\_\_\_

Signed and Sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

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

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

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

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



**A. IF BIDDER IS A CORPORATION, COMPLETE THE FOLLOWING:****RESOLUTION OF THE BOARD OF DIRECTORS  
OF \_\_\_\_\_**

The undersigned, being all of the members of the Board of Directors of \_\_\_\_\_, a \_\_\_\_\_ (state) Corporation (the "Corporation") do hereby certify that the following is a true and correct copy of the resolutions duly adopted by the Corporation on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that the same have not been modified or rescinded and are in full force and effect and that the resolutions have been adopted in accordance with the laws of the state of incorporation, the Articles of Incorporation and the Bylaws of the Corporation and either no shareholder consent is required or any necessary shareholder consent has been obtained:

**RESOLVED**, that any one or more of the officers of the Corporation referred to below be and hereby are authorized and empowered on behalf of the Corporation to transact any and all business with the County of Oakland, State of Michigan, acting by and through its statutory agent, the Oakland County Water Resources Commissioner (the "Water Resources Commissioner") and/or the \_\_\_\_\_ Drainage District which the Corporation could, in any way, transact and are further authorized to execute, acknowledge and deliver on behalf of the Corporation and in its name to the Water Resources Commissioner.

1. A Proposal and Bid Sheet for construction of all or part of the \_\_\_\_\_ Project in form and content as such officer deems necessary and appropriate and as approved by the Water Resources Commissioner.
2. All other agreements, instruments or documents as such officer deems necessary or appropriate in conjunction with the aforementioned project.

**RESOLVED FURTHER**, that the following are the true and correct names, signatures and titles of the officers of the Corporation referred to above:

NAMES	SIGNATURES	TITLES
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**RESOLVED FURTHER**, that the acts of said person(s) or any of them, shall at all times be given full faith and credit without the necessity of inquiry by the Water Resources Commissioner as to any of the circumstances attending the same and that the acts and doings of authorized person(s) or any of them in respect to the subject matter hereof are hereby fully ratified, approved, adopted and confirmed; and

**RESOLVED FURTHER**, that the authorizations herein set forth shall remain in full force and effect until written notice of their modification or discontinuance shall be given to and actually received by the Water Resources Commissioner at its offices.

**IN WITNESS WHEREOF**, the Board of Directors of \_\_\_\_\_ have executed this Resolution as of the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**BOARD OF DIRECTORS**

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

**JIM NASH**  
**OAKLAND COUNTY WATER RESOURCES COMMISSIONER**

**B. IF BIDDER IS A LIMITED LIABILITY COMPANY, COMPLETE THE FOLLOWING:**

**RESOLUTION OF MEMBERS**  
**OF \_\_\_\_\_, L.L.C.**

The undersigned, being all of the members of \_\_\_\_\_, L.L.C. a \_\_\_\_\_ (state) limited liability company (the "Company") do hereby certify that the following is a true and correct copy of the resolutions duly adopted by the Company on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that the same have not been modified or rescinded and are in full force and effect and that the resolutions have been adopted in accordance with the laws of the state of incorporation, the Articles of Organization and the Operating Agreement and that no further member consent is required or any necessary member consent has been obtained:

**RESOLVED**, that any one or more of the members of the Company referred to be and hereby are authorized on behalf of the Company to transact any and all business with the County of Oakland, State of Michigan, acting by and through its statutory agent, the Oakland County Water Resources Commissioner (the "Water Resources Commissioner") and/or \_\_\_\_\_ Drainage District which the Company could, in any way, transact and are further authorized to execute, acknowledge and deliver on behalf of the Company and in its name to the Water Resources Commissioner.

1. A Proposal and Bid Sheet for construction of all or part of the \_\_\_\_\_ Project in form and content as the members deem necessary and appropriate and as approved by the Water Resources Commissioner.

2. All other agreements, instruments or documents as the members deem necessary or appropriate in conjunction with the aforementioned project.

**RESOLVED FURTHER**, that the acts of said member(s) or any of them, shall at all times be given full faith and credit without the necessity of inquiry by the Water Resources Commissioner as to any of the circumstances attending the same and that the acts and doings of authorized person(s) or any of them in respect to the subject matter hereof are hereby fully ratified, approved, adopted and confirmed; and

**RESOLVED FURTHER**, that the authorizations herein set forth shall remain in full force and effect until written notice of their modification or discontinuance shall be given to and actually received by the Water Resources Commissioner at its offices.

**IN WITNESS WHEREOF**, the Members have executed this Resolution of \_\_\_\_\_, L.L.C. as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_, L.L.C.

A \_\_\_\_\_ LIMITED LIABILITY COMPANY

**MEMBERS:**

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

**C. IF BIDDER IS A LIMITED PARTNERSHIP, COMPLETE THE FOLLOWING:****CERTIFICATE OF GENERAL PARTNER**

\_\_\_\_\_, being the sole General Partner of \_\_\_\_\_ Limited Partnership, a \_\_\_\_\_ limited partnership (the "Partnership") hereby certifies that the following is a true and correct copy of the resolutions duly adopted by the Partnership on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that the same have not, in any way, been modified or rescinded and are in full force and effect and that the resolutions have been adopted in accordance with the laws of the state of formation the Certificate of Limited Partnership and that either no further partner consent is required or any necessary partner consent has been obtained:

**RESOLVED**, that \_\_\_\_\_, the sole General Partner, is hereby authorized and empowered on behalf of the Partnership to transact any and all business with Oakland County, acting by and through its statutory agent, the Oakland County Water Resources Commissioner (the "Water Resources Commissioner") and/or \_\_\_\_\_ Drainage District which Partnership could, in any way, transact and is further authorized to execute, acknowledge and deliver on behalf of the Partnership and in its name to the Water Resources Commissioner.

1. A Proposal and Bid Sheet for construction of all or part of the \_\_\_\_\_ Project in form and content as such General Partner deems necessary and appropriate and as approved by the Water Resources Commissioner.
2. All other agreements, instruments or documents as such General Partner deems necessary or appropriate in conjunction with the aforementioned project.

**RESOLVED FURTHER**, that the following are the true and correct names of all general and limited partners of the Partnership:

NAMES	PARTNER
_____	General
_____	Limited
_____	Limited

**RESOLVED FURTHER**, that the acts of General Partner shall at all times be given full faith and credit without the necessity of inquiry by the Water Resources Commissioner as to any of the circumstances attending the same and that the acts and doings of the General Partner in respect to the subject matter hereof are hereby fully ratified, approved, adopted and confirmed; and

**RESOLVED FURTHER**, that the authorizations herein set forth shall remain in full force and effect until written notice of their modification or discontinuance shall be given to and actually received by the Water Resources Commissioner at its offices.

**IN WITNESS WHEREOF**, the sole General Partner of \_\_\_\_\_ Limited Partnership, hereby executes this Certificate of General Partner as of the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**GENERAL PARTNER**

**JIM NASH**  
**OAKLAND COUNTY WATER RESOURCES COMMISSIONER**



**D. IF BIDDER IS A PARTNERSHIP OR JOINT VENTURE, COMPLETE THE FOLLOWING:****CERTIFICATE OF PARTNERS**

The undersigned do hereby certify that they are all the partners of \_\_\_\_\_, a \_\_\_\_\_ Co-Partnership or Joint Venture ("Partnership"), that the following is a true and correct copy of the resolutions duly adopted by the Partnership on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that the same have not, in any way, been modified or rescinded and are in full force and effect and that the resolutions have been adopted in accordance with the laws of the state of formation the Certificate of Co-Partnership and that either no further partner consent is required or any necessary partner consent has been obtained:

**RESOLVED**, that the undersigned are hereby authorized and empowered on behalf of the Partnership to transact any and all business with the County of Oakland, State of Michigan, acting by and through its statutory agent, the Oakland County Water Resources Commissioner (the "Water Resources Commissioner") and/or \_\_\_\_\_ Drainage District which the Partnership could, in any way, transact and are further authorized to execute, acknowledge and deliver on behalf of the Partnership and in its name to the Water Resources Commissioner.

1. A Proposal and Bid Sheet for construction of the \_\_\_\_\_ Project in form and content as such partner deems necessary and appropriate and as approved by the Water Resources Commissioner.
2. All other agreements, instruments or documents as such partner deems necessary or appropriate in conjunction with the aforementioned project.

**RESOLVED FURTHER**, that the said partners or any of them, shall at all times be given full faith and credit without the necessity of inquiry by the Water Resources Commissioner as to any of the circumstances attending the same and that the acts and doings of the partners or any of them in respect to the subject matter hereof are hereby fully ratified, approved, adopted and confirmed; and

**RESOLVED FURTHER**, that the authorizations herein set forth shall remain in full force and effect until written notice of their modification or discontinuance shall be given to and actually received by the Water Resources Commissioner at its offices.

**IN WITNESS WHEREOF**, the partners of \_\_\_\_\_ hereby executes this Resolution as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**PARTNERS:**


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## SUPPLEMENTARY CONDITIONS

### PART 1 – GENERAL

#### 1.01 GENERAL

These Supplementary Conditions are a part of the Contract Documents for the Seminole Hills Water Main Improvements project. The requirements herein specified supplement and/or supersede those contained elsewhere in the General Conditions.

#### 1.02 General Conditions, Article 1, Contract Documents Paragraph A

Replace the first sentence with the following:

The Contract Documents are defined in Article 3 (DEFINITION OF TERMS) below.

#### 1.03 General Conditions, Article 3, Definition of Terms

**Substantial Completion:** Add the following statement to the definition of Substantial Completion:

(4) Substantial Completion shall include the full and total completion of all Bid Item Nos. 1 through 92 in accordance with the Contract Documents with the exception of the establishment of the vegetation completed under Item No. 80 (Turf Restoration), which vegetation must be fully established prior to Final Acceptance; the removal of SESC measures installed under Item No. 85 (Soil Erosion And Sedimentation Control), which must be completed prior to the Final Acceptance; and additional vegetative measures associated with Item No. 89 (Miscellaneous Easement Conditions), which must be fully established prior to the Final Acceptance.

**Work:** Modify the last sentence of the definition of Work to state the following:

The Work shall not include activities to be performed, labor, or services to be provided by Owner hereunder. Materials, supplies, and equipment to be supplied by Owner and incorporated into the Work including but not limited to ductile iron pipe provided by Owner under Section 01215 of the Specifications are part of the Work.

#### 1.04 General Conditions, Article 7, Permits and Regulations

Add the following:

~~The Contractor is responsible for making all arrangements for inspection and the payment of fees to permitting agencies. Permits required for this project include the following:~~

~~MDOT Individual Construction Permit No. \_\_\_\_\_~~

~~Michigan Department of EGLE Part 399 Permit No. ACT-262452~~

~~City of Pontiac Right-of-Way Permit No. \_\_\_\_\_~~

~~Oakland County Water Resources Commissioner Water Main Extension Permit No. \_\_\_\_\_~~

~~Oakland County Water Resources Commissioner SESC Permit No. \_\_\_\_\_~~

~~Copies of the permits obtained prior to bid are included in these specifications.~~

*Add the following:*

*The Contractor is responsible for making all arrangements for inspection and the payment of fees to permitting agencies. An allowance has been included in the Proposal*

## SUPPLEMENTARY CONDITIONS

*for payment of fees associated with this project. Permits required for this project are listed in Section 02990 (Permits). Copies of permit authorizations obtained prior to bid are included in these specifications.*

### **1.05 General Conditions, Article 10, General Requirements for Materials and Workmanship** Add the following paragraphs:

E. Contractor will have full responsibility for maintenance, storage, security, scheduling, expediting, and coordinating deliveries of all equipment and materials as required to achieve the Substantial and Final Completion Dates set forth in the Agreement and any other milestone dates set forth in the Construction Schedule.

F. Contractor shall be responsible for arranging all shipments of Contractor-supplied equipment and materials to the Site in a timely manner so as not to cause any delay to the Work on the Critical Path of the Construction Schedule. Contractor shall not be entitled to an adjustment of the Contract Time or Contract Sum in the event that Contractor fails to timely place equipment or material orders. Contractor shall consign such shipments to itself as consignee at the Project shipping address, freight fully prepaid. Contractor shall be responsible for making demurrage agreements and settlement with carriers for its shipments. Contractor shall advise Owner in writing, in advance of major shipments of Contractor's equipment and materials, and shall coordinate with Owner the arrival, unloading, and release of carriers' equipment. Contractor shall promptly unload its shipments and promptly release carrier's equipment.

G. Equipment and materials will be stored to ensure the preservation of their quality and fitness for the Work and to facilitate prompt and accessible inspection.

H. In the event Owner purchases any equipment or materials before the Parties execute the Agreement, Owner shall assign to Contractor all rights, benefits and obligations of Owner, as purchaser, under any purchase orders issued by Owner for such materials and equipment, including, without limitation, any warranties or guarantees related to such equipment or materials. Contractor assumes all rights, benefits and obligations of Owner, as purchaser, under such purchase orders, as of the date of this Agreement.

I. Equipment and materials furnished by Owner and delivered after the execution of the Agreement, if any, shall be received by Contractor in the presence of the Engineer and Owner's Inspector and quantities and the fitness thereof shall be checked jointly by Contractor, Engineer, and Owner's Inspector. The delivery and acceptance of all such equipment and materials shall be recorded in writing, and Contractor shall evidence receipt and acceptance of such equipment and materials by signing forms satisfactory to Owner. The inspection of any such deliveries by the Engineer and Owner's Inspector shall not operate as a waiver nor relieve Contractor of its obligation to perform the Work and deliver the completed Project in accordance with the Contract Documents. Under no circumstance shall Contractor schedule the delivery of, nor receive any materials or equipment at the Site, unless and until the required property insurance is in place.

J. Contractor shall carefully note any visible damage to equipment and material, whether furnished by Owner or Contractor, prior to Contractor's acceptance of delivery. After Contractor has accepted delivery of such equipment and materials, Contractor shall assume full responsibility for any loss of or damage to such equipment and materials but



## SUPPLEMENTARY CONDITIONS

shall not be precluded from making a claim under an applicable builder's risk insurance policy. To the extent defects or deficiencies in the materials or equipment are discovered after acceptance of delivery, whether related to the Work performed under the Agreement or otherwise, Contractor shall retain the obligation to correct such defects including the enforcement of warranties or guarantees under the Agreement. Contractor shall look solely to the supplier or manufacturer for any recourse arising or resulting from any defects or deficiencies in any Owner-furnished equipment and materials, and Contractor waives and releases any claims against Owner arising under the purchase order and shall indemnify, defend and hold Owner harmless from and against any claims resulting from such defects or deficiencies. Likewise, Owner shall not be responsible for any defects or deficiencies in any equipment or materials sole sourced by Owner and Contractor's remedies and obligations in this Article 10.J. shall apply equally to such sole sourced equipment or materials. Contractor acknowledges that the Contract Sum includes consideration paid by Owner to Contractor for the assumption of these risks and obligations.

K. Contractor shall notify Owner of any equipment and materials supplied to Contractor by Owner which are surplus and, without additional compensation, shall cooperate with Owner in the disposition of such surplus as directed by Owner.

L. Contractor shall notify Owner of any lack of, or requirement for, equipment and materials required under this Agreement to be supplied by Owner, if any, in sufficient time for Owner to furnish said equipment and material in advance of Contractor's need. In the event Owner-furnished equipment and materials are non-conforming or defective, Contractor shall promptly notify Owner of such defect or non-conformance.

M. If applicable, Contractor shall take all reasonable steps to avoid standby time due to such defective, non-conforming or lack of Owner-furnished equipment and materials and continue progress of other portions of Work pending correction of such defective, non-conforming or delivery of such missing equipment and materials. If misfit or lack of Owner-furnished equipment or materials causes delay to the Critical Path of the Construction Schedule, Contractor shall be entitled to an adjustment of the Contract Time as provided in Article 27 Schedule Changes (Owner Delay).

### **1.06 General Conditions, Article 11, Testing and Sampling**

Add the following:

The Owner will arrange to have all soil compaction tests and concrete quality control tests, including concrete compression tests, performed by an Independent Testing Laboratory, in accordance with the specifications. Copies of test reports shall be furnished to the Owner and distributed to parties designated by the Owner, including the Contractor.

### **1.07 General Conditions, Article 19 Safety and Protection Paragraph Q**

Add the following:

Contractor is required to have a Covid-19 Safety program in place. Prior to starting Work, Contractor shall provide a copy of their Covid-19 Safety Program for review by the Owner's Safety Representative. Contractor is required to comply with all Federal, State, County, and City laws, rules, mandates, and other requirements regarding Covid-19.

**1.08 General Conditions, Article 20, Contractor's Supervision and Organization  
Paragraph A**

Replace the third sentence with the following:

The Contractor shall, at all times during the prosecution of all the Work maintain a competent full-time on-site superintendent and any and all necessary foremen and assistants on the Site of the Work through Final Completion of the Work.

**Paragraph E**

Replace Paragraph E with the following:

The Contractor is not required to maintain an office on the Site of the Work, or at some convenient location adjacent thereto. However, should the Contractor desire to have an office, the location of said office shall be approved by the Owner, and the Contractor shall coordinate and pay for all temporary power, water, phone service, and other utilities for their office as required.

**1.09 General Conditions, Article 22, Submittals  
Paragraph B**

Replace the first sentence with the following:

Where called for in the Contract Documents, the Contractor shall submit required Submittals for review in electronic PDF format as may be required via the document exchange website (i.e., OneDrive, Basecamp, Dropbox, Procore, Submittal Exchange, Microsoft One Drive, etc.) set up for the Project by the Engineer or by other means such as e-mail if designated by the Engineer. Hard copies in general are not required unless specifically requested by the Engineer and shall be provided at no additional cost to Owner if requested.

**1.10 General Conditions, Article 32, Clean Up and Restoration**

Add the following:

While no specific bid item has been created for repair of sprinkler systems, decorative fences, railroad ties, decorative plantings, under drains, drain tiles, electronic pet fencing, etc., the Contractor shall be responsible to locate, protect and restore those areas equal to what existed prior to the start of construction at no additional cost to the project. The Contractor shall promptly restore sprinkler systems to working order by making temporary or permanent repairs within five days of the initial disruption and electronic pet fencing shall be repaired within 24 hours of being damaged.

**1.11 General Conditions, Article 38, Sunday, Holiday, and Night Work**

Add the following:

The Contractor shall limit the hours of operation from 7:00 A.M. to 7:00 P.M., Monday through Saturday. Prior authorization shall be obtained from the City of Pontiac and the Owner to extend these working hours and/or to continue work on Sundays.

Work shall be suspended during the following days listed unless pre-approved:

Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day plus the following day  
Christmas Eve  
Christmas Day  
New Year's Eve  
New Year's Day

## SUPPLEMENTARY CONDITIONS

### 1.12 General Conditions, Article 39, Scheduling

Add the following:

Contractor's Scheduler shall prepare two-week look-ahead schedules and present such schedules at the Progress Meetings. Copies of the two-week look-ahead schedules shall be provided by Contractor to Engineer and Owner every Monday and at or before each Progress Meeting.

### 1.13 General Conditions, Article 50, Insurance and Indemnification

Add the following:

~~Contractor shall include the following as Additional Insureds in their Commercial General Liability Insurance, Automobile Liability Insurance, Umbrella Liability Insurance, and Owners and Contractors Protective (OCP) Liability policy:~~

*Delete Article A.1)d) and Article B.4)*

*Contractor is not required to purchase an Owners and Contractors Protective (OCP) Liability policy for Owner.*

*Add the following to Article C.3):*

*Contractor shall include the following as Additional Insureds in their Commercial General Liability Insurance, Automobile Liability Insurance, and Umbrella Liability Insurance policies:*

Jim Nash, Oakland County Water Resources Commissioner

County of Oakland, its employees, agents, and/or authorized representatives

The City of Pontiac, its employees, agents, and/or authorized representatives

Michigan Department of Environment, Great Lakes, and Energy, its employees, agents, and/or authorized representatives

Hubbell, Roth & Clark, Inc., its employees, agents, and/or authorized representatives

G2 Consulting Group, its employees, agents, and/or authorized representatives

Michigan Department of Transportation its employees, agents, and/or authorized representatives

### 1.14 Bid Items

The method of measurement and the basis of payment for each bid item in the Proposal will be as specified in the Contract Documents. The items are generally grouped by the section of the Specifications under which the particular unit of work is detailed. There will be no payment allowed for any unit of work not specifically mentioned in the Proposal as a Bid Item, and any such unit of work not mentioned in the Proposal, but necessary for the completion of the Project, shall be considered as incidental and the cost shall be included in other prices bid in the Proposal.



## **SUPPLEMENTARY CONDITIONS**

### **1.15 Measurement**

Quantities of work completed under the Contract will be measured by the Engineer according to the United States standard measures. When measurements are stated in miles, stations, acres, feet, they will be ground level measurements unless specified otherwise. Where measurements are specified to be "in place," they will be taken along the actual surface of the completed item to obtain linear, area, or volume measurements.

### **PART 2 – PRODUCTS**

Not used.

### **PART 3 – EXECUTION**

Not used.

**END OF SECTION**

SECTION 01220

BID ITEM DESCRIPTION

PART 1 GENERAL

1.1 SCOPE

- A. This Section describes the method of measurement and basis of payment for all items of Work included in the Contract and specified in the Proposal.
1. The Contractor shall provide all labor, material, tools, equipment and services required to complete the Work specified herein and indicated on the Drawings and all other items necessary to complete the job, whether specifically mentioned or implied.
  2. Payment will only be made for the items listed in the Proposal Form.
- B. The Owner will make no allowances for items not included in the Proposal Form.

1.2 ITEMS OF THE PROPOSAL

**Item #1 – Mobilization, Max 5%**

This bid item shall be paid for at the Contract Unit Price per **lump sum** basis. The Work required by this item shall be in accordance with General Conditions item #48 and shall include, but not be limited to, the preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of the Contractor's offices, buildings, and other facilities necessary to undertake the Work on the project; and for other work and operations which must be performed or for expenses incurred prior to beginning work on the various contract items on the project site. It shall also include pre-construction costs, exclusive of bidding costs, which are necessary direct costs to the project and are of a general nature rather than directly attributable to other pay items under the contract. The Work shall include all demobilizations and remobilizations which are required due to seasonal suspension of the Work. This contract pay item also includes all other items and costs not included in the price bid for specific items such as overhead, insurance, bond costs (i.e. performance, labor and material, and maintenance and guarantee), permits, safety program, coordination with others, and the like. All cost to the Contractors for full compliance with all requirements of the General Conditions sections shall also be included in this pay item.

The Contract Unit Price for Mobilization **shall not exceed five (5) percent** of the Total Amount of Bid minus the amount for this pay item. Payment for this item will be based upon the following Partial Payment schedule:

Percentage of Original Contract Amount Earned	Percentage of Bid Price for Mobilization Allowed
5	50%
10	75%
25	100%

Additional unit prices will not be paid for the Contractor to remobilize to the site regardless of the staging or sequence of construction preferred by the Contractor. The initial payment for the project shall not be made until construction has been started and a schedule of values (if required) for the project has been approved. The total sum of all payments for this item shall not exceed the original contract amount bid for MOBILIZATION, regardless of the fact that the Contractor may have, for any reason, shut down his work on the project, moved equipment away from the project and then back again, or for additional quantities or items of work added to the contract.

**Item #2 – Color Audio-Video Route Survey**

This bid item shall be paid for at the Contract Unit Price per **lump sum** basis in the construction zones of influence as directed by the Owner and Engineer. The Work required by this item shall be completed in accordance with WRC Specifications for Color Audio-Video Recording of Construction Areas and Section 00020.

**Item #3 – Curb and Gutter, Rem**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of existing curb and gutter removed. The Work required for this item shall be completed in accordance with Section 204 of the 2012 MDOT Standard Specifications for Construction. This item shall be used as needed at the discretion of and only after approval by the Owner's field representative.

**Item #4 – Pavt Repr, Rem, Special**

This bid item shall be paid for at the Contract Unit Price per **Square Yard**. The intent of this pay item is to facilitate concrete panel replacement below the existing HMA by removing concrete panels and driveways in locations previous marked by the Project Engineer. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with the Special Provision for Concrete Pavement Repair and MDOT Standard Detail R-44-F.

**Item #5 – Cold Milling Existing Pavement, 2 inch, Special**

This bid item shall be paid for at the Contract Unit Price per **square yard** of HMA pavement milled at a depth of 2 inches. The Work required for this item shall be completed in accordance with the Special Provision for "Cold Milling Existing Pavement".

**Item #6 – HMA Surface, Rem**

This bid item shall be paid for at the Contract Unit Price per **square yard** of HMA pavement removed, no greater than 12 inches thick. The Work required for this item shall be completed in accordance with Section 501 of the 2012 MDOT Standard Specifications for Construction.

**Item #7 – Sidewalk, Rem**

This bid item shall be paid for at the Contract Unit Price per **square yard** of sidewalk removed. The Work required for this item shall be completed in accordance with Section 204 of the 2012 MDOT Standard Specifications for Construction, except that it includes sidewalk of any thickness, including sidewalk ramps and detectable warning surfaces. This item shall be used as needed at the discretion of and only after approval by the Owner's field representative.



**Item #8 – Sign, Remove, Salvage and Reinstall**

This bid item shall be paid for at the Contract Unit Price per **each** sign that needs to be temporarily removed from the project work area. The Work required for this item includes the removal of traffic signs and posts within the project limits, safely storing the signs in a protected area, and reinstalling the signs on new steel posts and footings as required in the same or similar location prior to construction, noted on the Drawings or as directed by the Owner. Signs damaged during construction shall be replaced in kind at no additional cost to the Owner. New signposts shall be of the same type or better.

**Item #9 – Sewer, Rem, Less than 24 inch (As-Needed)**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of pipe removed. The intent of this pay item is to remove any abandoned storm pipe that may be encountered. This item shall be used as-needed, at the discretion of and only after approval by the Engineer. The Work required for this item shall be completed in accordance with Section 203 of the 2012 MDOT Standard Specifications for Construction.

**Item #10 – Remove and Replace Storm Drain, Less than 24 inch (As-Needed)**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of sanitary sewer or storm drain pipe in the specified diameter range, removed and replaced in-kind, measured in place, to accommodate construction of the proposed water main. The contractor shall make every effort to support the existing piping during construction. This item shall be used as-needed, at the discretion of and only after approval by the Engineer. The Work and materials required by this item shall be in accordance with the Oakland County Water Resources Commissioner's Office Design Standards (sanitary sewers) and the City of Pontiac Engineering Design Standards (storm drains) and includes all necessary excavation; removal of existing sewers or drains; sheeting or bracing; dewatering; maintaining flow; pipe bedding; laying and jointing of new pipe; new connections and connecting of existing facilities; testing; backfilling; disposal of surplus excavated material; and all other work incidental to the construction of the replacement piping, as indicated in the Oakland County Water Resources Commissioner and MDOT Standard Details. Removals shall occur at the nearest joint.

**Item #11 – Tree, Rem, 6 inch to 18 inch, Special**

This bid item shall be paid for at the Contract Unit Price per **each** tree in the specified diameter range to be removed. The Work required for this item shall be completed in accordance with Section 202 of the 2012 MDOT Standard Specifications for Construction, except that to determine the diameter of the tree to be removed, the measurement shall be taken at 3 feet above the ground.

**Item #12 – Tree, Rem, 19 inch to 36 inch, Special**

This bid item shall be paid for at the Contract Unit Price per **each** tree in the specified diameter range to be removed. The Work required for this item shall be completed in accordance with Section 202 of the 2012 MDOT Standard Specifications for Construction, except that to determine the diameter of the tree to be removed, the measurement shall be taken at 3 feet above the ground.

**Item #13 – Tree, Rem, 37 inch and larger, Special**

This bid item shall be paid for at the Contract Unit Price per **each** tree in the specified diameter range to be removed. The Work required for this item shall be completed in accordance with Section 202 of the 2012 MDOT Standard Specifications for Construction, except that to determine the diameter of the tree to be removed, the measurement shall be taken at 3 feet above the ground.

**Item #14 – Sewer Lateral Lining, CIPP, 4-inch to 6-inch dia**

This bid item shall be paid for the Contract Unit Price per **each** sewer lateral liner installed, up to 5 linear feet from the mainline. The work for this item shall be completed in accordance with Section 02745. This item includes cost to CCTV and cleaning of the lateral prior to installation, post Lining CCTV, bypass pumping of main line flow, any vacuum excavation or clean out installation for access to the upstream end of the service lateral, and required testing. Prior to installation of the lateral liner, the contractor shall confirm the linear length via field measurement.

**Item #15 – Sewer Lateral Lining , CIPP, 4-inch to 6-inch dia, Add'l Linear Footage**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of sewer lateral liner installed beyond 5 feet from the sewer mainline. The work for this item shall be completed in accordance with Section 02745. This item includes cost to CCTV and cleaning of the lateral prior to installation, post Lining CCTV, bypass pumping of main line flow, any vacuum excavation or clean out installation for access to the upstream end of the service lateral, and required testing. Prior to installation of the lateral liner, the contractor shall confirm the linear length via field measurement.

**Item #16 – Sanitary Sewer Lead Cleanout, 6 inch (As-Directed)**

This bid item shall be paid for at the Contract Unit Price per **each** sanitary sewer lead cleanout installed. The work for this item shall be completed in accordance with Section 02745. This item shall be used only at the discretion of the owner when adequate cleaning and/or inspection is not able to be completed in preparation for lateral lining and not to facilitate the lining process itself.

**Item #17 – Sanitary Sewer Lead Connection, to Existing Factory Tap (Type 1)**

This bid item shall be paid for at the Contract Unit Price per **each** sanitary sewer service lead connection installed. The Work required for this item shall be completed in accordance with the corresponding detail on the Sanitary Lead Replacement Details on Sheet D and the OCWRC Open Cut Sanitary Sewer Specifications (OCSSS). This pay item shall include the following: excavation of the existing sewer lead at the mainline sewer, disposal of surplus excavated material, furnishing the materials, any and all bypassing of sewage flows to accomplish the Work, temporary earth retention as required, draining, dewatering, backfilling the excavation with Class II sand to the bottom of the pavement base, and compaction as required.

**Item #18 – Sanitary Sewer Lead Connection, with Saddle (Type 2)**

This bid item shall be paid for at the Contract Unit Price per **each** sanitary sewer service lead connection installed. The Work required for this item shall be completed in accordance with the corresponding detail on the Sanitary Lead Replacement Details on Sheet D and the OCWRC Open Cut Sanitary Sewer Specifications OCSSS. This pay item shall include the following: excavation of the existing sewer lead at the mainline sewer, disposal of surplus excavated material, furnishing the materials, any and all bypassing of sewage flows to accomplish the Work, temporary earth retention as required, draining, dewatering, backfilling the excavation with Class II sand to the bottom of the pavement base, and compaction as required.

**Item #19 – Sanitary Sewer Lead Connection, New Wye and Mainline Sewer (Type 3)**

This bid item shall be paid for at the Contract Unit Price per **each** sanitary sewer service lead connection installed at the mainline sewer. The Work required for this item shall be completed in accordance with the corresponding detail on the Sanitary Lead Replacement Details on Sheet D and the OCWRC Open Cut Sanitary Sewer Specifications (OCSSS). This pay item shall include the following: the excavation of the existing sewer lead at the mainline sewer, disposal of surplus excavated material, furnishing the materials, any and all bypassing of sewage flows to accomplish the Work, temporary earth retention as required, draining, dewatering, backfilling the excavation with Class II sand to the bottom of the pavement base, and compaction as required.

**Item #20 – Remove and Replace Sewer Lateral (As Needed)**

This bid item shall be paid for at the Contract Unit Price per **each** sewer lateral that is removed in order to clear the path of the proposed utility installation and then replaced after the utility is installed. This item shall be used as needed, at the discretion of and only after approval by the Engineer. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with the Special Provision for Exploratory Excavation and Utility Locating.

**Item #21 – Abandon Existing Sanitary Sewer, 8 inch**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of sanitary sewer abandoned. Measurements will be taken from the start of each section to its respective ends (center of end manholes, when they exist). Sanitary sewers of the size indicated scheduled for abandonment shall be bulkheaded at the upstream and downstream ends and filled with flowable fill in accordance with the provisions for water main abandonment in Specification Section 02660. Contractor is responsible for monitoring the volume of flowable fill delivered into each length of pipe to be abandoned to avoid spreading of material into the surrounding soils. Bulkheads shall be completed and paid for and be in accordance with Item #23 (Sanitary Sewer Bulkhead, 8 inch).

**Item #22 – Sanitary Manhole, Abandon**

This bid item shall be paid for at the Contract Unit Price per **each** sanitary manhole structure abandoned. The Work required by this item includes removal, salvage, and temporary storage of the structure frame and cover, including delivery of each to the Owners' salvage yard and removal and disposal of portions of the sanitary manhole structure to 5 feet below the ground



surface and filling the remainder of the structure with approved flowable fill material and backfilling the excavation with approved materials and compacting to contracting requirements. Pavement restoration and stone base material will be paid for under separate items in the contract.

**Item #23 –Sewer Bulkhead, 8 inch**

This bid item shall be paid for at the Contract Unit Price per **each** bulkhead installed. The Work required for this item shall be completed in accordance with Section 402 of the 2012 MDOT Standard Specifications for Construction.

**Item #24 – Remove and Replace Valve Box (As-Needed)**

This bid item shall be paid for at the Contract Unit Price per **each** valve box removed and replaced. This item shall be used as needed at the discretion of and only after approval by the Owner's field representative. The need for this item will be based on the proximity of the excavations to the existing valve box and the condition of the existing valve box. The contractor shall remove the existing valve box while protecting the existing valve, remove existing bedding material and debris around the existing valve and install new bedding material and a new valve box to grade in accordance in accordance with Section 02660 and detail on sheet

**Item #25 – Abandon Existing Water Main**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of existing water main abandoned regardless of diameter. The Work included and required by this item are described and shall be completed in accordance with Section 02660. In general, the Work includes excavation of the existing water main, cutting, capping/bulkheading and thrust blocking of existing water main pipe, where necessary, pumping of flowable fill into the cavity of the existing water main and backfilling and compacting the access points. Contractor is responsible for monitoring the volume of flowable fill delivered into each length of pipe to be abandoned to avoid spreading of material into the surrounding soils.

**Item #26 – Gate Well, Abandon**

This bid item shall be paid for at the Contract Unit Price per **each** gate well structure abandoned, including the removal of the gate valve from the structure, plugging the in service piping with a mechanically restrained plug and providing sufficient thrust blocking for the in-service main that remains in the gate well. The Work required by this item includes removal, salvage, and temporary storage of the gate valve and structure frame and cover, including delivery of each to the Owners' salvage yard and removal and disposal of portions of the gate well structure to 5 feet below the ground surface and filling the remainder of the structure with approved flowable fill material and backfilling the excavation with approved materials and compacting to contracting requirements.

**Item #27 – Valve Box, Abandon**

This bid item shall be paid for at the Contract Unit Price per **each** valve box structure abandoned. The Work required by this item includes removal, and disposal of the valve box stem, and filling the remainder of the excavation with approved materials and compacting to contracting requirements. The gate valve shall remain in place in the open position.

**Item #28 – Gate Valve and Box, Rem**

This bid item shall be paid for at the Contract Unit Price per **each** valve box structure removed, including the corresponding valve. The Work required by this item includes removal and disposal of the valve box, removal, salvage, and temporary storage of the gate valve and delivery of the gate valve to the Owner's salvage yard and backfilling the excavation with approved materials and compacting to contracting requirements.

**Item #29 – Fire Hydrant Assembly, Rem**

This bid item shall be paid for at the Contract Unit Price per **each** fire hydrant assembly, including the companion valve and box and piping, removed. The Work required by this item includes removal and disposal of the valve box, removal and disposal of the hydrant piping to the main, plugging the connection with a mechanically restrained plug and encasing the plug in concrete, as noted on the Drawings, and removal, salvage, and temporary storage of the fire hydrant and companion valve, including delivery of the fire hydrant and companion valve to the Owner's salvage yard, and backfilling the excavation with approved materials and compacting to contracting requirements.

**Item #30 – Temporary Water Service**

This bid item shall be paid for at the Contract Unit Price per **LSUM** basis. The Work required for this item shall be completed in accordance with Sheet Q of the construction plan set and the Special Provision for Temporary Water Supply System. In general, the Work includes disconnection of the existing service from the existing main, installation of the temporary water, connection of the temporary water line to the to the house, providing service during construction, disconnection of the temporary water service from the house and removal of the temporary water service line. Restoration and connection to the new water main shall be paid for under separate pay item under the contract proposal.

**Item #31 – Water Main, DIWM CL 54, 4 inch, OC (Open Cut)**

This bid item shall be paid for at the Contract Unit Price per **linear foot**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resource Commissioner Water Main Standard Details. All joints and fittings throughout the limits indicated in the Drawings shall be restrained in accordance with Section 02661. Poly-wrap shall be used with all ductile iron pipe and fittings in accordance with Section 02668.

**Item #32 – Water Main, DIWM CL 54, 6 inch, OC (Open Cut)**

This bid item shall be paid for at the Contract Unit Price per **linear foot**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resource Commissioner Water Main Standard Details. All joints and fittings throughout the limits indicated in the Drawings shall be restrained in accordance with Section 02661. Poly-wrap shall be used with all ductile iron pipe and fittings in accordance with Section 02668.

**Item #33 – Water Main, HDPE SDR 11, 8 inch, HDD**

This bid item shall be paid for at the Contract Unit Price per **linear foot**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with

Section 02336, Section 02662, Oakland County Water Resources Commissioner Water Main Standard Details and the Water Main Details and Notes on Sheet C-1. Two (2) separate tracer wires are to be used for the full length of all HDPE installations between test stations. Tracer wire shall be installed in accordance with the Special Provision for Tracer Wire.

**Item #34 – Water Main, DIWM CL 54, 8 inch, OC (Open Cut) (Pipe Furnished by Owner per Section 01215)**

This bid item shall be paid for at the Contract Unit Price per **linear foot**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resource Commissioner Water Main Standard Details. Poly-wrap shall be used with all ductile iron pipe and fittings in accordance with Section 02668. The Owner has furnished a quantity of ductile iron pipe that is available to the contractor for use on this project.. All work to transport, unload, inspect and store the products furnished by the Owner shall not be paid for separately but shall be included in unit price bid for this pay item. Review Section 01215 for details on the type and quantity of ductile iron pipe being furnished.

**Item #35 – Water Main, DIWM CL 54, 8 inch, OC (Open Cut) W/ Restrained Joints (Pipe Furnished by Owner per Section 01215)**

This bid item shall be paid for at the Contract Unit Price per **linear foot**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resource Commissioner Water Main Standard Details. All joints and fittings throughout the limits indicated in the Drawings shall be restrained in accordance with Section 02661. Poly-wrap shall be used with all ductile iron pipe and fittings in accordance with Section 02668. The Owner has furnished a quantity of ductile iron pipe that is available to the contractor for use on this project.. All work to transport, unload, inspect and store the products furnished by the Owner shall not be paid for separately but shall be included in unit price bid for this pay item. Review Section 01215 for details on the type and quantity of ductile iron pipe being furnished.

**Item #36 – Water Main, DIWM CL 54, 12 inch, OC (Open Cut)**

This bid item shall be paid for at the Contract Unit Price per **linear foot**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resource Commissioner Water Main Standard Details. Poly-wrap shall be used with all ductile iron pipe and fittings in accordance with Section 02668.

**Item #37 – Gate Valve and Well, 8 inch**

This bid item shall be paid for at the Contract Unit Price per **each** gate valve and well of the indicated and specified size installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resources Commissioner Water Main Standard Details.

**Item #38 – Gate Valve and Box, 4 inch**

This bid item shall be paid for at the Contract Unit Price per **each** gate valve and box of the indicated and specified size installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resources Commissioner Water Main Standard Details, and Detail on Sheet 29.



**Item #39 – Gate Valve and Box, 6 inch**

This bid item shall be paid for at the Contract Unit Price per **each** gate valve and box of the indicated and specified size installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resources Commissioner Water Main Standard Details.

**Item #40 – Fire Hydrant Assembly, Complete**

This bid item shall be paid for at the Contract Unit Price per **each** fire hydrant assembly installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water Resources Commissioner Water Main Standard Details, as well as the detail on Sheet C-1.

**Item #41 – Fire Hydrant Assembly, Complete, Special**

This bid item shall be paid for at the Contract Unit Price per **each** fire hydrant assembly installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and the Oakland County Water resources Commissioner Water Main Standard Details, as well as the detail on Sheet C-1. This Hydrant shall be installed using a tapping sleeve valve and box. The Tapping Sleeve shall be an MJ outlet. The work to install the tapping sleeve shall be included in the bid unit price for this item.

**Item #42 – Water Main Connection, 6 inch to Existing 6 inch**

This bid item shall be paid for at the Contract Unit Price per **each** connection of a new water main of the size indicated, to an existing water main, of the size indicated, installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and detail on Sheet C-1.

**Item #43 – Water Main Connection, 8 inch to Existing 6 inch**

This bid item shall be paid for at the Contract Unit Price per **each** connection of a new water main of the size indicated, to an existing water main, of the size indicated, installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and detail on Sheet C-1.

**Item #44 – Water Main Connection, 8 inch to Existing 8 inch**

This bid item shall be paid for at the Contract Unit Price per **each** connection of a new water main of the size indicated, to an existing water main, of the size indicated, installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and detail on Sheet C-1.

**Item #45 – Water Main Connection, 12 inch to Existing 12 inch**

This bid item shall be paid for at the Contract Unit Price per **each** connection of a new water main of the size indicated, to an existing water main, of the size indicated, installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and detail on Sheet C-1.

**Item #46 – Water Main Connection, 12 inch to Existing 6 inch**

This bid item shall be paid for at the Contract Unit Price per **each** connection of a new water main of the size indicated, to an existing water main, of the size indicated, installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660 and detail on Sheet C-1.

**Item #47 – Concrete Restraining Block**

This bid item shall be paid for at the Contract Unit Price per **each** concrete restraining block, installed and completed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02662.

**Item #48 – Water Service, Type K Copper, 1 Inch**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of service line installed excluding the first ten (10) feet of service line that is included with the bid item **“Water Service Connection, 1 inch – Ea”**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. The water service shall be Type “K” Copper. Plastic services must be authorized by the owner as well as accompanied by a verification that the premises in which the service is connected has an electrical service that is not grounded to the existing premise plumbing.

**Item #49 – Water Service Connection, 1 Inch**

This bid item shall be paid for at the Contract Unit Price per **each** of connection made to the newly installed water main. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. This bid item includes corporation stop, saddles (where necessary) and up to ten (10) feet of new water service pipe.

**Item #50 – Water Service Curb Stop and Stop Box, 1 Inch**

This bid item shall be paid for at the Contract Unit Price per **each** of service line curb stop and curb box installed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. This bid item includes the connection to the existing service line and any special connectors or fittings to connect to the existing water service line.

**Item #51 – Water Service, Type K Copper, 1.5 Inch**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of service line installed excluding the first ten (10) feet of service line that is included with the bid item

**“Water Service Connection, 1.5 inch – Ea”.** Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. The water service shall be Type “K” Copper. Plastic services must be authorized by the owner as well as accompanied by a verification that the premises in which the service is connected has an electrical service that is not grounded to the existing premise plumbing.

**Item #52 – Water Service Connection, 1.5 Inch**

This bid item shall be paid for at the Contract Unit Price per **each** of connection made to the newly installed water main. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. This bid item includes corporation stop, saddles (where necessary) and up to ten (10) feet of new water service pipe.

**Item #53 – Water Service Curb Stop and Stop Box, 1.5 Inch**

This bid item shall be paid for at the Contract Unit Price per **each** of service line curb stop and curb box installed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. This bid item includes the connection to the existing service line and any special connectors or fittings to connect to the existing water service line.

**Item #54 – Water Service, Type K Copper, 2 Inch**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of service line installed excluding the first ten (10) feet of service line that is included with the bid item **“Water Service Connection, 2 inch – Ea”**. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. The water service shall be Type “K” Copper. Plastic services must be authorized by the owner as well as accompanied by a verification that the premises in which the service is connected has an electrical service that is not grounded to the existing premise plumbing.

**Item #55 – Water Service Connection, 2 Inch**

This bid item shall be paid for at the Contract Unit Price per **each** of connection made to the newly installed water main. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. This bid item includes corporation stop, saddles (where necessary) and up to ten (10) feet of new water service pipe.

**Item #56 – Water Service Curb Stop and Stop Box, 2 Inch**

This bid item shall be paid for at the Contract Unit Price per **each** of service line curb stop and curb box installed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02660. This bid item includes the connection to the existing service line and any special connectors or fittings to connect to the existing water service line.

**Item #57 – Structure, Adjust**

This bid item shall be paid for at the Contract Unit Price per **each** adjusted frame and cover, up to 18 inches below the frame. This item shall be used as needed, at the discretion of and only after approval by the owner's field representative in accordance with the Special Provision for Structure, Adjust. Measurement & Payment and the Work required for this item shall be completed in accordance the Special Provision for Structure Adjust. Final adjustment to be made before top layer of HMA is placed. Contractor shall be paid for one adjustment per structure. If a structure is not flush with the final pavement elevation (at the discretion of the Owner, Owners Representative or the City of Pontiac), contractor shall readjust the structure at no additional cost to the owner.

**Item #58 – Structure Reconstruct**

This bid item shall be paid for at the Contract Unit Price per **vertical foot** of manhole reconstructed beyond 18 inches below the frame and up to 6 feet below the structure adjust limits. This item shall be used as needed, at the discretion of and only after approval by the owner's field representative in accordance with the Special Provision for Structure, Reconstruct. Measurement & Payment and the Work required for this item shall be completed in accordance the Special Provision for Structure, Reconstruct. Final adjustment to be made before top layer of HMA is placed.

**Item #59 – Storm Drain Structure, Remove and Replace (As-Needed)**

This bid item shall be paid for at the Contract Unit Price per **each** catch basin structure that is crossing the proposed water main and is to be removed and replaced. The Work required for this item shall be completed in accordance with Sections 203 and 402 of the 2012 MDOT Standard Specifications for Construction. Catch basin frame and cover shall be included in the cost in Storm Drain Structure, Remove and Replace and shall be in accordance with Special Provision for Structure, Adjust. Contractor shall be paid for one adjustment per structure. If a structure is not flush with the final pavement elevation (at the discretion of the Owner, Owners Representative or the City of Pontiac), contractor shall readjust the structure at no additional cost to the owner.

**Item #60 –Sanitary Structure Frame and Cover**

This bid item shall be paid for at the Contract Unit Price per **each** new sanitary structure cover installed. Measurement & Payment and the Work required for this item shall be completed in accordance with the Special Provision for Structure, Adjust and details on sheet E. The removal and disposal of the existing frame and cover shall be included in this pay item. Contractor shall be paid for one adjustment per structure. If a structure is not flush with the final pavement elevation (at the discretion of the Owner, Owners Representative or the City of Pontiac), contractor shall readjust the structure at no additional cost to the owner.

**Item #61 –Storm Drain Structure Cover (As Needed)**

This bid item shall be paid for at the Contract Unit Price per **each** new storm drain structure cover or catch basin structure cover installed. This item shall be used as needed, at the discretion of and only after approval by the owner's field representative. The need for this item will be based on the proximity of the excavations to the existing structure and the condition of the existing frame and cover. Measurement & Payment and the Work required for this item shall



be completed in accordance with the Special Provision for Structure, Adjust. Contractor shall be paid for one adjustment per structure. If a structure is not flush with the final pavement elevation (at the discretion of the Owner, Owners Representative or the City of Pontiac), contractor shall readjust the structure at no additional cost to the owner.

**Item #62 –Dr Structure Cover, Type K**

This bid item shall be paid for at the Contract Unit Price per **each** new catch basin cover installed. Measurement & Payment and the Work required for this item shall be completed in accordance with the Special Provision for Structure, Adjust. The removal and disposal of the existing frame and cover shall be included in this pay item.

**Item #63 –Dr Structure Cover, EJ 5100 TypeM3 5105 ADA Gate**

This bid item shall be paid for at the Contract Unit Price per **each** new catch basin cover installed. Measurement & Payment and the Work required for this item shall be completed in accordance with the Special Provision for Structure, Adjust. The removal and disposal of the existing frame and cover shall be included in this pay item.

**Item #64 – Trench Undercut and Backfill (As Needed)**

This bid item shall be paid for at the Contract Unit Price per **cubic yard** of compacted trench undercut and backfill completed. This item shall be used as needed, at the discretion of and only after approval by the Owner's field representative. Measurement and payment and the Work required for this item are described and shall be completed in accordance with Section 02315.

**Item #65 – Concrete Curb and Gutter, Det F4, Special**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of concrete curb and gutter of the specified detail, as measured in place. This item shall be used as needed to complete restoration of areas of concrete curb and gutter disturbed by construction. Measurement and payment and the Work required for this item are described and shall be completed in accordance with the Special Provision for Concrete Curb and Gutter, Det F4, Special and the detail "F4 Modified Concrete Curb and Gutter" on Sheet F of the Drawings.

**Item #66 – Curb Ramp Opening, Conc, Special**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of curb ramp opening installed, as measured in place. The Work required for this item shall be completed in accordance with Special Provision for Concrete Curb and Gutter and MDOT Standard Detail R-28-J with a Det F4 Curb Type.

**Item #67 – Pavt, Repr, Nonreinf, Conc, 9 inch, Special**

This bid item shall be paid for at the Contract Unit Price per **Square Yard**. This item is to facilitate the repair of the existing concrete below the existing HMA. A unit bid price for Pavt Repr, Nonreinf Conc, Special has been provided in the Proposal and shall include all labor, equipment, and materials to install concrete pavement after the initial HMA has been removed. Measurement and payment and the Work included and required by this item are described and

shall be completed in accordance with the Special Provision for Concrete Pavement Repair, Section 02520, and MDOT Standard Detail R-44-F.

**Item #68– Underdrain, 6 inch (As Needed)**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of underdrain to be furnished and installed. This item shall be used only as needed for instances when existing underdrain is removed due to construction operations and requires verification by Owner. The Work required for this item shall be completed in accordance with the detail in the drawings and the Special Provision for Underdrain, 6 inch, Special, including furnishing and installing the underdrain pipe, geotextile separator, open graded aggregate bedding and making any connections to the existing underdrains at the limits of removal.

**Item #69 – Aggregate Base, 21AA, CIP, Special**

This bid item shall be paid for at the Contract Unit Price per **ton** of aggregate base installed to the specified thickness, as measured in place. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with the Special Provision for Aggregate Base, 21AA, Special and the details on Sheet F of the Drawings.

**Item #70 – Sidewalk, Conc, 4 inch**

This bid item shall be paid for at the Contract Unit Price per **square foot** of concrete sidewalk installed to the specified thickness, as measured in place. This item shall be used to complete restoration of areas disturbed by construction. Measurement and payment and the Work required for this item are described and shall be completed in accordance with Section 803 of the 2012 MDOT Standard Specifications for Construction and the MDOT Standard Plan R-29-I included in the Specifications. The Work shall include excavation necessary to accommodate the specified sidewalk cross-section with a 4-inch thick sand base, preparation of the subgrade, installation and compaction of the sand base material, and installation of a new concrete sidewalk to the specified thickness.

**Item #71 – Sidewalk, Conc, 6 inch**

This bid item shall be paid for at the Contract Unit Price per **square foot** of concrete sidewalk installed to the specified thickness, as measured in place. This item shall be used to complete restoration of areas disturbed by construction. Measurement and payment and the Work required for this item are described and shall be completed in accordance with Section 803 of the 2012 MDOT Standard Specifications for Construction and the MDOT Standard Plan R-29-I included in the Specifications. The Work shall include excavation necessary to accommodate the specified sidewalk cross-section with a 4-inch thick sand base, preparation of the subgrade, installation and compaction of the sand base material, and installation of a new concrete sidewalk to the specified thickness.

**Item #72 – Sidewalk Ramp, Conc, 6 inch**

This bid item shall be paid for at the Contract Unit Price per **square foot** of concrete sidewalk ramp, landings, monolithic rolled curbs or side flares and curb and gutter openings, installed and measured in place. This item shall be used to complete restoration of areas disturbed by construction. Measurement and payment and the Work required for this item are described and shall be completed in accordance with Section 803 of the 2012 MDOT Standard

Specifications for Construction and the MDOT Standard Plan R-28-J included in the Specifications to replace existing sidewalk ramps impacted by utility construction. The Work shall include excavation necessary to accommodate the 6-inch sidewalk cross-section with a 4-inch thick sand base, preparation of the subgrade, installation and compaction of the sand base material, and installation of a new concrete sidewalk ramp to the specified thickness. New sidewalk ramps and landings shall meet all applicable Americans with Disabilities Act requirements which shall be confirmed by the installing contractor. The "Detectable Warning Surfaces" are not included with this bid item and will be paid for separately.

**Item #73 – Detectable Warning Surface**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of detectable warning surface installed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 803 of the 2012 MDOT Standard Specifications for Construction and the MDOT Standard Plan R-28-J included in the Specifications.

**Item #74 – Driveway, Nonreinf Conc, 6 inch**

This bid item shall be paid for at the Contract Unit Price per **square yard** of driveway installed to the specified thickness, as measured in place. This item shall be used to complete restoration of areas disturbed by construction as indicated on the Drawings. Measurement and payment and the Work required for this item are described and shall be completed in accordance with Section 801 of the 2012 MDOT Standard Specifications for Construction and the MDOT Standard Plan R-29-I included in the specifications. The work shall include excavation necessary to accommodate the specified driveway cross-section with a 4-inch thick sand base, preparation of the subgrade, installation and compaction of the sand base material and installation of the sand base material and installation of new concrete driveway to the specified thickness.

**Item #75 – HMA, 5EML, Mod**

This bid item shall be paid for at the Contract Unit Price per **ton** of material installed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02511 and the details on Sheet G and H of the Drawings. This item shall be used to complete restoration of areas disturbed by construction as indicated on the Drawings.

**Item #76 – Hand Patching**

This bid item shall be paid for at the Contract Unit Price per **ton** of material installed. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02511 and the details on Sheet F, G and H of the Drawings. This item shall be used to complete restoration of areas disturbed by construction.

**Item #77 – Subgrade Undercutting, Type II, Special**

This bid item shall be paid for at the Contract Unit Price per **Cubic Yard**. This item is to facilitate the repair of the subgrade. A unit bid price for Subgrade Undercutting, Type II, Special has been provided in the Proposal and shall include all labor, equipment, and materials

to undercut existing subgrade materials after initial pavement removal or milling operations as directed by the Project Engineer. Limits and depths of subgrade undercut are to be determined by the Project Engineer by proof-roll, testing the grade promptly after pavement removal or milling operations are completed. Sawcutting and removal of milled surfaces shall be included in the unit price bid for **“Subgrade Undercutting, Type II, Special, Cyd”**. Undercuts up to eight (8) inches deep may be stabilized with the pay item **“Aggregate Base, 21AA, Special, Ton”**. Undercuts greater than eight (8) inches deep may be stabilized with open graded crushed concrete (1” x 3”), aggregate materials and geogrid as directed by the Project Engineer. Backfill materials are to be paid for separately.

#### Item #78 – 1”x3” Crushed Concrete, Special

This bid item shall be paid for at the Contract Unit Price per **Ton** of 1” x 3” crushed concrete installed. This item shall be used as needed, at the discretion of and only after approval by the owner’s field representative. Measurement & Payment and the Work required for this item shall be completed in accordance the Special Provision for 1” x 3” Crushed Concrete.

#### Item #79 – Large Aperture Geogrid

This bid item shall be paid for at the Contract Unit Price per **Square Yard** of geogrid installed. This item shall be used as needed, at the discretion of and only after approval by the owner’s field representative. Measurement & Payment and the Work required for this item shall be completed in accordance with Section 02370 for Geogrid Soil Reinforcement and Special Provision for Subgrade Undercutting.

#### Item #80 – Turf Restoration

This bid item shall be paid for at the Contract Unit Price per **square yard** basis. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with WRC – General Specifications for Final Cleanup and Restoration and the Special Provision for Turf Restoration. Work includes preparing for restoration, installing topsoil, seed, fertilizer, mulch, and mulch anchoring, and watering, fertilizing, weeding, mowing, trimming and other operations such as rolling, regrading and replanting to establish a smooth, acceptable lawn free of eroded or bare areas.

#### Item #81 – Property Protection Fence

This bid item shall be paid for at the Contract Unit Price per **linear foot** based on the installed lengths as measured in place. The Work required by this item shall be completed in accordance with Section 02836. Reuse of fencing as construction progresses is allowed and will be paid for separately as long as the condition of the fencing is not compromised, as determined by the Owner.

#### Item #82– Maintaining Traffic

This bid item shall be paid for at the Contract Unit Price per **lump sum** basis. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with the Maintenance of Traffic plan sheets, the City of Pontiac ROW permit, WRC – General Specifications for Maintenance of Traffic, Section 00020, Section 02550, MDOT Standard Traffic Details included in the specifications and the Michigan Manual of Uniform Traffic Control Devices (MMUTCD). Maintaining Traffic shall include the



installation, maintenance, relocation, covering, supplementing, and removing the proposed traffic control measures including all signage, barricades, regulators and other traffic control devices as required per the Contract Documents for the applicable closures, barricading and maintenance necessary to safely perform the Work. This item is to cover the cost of maintaining traffic during the progression of the project per the Drawings and the Contractor's approved Progress Schedule and Project Work Plan.

#### **Item #83 – Maintenance Gravel**

This bid item shall be paid for at the Contract Unit Price per **ton** basis. Installation of Maintenance Gravel shall be at the discretion of and only after approval by Owner's field representative. The Work required for this item shall be completed in accordance with Section 306 of the 2012 MDOT Standard Specifications for Construction. The purpose of this item is to help maintain traffic and access for residents.

#### **Item #84– Temporary Pavement**

This bid item shall be paid for at the Contract Unit Price per **lump sum** basis for all temporary pavement needed to complete the project in accordance with the contracting requirements excepting temporary pavement required as a result of WRC subcontractor work, which will be paid for under a separate bid item. Temporary pavement is required per the detail located on Sheet F at all pavement removal locations within the roadway where permanent pavement in accordance with the Local HMA Road Repair detail located on Sheet F could not be installed prior to the closing of the local HMA plants or where pavement removals occurred after the local HMA plants had already closed. Temporary pavement shall include 1) the thickness of maintenance aggregate and approved asphaltic patching materials as indicated in the detail located on Sheet F, 2) maintenance of the temporary pavement until permanent pavement in accordance with the Local HMA Road Repair detail located on Sheet F can be installed, 3) excavation, removal and disposal of the asphaltic patching material and maintenance aggregate in preparation for permanent pavement and 4) conditioning and compacting the existing aggregate base prior to the installation of the permanent pavement materials. Temporary pavement materials shall meet the requirements of General Specifications Article 12 "Replacement of Concrete or Asphalt Pavement Crossings". Temporary pavement will be required to be maintained, to the satisfaction of the City of Pontiac and the Engineer. Temporary pavement must be placed within 14 days of pavement removal unless otherwise indicated.

#### **Item #85– Soil Erosion and Sedimentation Control**

This bid item shall be paid for at the Contract Unit Price per **lump sum** basis. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with Section 02220, the Oakland County Water Resources Commissioner (WRC) SESC Manual, WRC Soil Erosion and Sedimentation Control Details, and the Soil Erosion and Sedimentation Control plan sheets in the Drawings. The Contractor's responsibilities include the installation and maintenance of proposed soil erosion devices including but not limited to soil erosion control fabric fence, straw bales, check dams, inlet filters, etc, as indicated on the Drawings through the construction period. At the time of completion of the project, it will be the responsibility of the Contractor to remove those devices and restore the areas if impacted.

**Item #86 – Exploratory Excavation and Utility Locating, Pavement**

This bid item shall be paid for at the Contract Unit Price per **each** utility located, exposed, backfilled, compacted. Pavement removal and restoration is to be paid under separate units within the Contract. Locating utility crossings prior to commencing directional drilling operations is required by the Contract to reduce the risk of damaging existing utilities. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with the Special Provision for Exploratory Excavation and Utility Locating.

**Item #87 – Exploratory Excavation and Utility Locating, Non-Pavement**

This bid item shall be paid for at the Contract Unit Price per **each** utility located, exposed, backfilled, compacted. Surface restoration is to be paid under separate units within the Contract. Locating utility crossings prior to commencing directional drilling operations is required by the Contract to reduce the risk of damaging existing utilities. Measurement and payment and the Work included and required by this item are described and shall be completed in accordance with the Special Provision for Exploratory Excavation and Utility Locating.

**Item #88 – Allowance for Permit Fees**

This bid item is to compensate authorities for their efforts to review the construction plans for permit issuance, process the permit, and inspect work. This bid item shall only be paid for at actual invoiced costs. Details and payment for this item is described in Section 02990 and shall be coordinated prior to beginning construction. All costs associated with this allowance item are approximate. The final payment will be adjusted to reflect the actual invoiced costs. If the invoiced costs are less than those set forth in the bid item, the Owner will receive a credit, based upon the remaining allowance amount. If the invoiced costs are greater for those bid items, the Contractor will receive additional payments based upon the amount in excess. The Contractor should make no assumptions regarding the above stated quantities or allowances. The Contractor shall not mark-up invoices associated with this allowance item.

**Item #89 – Miscellaneous Easement Conditions**

Easements may be obtained from property owners adjacent to the Project. Conditions associated with each easement related to the construction of the Project are attached to these Specifications. *The Owner has obtained certain areas that may be used for temporary storage by the Contractor. The WRC does not guarantee these are usable as is. If the Contractor intends to use these areas, the Contractor must make its own determination as to their suitability and include in it its bid whatever pretreatment measures may be required to make the areas usable for the Contractor's intended purpose.* Each easement condition contains specific Work, which must be completed if the easement is utilized as part of the Project. The Miscellaneous Easement Conditions Item shall include all labor, materials, and equipment to complete all the Work as required to fully satisfy the easement conditions for all of the properties. Work included and described in the Miscellaneous Easement Conditions shall not be paid for separately under any other bid items and shall be included in the Miscellaneous Easement Conditions Item. This Item shall be paid as the Work is completed at each property based on a prorated percentage of the total number of easement conditions.

**Item #90 – Project Sign**

This bid item shall be paid for at the Contract Unit Price per **each** project sign installed. The Work required for this item shall be completed in accordance with WRC – General Specifications for Signs.

**Item #91 – Sanitary Sewer Main Televising**

This bid item shall be paid for at the Contract Unit Price per **linear foot** of sanitary sewer main televised within the project area. The intent of this item of work is to review the condition of the sanitary sewer main to ensure the system was not damaged during construction. The CCTV does not have to be in accordance with PACP, however the Owner's representative shall be present during the operation. The CCTV shall be completed after the completion of the water main abandonment and prior to final paving. The Contractor's responsibilities include performing the CCTV sewer main and providing the Owner with the recording of the CCTV. The CCTV recording should be annotated and have footage displayed as well as the address for the sewer lead that is being televised so that it may be used for post-construction assessments.

**Item #92 – Value of Owner-Furnished Ductile Iron per Specification Section 01215**

The purpose of this line item in the Proposal is to adjust the total contract amount to include the value of the ductile iron pipe that the Owner is furnishing for this project. This will allow the insurance carrier the ability to provide accurate coverages that meet all of the contracting requirements. This item is not an item for which the contractor will be paid.

**PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION**

Not Used.

END OF SECTION

SECTION 02990

PERMITS

PART 1 GENERAL

1.1 GENERAL

- A. The Permits included in this Section have been applied for by the Owner with the cost to the Contractor noted. They are provided as information for the Contractor because the requirements and regulations contained in these documents shall be adhered to by the Contractor as they pertain to the work done under this Contract.
- B. Should any contradictions or discrepancies between the requirements of the Permits Section and other Sections of these Specifications be found, this sections language shall have precedence.

1.2 RELATED SECTIONS

- A. Section 02220 - Soil Erosion Control

1.3 PERMIT

- A. The following permits are contained hereinafter with costs to the Contractor noted.
  - 1. Oakland County Water Resources Water System Permit # 0211-2023 - \$0.00
  - 2. City of Pontiac Right of Way Permit # (PENDING) - \$35,000
  - 3. ***Michigan Department of Transportation Right of Way Permit # 093228-23-111723 - \$0.00***
  - 4. OCWRC Soil Erosion Permit # (PENDING) - \$0.00
  - 5. EGLE Part 399 Permit # ACT-262452 - \$0.00
- B. Contractor is required to obtain all permits prior to starting work.
- C. ***See Supplementary Conditions Article 1.02***
- D. ***Reimbursement to Contractor will paid for under the Bid item "Allowance for Permit Fees"***

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION





**INDIVIDUAL CONSTRUCTION PERMIT**  
**For Operations within State Highway Right-of-Way**

**Issued To:**  
**Oakland County Water Resources Commissioner**

**1 PUBLIC WORKS DR**  
**WATERFORD MI 48328-1907**

**Contact:**  
**Michael Walsh**  
**248-452-2026(O) 248-431-4180(Cell)**  
**walshm@oakgov.com**

**Secondary Contact:**  
**Jack Nagle**  
**248-454-6397(O) 248-535-3338(Cell)**  
**jnagle@hrcengr.com**

**Permit Number:** 63041-093228-23-111723  
**Permit Type:** Individual Application  
**Permit Fee:**  
**Effective Date:** Nov 17, 2023 to Nov 16, 2024  
**Bond Numbers:**  
**Liability Insurance Expiration Date:**

**THIS PERMIT IS VALID ONLY FOR THE FOLLOWING PROPOSED OPERATIONS:**

**PURPOSE:**

Water main installation within MDOT R.O.W.

**STATE ROUTE:** M-59      **CITY OF:** Pontiac      **COUNTY:** Oakland County

<b>NEAREST INTERSECTION:</b>	<b>SIDE OF ROAD:</b>	<b>DISTANCE TO NEAREST INTERSECTION:</b>	<b>(in feet)</b>	<b>DIRECTION TO NEAREST INTERSECTION:</b>			
Johnson	E W	0.00		West			

<b>CONTROL SECTION:</b>	<b>MILE POINT FROM:</b>	<b>MILE POINT TO:</b>	<b>LOCATION:</b>			
			LEFT	MEDIAN	RIGHT	TRANSVERSE
63041	19.800	20.000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**REQUISITION NUMBER:**      **WORK ORDER NUMBER:**      **MDOT JOB NUMBER:**      **ORG JOB NUMBER:**  
 20211066

**63041-093228-23-111723 Issued To:Oakland County Water Resources Commissioner**

**This permit is incomplete without "General Conditions and Supplemental Specifications"**

**I certify that I accept the following:**

1. I am the legal owner of this property or facility, the owner's authorized representative, or have statutory authority to work within state highway Right-of-Way.
2. Commencement of work set forth in the permit application constitutes acceptance of the permit as issued.
3. Failure to object, **within ten (10) days** to the permit as issued constitutes acceptance of the permit as issued.
4. If this permit is accepted by either of the above methods, I will comply with the provisions of the permit.
5. I agree that Advance Notice for Permitted Activities for shall be submitted **5 days prior** to the commencement of the proposed work.

I agree that Advance Notice for Permitted Utility Tree Trimming and Tree Removal Activities shall be submitted **15 days prior** to the commencement of the proposed work for an annual permit.

## **CAUTION**

**Work shall NOT begin until the Advance Notice has been approved.  
Failure to submit the advance notice may result in a Stop Work Order.**

-----  
**Oakland County Water  
Resources Commissioner**

**Steve Galindo**  
**MDOT**

**Novem ber 17, 2023**  
**Approved Date**  
-----

**TSC Contact Info**

**Oakland TSC**

**(248) 451-0001**

**THE STANDARD ATTACHMENTS, ATTACHMENTS AND SPECIAL CONDITIONS MARKED BELOW  
ARE A PART OF THIS PERMIT.**

**STANDARD ATTACHMENTS:**

- 1 Special Conditions For Underground Construction (2205C)
- 2 Trenchless Installation Application Requirements (3702)
- 3 Special Conditions for Horizontal Directional Drilling (HDD) (3703A)
- 4 Flowable Fill Special Provision for Utility Permits (3717)
- 5 ENVIRONMENTAL REQUIREMENTS FORACTIVITIES WITHIN MDOT RIGHT-OF-WAY (2486)
- 6 Historical and Archaeological Discoveries During Construction Operations Updated 03/22 (Const. Advisory H
- 7 System Operation Advisory-Fluorescent Sheeting Implementaton Sept. 20, 2016 (SOA[Fluorescent Sheeting
- 8 General Conditions (General Conditions)

**63041-093228-23-111723 Issued To:Oakland County Water Resources Commissioner**

**ADDITIONAL ATTACHMENTS:**

- 1 MDOT\_permit 11-16-2023.pdf
- 2 20230929\_MDOTMM (004).pdf
- 3 MDOT R028J Curb Ramp and ADA Ramps.pdf
- 4 MDOT R030G Concrete Curb and Gutter.pdf
- 5 R083C Underground Utility Trenches.pdf
- 6 R044G.pdf
- 7 93228 Universal Special Conditions Oakland County Water Resources Commission

**AMENDMENT ATTACHMENTS:**

**SPECIAL CONDITIONS:**

- 1 The Department of Transportation does not, by issuance of this permit, assume any liability claims or maintenance costs resulting from the water main installation within MDOT R.O.W. facility placed by this permit. The Department reserves the right to require removal of all or any portion of this facility as needed for highway maintenance or construction purposes without replacement or reimbursement of any costs incurred by the permitted or other party. The permitted will defend, indemnify and hold harmless the Department for any claims whatsoever resulting from the construction or the removal of the authorized by this permit.
- 2 All disturbed areas within the right of way shall be top-soiled, seeded and mulched to match existing areas per current MDOT standards and specifications.
- 3 See the attached memo and agreement between MDOT and WRC (20230929\_MDOTMM (004))

MDOT PERMIT REQUIREMENT MEETING  
SEMINOLE HILLS WATER MAIN REPLACEMENT PROJECT  
CITY OF PONTIAC, MICHIGAN

Date: September 26, 2023  
Time: 2:00 PM  
Meeting Held: Conference Call

HRC Job No. 20211066

<u>Attendee Name</u>	<u>Representing</u>	<u>Email</u>
Mike Walsh .....	Oakland County Water Resources Commissioner .....	walshm@oakgov.com
Lori Swanson .....	Michigan Department of Transportation .....	swansonl@michigan.gov
Mohamed Eraqi .....	Michigan Department of Transportation .....	eraqim@michigan.gov
David Gauthier .....	Michigan Department of Transportation .....	gauthierd@michigan.gov
Hassan Alwan .....	Michigan Department of Transportation .....	alwanh@michigan.gov
Brad Shepler .....	Hubbell, Roth & Clark, Inc. ....	bshepler@hrcengr.com
Jack Nagle .....	Hubbell, Roth & Clark, Inc. ....	jnagle@hrcengr.com

1. This meeting was conducted via conference call, and attendance of the individuals named above were introduced.
2. Review of the current project scope within the Huron Road (M-59) Right of Way.
  - a. Existing 6 inch water main is located within the Huron Road (M-59) roadway (eastbound lanes), approximately 16 feet north of the south back of curb.
    - i. Available City records indicate that this existing 6" water main was installed before 1927 and there for is at least 95 years old
  - b. The proposed water main to be installed as part of this project would be 8 inch (HDPE) installed via directional drilling and 8" (ductile iron) installed via open cut methods.
    - i. Proposed water main is planned to be installed in the following locations:
      1. Within the south greenbelt/permeant easements between Cherokee Rd. and Oneida St.
      2. Within the southernmost eastbound lane between Oneida St. and Johnon Ave.
    - ii. Currently, the proposed water main to be installed 6 feet below the gutter line of eastbound Huron Rd. (to be in accordance with the Oakland County Water Resources Commissioner's Office (OCWRC) standard specifications and details).
3. During the MDOT review process, it was stated that all directional drilled water main with a pipe diameter between 7 and 12 inches shall have a depth of cover of at least 8 feet deep to prevent heaving of the existing roadway per the MDOT 3703A – Special Conditions for Horizontal Directional Drilling (HDD), dated November 2007.
  - a. WRC and HRC requested to meet with the MDOT to discuss the impacts of the water main being at a depth of 8 feet compared to the OCWRC standard of 6 feet deep. The main concerns the OCWRC with construction and future operations and maintenance of this water main should it be installed at 8' deep are as follows:
    - i. Increased roadway disturbance, larger excavations and pavement removals within the R.O.W. and greater traffic control impacts during construction of the connections at the side streets (Ottawa, Oneida & Seminole) and at the connections on Cherokee and Johnson Rd.
    - ii. Increased roadway disturbance and traffic control to make the service connection taps on the new main between Cherokee and Oneida.
    - iii. Increased roadway disturbance, larger excavations and pavement removals and greater traffic control

Delhi Township  
2101 Aurelius Rd.  
Suite 2A  
Holt, MI 48842  
517-694-7760

Detroit  
535 Griswold St.  
Buhl Building, Ste 1650  
Detroit, MI 48226  
313-965-3330

Grand Rapids  
801 Broadway NW  
Suite 215  
Grand Rapids, MI 49504  
616-454-4286

Howell  
105 W. Grand River  
Howell, MI 48843  
517-552-9199

Jackson  
401 S. Mechanic St.  
Suite B  
Jackson, MI 49201  
517-292-1295

Kalamazoo  
834 King Highway  
Suite 107  
Kalamazoo, MI 49001  
269-665-2005

Lansing  
215 S. Washington SQ  
Suite D  
Lansing, MI 48933  
517-292-1488

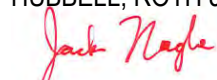


- impacts during future maintenance activities
- iv. To make connections or repairs to the new main may cause closure of 2 lanes in lieu of 1 one because of the increase in size of the excavation.
  - b. WRC and HRC propose the following actions to minimize the potential of roadway heaving and risk and impacts of accidental frack out during horizontal directional drilling operations
    - i. An experienced WRC inspector will be on site daily during drilling operations with assistance from a licensed engineer in the state of Michigan (with a specialty in geotechnical engineering).
      - 1. WRC has multiple inspectors on staff that have witnessed over 10,000 feet of water main installed via horizontal directional drilling.
      - 2. The WRC Inspector has the authority to shut down the drill operations if they feel the road will be compromised.
      - 3. HRC has an experienced professional engineer with 20 plus years' experience in geotechnical engineering to assist the WRC with the inspection of this work.
        - i. HRC's geotechnical engineer will be on-site during the first day of HDD within the MDOT ROW and as-needed beyond that.
    - ii. WRC and HRC will perform a pre and post survey of the existing roadway along each bore path.
      - 1. WRC and HRC will set points (painted spots on the roadway) to compare pre-bore and post-bore elevations.
    - iii. WRC and HRC will require the contractor to have a vector truck on site during boring operations to minimize the impact of any accidental frack out.
      - 1. The Contractor is also required to submit a Drilling Fluids Management Plan prior to HDD operations to detail how they will manage their drilling fluid, bore hole pressures and clean up mitigation.
    - iv. All existing utilities will be exposed during drilling operations. These excavations may also be used as relief holes for the drilling fluid.
    - v. WRC and HRC will assure MDOT that all the drill shot lengths will be under 500 feet to reduce the potential of fracturing.
    - vi. WRC and HRC will provide the Contractor's signed and sealed Temporary Earth Retention System (TERS) to MDOT prior to work within the ROW.
      - 1. HRC will adjust the plan set to add that the TERS must be signed and sealed by a Professional Engineer "registered in the State of Michigan"
    - vii. WRC and HRC will provide additional soil boring data along Huron Road to show the existing soils within the area.
      - 1. Soil reports from this project and the previous project that was located along the north side of Huron Road (M-59) will be provided.
    - viii. WRC and HRC will provide record drawings of the HDD installation including horizontal and vertical (depth) alignment of the water main.

These minutes are intended to be a summary of those items discussed. Any corrections and/or comments should be noted to the writer as soon as possible for consideration.

Respectfully submitted,

HUBBELL, ROTH & CLARK, INC.



John Nagle, P.E.  
Manager

pc: All present  
OCWRC: J. Brown

## **SPECIAL CONDITIONS FOR UNDERGROUND CONSTRUCTION**

The following special permit specifications shall apply when the permittee is excavating or performing any underground activity within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank:

1. In the event the permittee encounters environmental contamination and/or an underground storage tank in the right of way, the Michigan Department of Transportation (MDOT) shall be immediately notified. All Michigan Department of Natural Resources and Environment (MDNRE) and Federal Environmental Protection Agency (EPA) environmental requirements shall be complied with by the permittee. Unless the Department agrees in writing the following steps are to be taken:
  - a. The contaminated material that has been removed shall be temporarily stockpiled per MDNRE requirements. If stockpiled on the right of way, the site shall not interfere with MDOT operations or create a traffic safety problem. Also, the contaminated material shall be placed on plastic sheeting or tarp having a minimum thickness of 6 mils or in trucks, roll off boxes, or other containers, such that no liquid may escape from the containment. At the end of each work day, the contaminated material shall be covered securely with plastic sheeting of 6 mil thickness or greater.
  - b. Upon completion of any testing deemed necessary by the Department or the MDNRE, the material shall be disposed of in an approved waste disposal site unless otherwise directed by the MDNRE.
  - c. In no case shall the contaminated material be stockpiled for longer than 45 days prior to disposal.
2. The permittee shall cooperate with MDOT personnel and pertinent regulatory agencies in resolving the contamination problem as required by law.
  - a. The manner in which the permittee manages and secures the site shall not interfere with the MDOT's interests.
  - b. The permittee shall not excavate as part of any site management operation within the one-on-one slope from the edge of shoulder without the permission of MDOT.
3. MDOT shall not indemnify or compensate the permittee for any costs or damages of any kind that the permittee incurs as the result of contamination encountered within the right of way. It is understood that the possibility of encountering contamination and the damages which might be incurred by the permittee because of the contamination are business risks the permittee assumes in choosing to locate and maintain facilities within the Right-of-Way.

The permittee is responsible for any costs that it incurs to secure the contaminated site in such a manner as to meet the requirements of the MDNRE and/or EPA and the requirements of MDOT.
4. The permittee, upon approval of MDOT, may continue to place its facility through the contaminated area providing remedial actions that meet the approval of MDOT and other enforcement agencies involved are followed.
  - a. All additional costs the permittee incurs, as a result of continuing to place its facilities within the contaminated area, are the responsibility of the permittee.
  - b. All contaminated material must be removed and properly disposed of as directed by MDOT and/or the MDNRE. All backfill material must be clean material, unless otherwise directed by the MDNRE. Excavation must be backfilled in a manner to prevent the creation of a pathway for migration of contamination off site.
5. The permittee is solely responsible to develop an alternate route for its facility in the event approval cannot be given to continue to place the facility within the contaminated area of the Right-of-Way. The permittee shall restore the original site as directed by MDOT.

## ENVIRONMENTAL REQUIREMENTS FOR ACTIVITIES WITHIN MDOT RIGHT-OF-WAY

Issuance of a permit by MDOT does not relieve the permit applicant from meeting any and all requirements of law, or of other public bodies or agencies, including but not limited to the following:

1. Goemare-Anderson Wetland Protection Act, Part 303, P.A. 451 of 1994

Any activity that involves excavation or fill, located within a regulated wetland, requires a Michigan Department of Environmental Quality (MDEQ) permit. Regulated wetlands are those systems that are contiguous to a lake or stream (within 500 feet) or greater than five (5) acres in size.

2. Inland Lakes and Streams Act, Part 301, P.A. 451 of 1994

Any activity located within the ordinary high-water mark of a regulated body of water, i.e., lake, stream, drain, pond, etc., shall require a permit. There are no exemptions to this requirement. Permit applications and questions can be submitted to the MDEQ's Land and Water Management Division.

3. Soil Erosion and Sedimentation Control Act, Part 91, P.A. 451 1994

Any land disturbance of one (1) acre or greater, or that is located within 500 feet of a lake or stream, requires a soil erosion permit. Municipalities who are classified as an Authorized Public Agency (APA) are exempt from permits, but must follow proper soil erosion practices as identified in their standard plan. Any construction activity located within MDOT Right-of-Way that is authorized by a MDOT permit is the responsibility of the permit applicant and is not covered under MDOT's APA authority.

Soil erosion and sedimentation controls are required on all projects, even if a soil erosion permit is not required. Individuals performing work shall prevent sediment from entering any body of water or leaving the Right-of-Way. Permits can be obtained from the county/municipal agencies. Minor earth changes are exempted in this Act and are classified as normal maintenance and emergency repairs.

4. Clean Water Act: National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Requirements for Construction Activities

Any land disturbance of five (5) acres or greater requires an NPDES Storm Water Discharge Permit. This can include any filling, excavating, grading, clearing, etc. Municipally-owned utilities who service a population of less than 100,000 are exempt from permit provisions, but not from environmental protection requirements. Permit applications require the Part 31, P.A. 451 permit number, or a declaration of APA status and the effective date. Permit applications and questions can be submitted to the MDEQ's Surface Water Quality Division.

5. Environmental Site Closures

A procedure was developed by the MDEQ and MDOT which may allow a property owner, who is responsible for these sites, to close an environmentally impacted site. Questions regarding this activity shall be addressed by contacting MDOT's Environmental Specialist at 517-335-2271.

6. The Land and Water Management Division of the MDEQ also administers the following environmental laws which may require review prior to construction:

- Sand Dune Protection Act, Part 353, P.A. 451 of 1994.
- Shore-lands Protection and Management, Part 323, P.A. 451 of 1994.
- Great Lakes Submerged Lands Act, Part 325, and P.A. 451 of 1994.

7. The Wildlife Division of the MDNR also administers the following environmental laws which may require review prior to construction:

- Endangered Species Act, Part 365, and P.A. 451 of 1994.

Questions regarding these permits may be addressed by contacting the nearest MDEQ district field office, or the MDEQ Land and Water Management Division at 517-373-1170.

Additional information is available in MDOT's Environmental Procedures Manual.

## APPLICATION REQUIREMENTS FOR TRENCHLESS INSTALLATIONS

Each permit applicant shall review and adhere to the applicable Special Condition(s) (Forms 3703 A through F) for a proposed trenchless installation, and shall submit the following documentation (as needed) with an individual permit application package. All plans submitted shall be sealed by a Professional Engineer who is licensed in the State of Michigan and is competent in geotechnical and structural engineering. The plans shall be drawn to scale and shall indicate the following information whenever any pipe or borehole involves temporary works or bore pits, and whenever a utility will be installed by using a horizontal directional drill that is 8 inches or greater.

An annual permit package *may* be used to allow for a trenchless installation of a utility conduit, that has a borehole diameter of less than 3 inches – without submitting the required information listed below.

**1. Plan views shall be drawn to scale, include the following information, and indicate the locations of the following items, that are located within the project's influence area – with dimensioned distances, as indicated:**

- North arrow, road alignment and nearest crossroad – dimensioned from the installation.
- MDOT Right-of-Way boundaries - dimensioned from the roadway centerline.
- Existing MDOT facilities; sidewalks, roadways, signals, poles, buildings, private or public utilities, drainage structures, bridge structures, ITS facilities, waterways, and all other facilities that *may* be affected or influenced by the underground installation.
- All utility facilities – including separation requirements.
- Casing and/or carrier pipe – including installation length, invert elevation, size, and material type.
- Installation area – including ingress and egress locations, pipe/borehole layout, and installation method.
- Soil borings and access pits -including length, width, depth, and, offset distances from roadway/curb.
- Work areas – including earth retention, equipment staging, and material storage.
- Dewatering areas and layouts – accompanied with an operational plan.
- Proposed vertical exploratory investigations – including the method.
- Potential bore failure contingency plan.

**2. Profile views shall be drawn to scale, include the following information, and indicate the locations of the following items, that are located within the project's influence area – with dimensioned distances, as indicated:**

- MDOT right-of way boundaries.
- All subsurface facilities or utilities located above or below the centerline of the pipe/borehole – including the required separation between utility facilities.
- Pipe/borehole depth, diameter, invert elevation, length, cover, and grade of the – dimensioned from the curb and gutter, shoulders, roadway surface, and ground surface.
- Access pits and earth retention system – including width, depth, and offset distance from roadway/curb.
- Water table elevation.
- MDOT Form PA-10 *may* be acceptable.

**3. The following additional geotechnical information is required whenever a proposed trenchless utility installation crosses a road and has a borehole – diameter of 12 inches or larger:**

- Borings shall be offset from the proposed pipeline path, but shall not exceed a maximum of 10 feet away from the proposed installation alignment.
  - At least two soil borings are required for single roadways – one on each side of the road.
  - At least three soil borings are required for divided roadways – one on each side of the road, and one in the median.
  - For interchanges or other unique roadway layouts, contact the local Transportation Service Center (TSC) permit staff to determine the appropriate soil boring requirements.



- Standard Penetration Testing shall be conducted at 2.5 foot intervals for the entire depth explored.
- Sample and test the soil as necessary to accurately define properties including, but not limited to, moisture content and shear strength of cohesive soils.
- Groundwater measurements shall be recorded during and after drilling the soil borings. The installation of temporary ground water monitoring wells *may* also be required.
- Soil boring locations shall be identified by station and offset and referenced to a bench mark of known elevation. Assumed elevations are not acceptable. Stationing and offset distances can be aligned parallel with either the roadway or the proposed trenchless installation.
- Soil borings shall extend at least 10 feet below the bottom of the proposed trenchless bore elevation.
- Upon completion, soil boring holes shall be grouted and sealed with cement and bentonite. Soil cuttings for backfill is not acceptable.
- Soil reports shall be completed by a qualified, registered geotechnical engineer that has experience with trenchless installations. The geotechnical engineer shall possess a minimum of 5 years of current qualifying experience. The report shall include recommendations for the appropriate trenchless method for crossing the road, based upon the subsurface conditions revealed at the site. The geotechnical report shall contain all subsurface information, including; field and laboratory test results, soil descriptions, ground water levels observed during and after drilling, potential presence of cobble(s), and boulder(s), and an assessment of how the existing subsurface conditions may affect the successful completion of the trenchless crossing.
- An aerial photograph of the site shall completely encompass where; road alignment, nearest crossroad, MDOT Right-of-Way boundaries, existing MDOT facilities, utility facilities, proposed installation areas, proposed trenchless alignment, soil borings, work areas, dewatering areas, proposed vertical exploratory investigations, and potential bore failure contingency plans exist.

**4. The following additional specifications and/or documentation *may* be required – depending upon a project’s complexity and the proposed trenchless installation method:**

- Qualifications and contact information of the project superintendent and operator(s).
- Utility status report that certifies all private and public utility company facilities, located within the area of influence of the project, were consulted and that each utility’s location, bearing, invert elevation, grade, depth, and diameter is accurately represented on the plans and profiles.
- Geotechnical information including soil reports, and soil boring information.
- Casing and/or carrier pipe information including; material type, material class, yield strength, allowable pipe pulling or jacking force, diameter and wall thickness.
- Overcut diameter, and/or back-ream diameter increase.
- Casing blocking, chocks or spacer material.
- Bulkhead construction.
- Annulus flowable-fill requirements.
- Pre-existing condition survey – including photographs, video and ground/roadway surface elevations.
- Plan for corrective action – including contact information for a ground penetrating radar (GPR). locating company and a grouting contractor that will be “on-call” during the crossing operations
- Pipe material certifications.
- Pipe joining method, including joint gasket and/or cushion details.
- Leak test methods and certification.
- Ground movement monitoring methodology.
- Continuous monitoring records information.
- Construction staging.
- Make, model, and operational characteristics of the trenchless equipment.
- Grade and alignment control system.
- Lubrication system and method.
- Grouting or capping method.
- Control, treatment, and disposal of slurry water and soil cuttings.
- Temporary pipe bypass layout and pump capacity.
- Dewatering operation plan.

**SPECIAL CONDITIONS FOR HORIZONTAL  
DIRECTIONAL DRILLING (HDD)  
November, 2007**

**1 Materials**

**1.1 Pipe**

Approved materials for HDD include: medium-density polyethylene (MDPE), high-density polyethylene (HDPE), steel, fusible PVC, restrained joint PVC, and ductile iron pipe. Alternate materials will require prior approval.

MDPE and HDPE pipes shall conform to the current ASTM D1248, ASTM D2513, ASTM D3350, and ASTM F714. Steel pipe shall conform to the current ASTM A 53-97 and ASTM 139-96. Ductile iron pipe shall conform to the current ASTM 716-95 and ASTM 746-95. PVC pipe shall conform to the current ASTM F1962-99 and ASTM D2321-00.

**1.2 Allowable forces**

The pulling force shall not exceed the pipe manufactures recommendation. When using MDPE, HDPE, or fusible PVC pipe an extra six foot section of the pipe shall be pulled out of the borehole to check for any sign of stress or damage.

**1.3 Pipe Characteristics**

- (a) MDPE and HDPE pipe shall have an SDR value of 11 or less.
- (b) Pipe shall be without any significant dimensional or surface deformities. All pipes shall be free of visible cracks, holes, foreign material, foreign inclusions, blisters, or other deleterious or injurious faults or defects. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness, shall not be used.

**1.4 Protective Coatings (Steel Pipe)**

A coating to provide a corrosion barrier as well as an abrasion barrier is required. The coating shall be bonded well to the pipe and have a hard smooth surface to resist soil stresses and reduce friction. A mill-applied fusion bonded epoxy coating is required for steel pipes.

**2 Construction**

**2.1 Minimum Allowable Depths**

The minimum allowable installation depth of cover of a HDD installed pipe under the road and shoulder surface is correlated to the pipe diameter. Table 2 summarizes the minimum allowable depths:

**Table 2 -- Minimum Allowable Depth**

Pipe Diameters (inches)	Depth of Cover (feet)
6 or less	6
7 - 12	8
13- 24	10
24 and greater	12

In locations where the road surface is superelevated, the minimum depth of the bore shall be measured from the lowest side of the pavement surface. In addition, a minimum 3 foot depth shall be maintained in all other features including ditch bottoms.

### **2.3 Method**

- (a) The ends of each section of MDPE and HDPE pipe shall be inspected and cleaned as necessary to be free of debris immediately prior to joining the pipes by means of thermal butt-fusion. The Polyethylene pipe shall be of the same type, grade, and class of the polyethylene compound used in the process.
- (b) The handling of the joined pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp or jagged objects. Sections of the pipes with cuts and gouges exceeding 10 percent of the pipe wall thickness or kinked sections shall be removed and the ends rejoined.
- (c) Pipe rollers, skates or other protective devices shall be used to prevent damage to the pipe, eliminate ground drag, reduce pulling force, and reduce the stress on the pipe and joints.
- (d) Sufficient space shall be allocated to fabricate and layout the product pipeline into one continuous pipe length, thus enabling the pull back to be conducted during a single operation. If space considerations are discovered that make this impossible, the permit applicant shall obtain specific alternative instructions from the MDOT Engineer/Inspector.
- (e) The required piping shall be assembled in a manner that does not obstruct adjacent roadways or public activities.
- (f) The drill path alignment shall be as straight as possible to minimize the frictional resistance during pullback and maximize the length of the pipe that can be installed during a single pull.
- (g) The minimum radius of curvature of HDD path should be 1,200 times the nominal diameter of the pipe to be installed.
- (h) For large diameters (greater than 20 in), an intermediate pre-reaming is required before pulling the utility into place.
- (i) The drilling fluid in the annular region outside of the pipe shall not be removed after installation, and remain in place to provide support for the pipe and neighboring soil.

### **2.4 Drilling Site**

- (a) Location - A minimum distance, from the edge of the paved shoulder or curb, to the face of any access pit, equipment, and supplies, shall be 35 feet along freeways and limited access roadways and 25 feet along free access roadways. Any deviation from these distances shall require prior approval from the MDOT Engineer/Inspector.
- (b) Protection-Fencing barriers shall be installed adjacent to equipment and supplies with suitable fencing and plastic drums to prohibit pedestrian access to the work site. Equipment shall not be used as fencing to protect access pits.

### **2.5 Overcut Allowance**

The overcut diameter shall not exceed the outside diameter (OD) of the pipe by more than 1.5 times to ensure excessive voids are not created resulting in post installation settlement.

## **2.6 Watertight Joints**

Water tight pipe joints are required to ensure the integrity of the roadbed. Pipe shall be constructed to prevent water leakage or earth infiltration throughout its entire length.

## **2.7 Drilling Fluids**

- (a) Drilling fluid shall be used during drilling and back reaming operations.
- (b) Excess drilling fluids shall be contained within a lined pit or containment pond, or trailer-mounted portable tank, until removed from the site.
- (c) All drilling fluids shall not enter the streets, manholes, sanitary and storm sewers, and other drainage systems, including streams and rivers.

## **2.8 Pipe Locating and Tracking-**

The following requirements may be waived depending on size, bores and/or conditions:

- (a) During construction, continuous monitoring and plotting of pilot drill progress shall be undertaken to ensure compliance with the proposed installation alignment. The contractor shall plot the actual horizontal and vertical alignment of the pilot bore at each edge of pavement and at intervals not exceeding 20 feet. This “as built” plan and profile shall be updated as the pilot bore is advanced.
- (b) The contractor shall at all times provide and maintain instrumentation that will accurately locate the pilot hole and measure drilling fluid quantity. The contractor shall grant the Engineer/ Inspector access to all data and readout pertaining to the position of the bore head, the fluid pressures, and flows.
- (c) Trace wire is required for all non metallic pipe installation for post construction location purposes.

## **2.9 Settlement/Heaving Monitoring**

- (a) This method shall be performed in a manner that will minimize the movement of the ground in front of, above, and surrounding the boring operation; and will minimize subsidence of the surface above and in the vicinity of the boring. The ground shall be supported in a manner to prevent loss of ground and keep the perimeter and face of the boring stable at all times, including during shutdown periods.
- (b) Potential heave or settlement shall be monitored at each shoulder point, each edge of pavement, the edge of each lane (or centerline for two lane roads), and otherwise at 50 foot intervals along the pipe centerline.
- (c) For pipe sizes larger than 3 inches a survey shall be performed one day prior to initiating this operation at each required monitoring location. A similar survey shall then be performed at each location, on a daily basis, until the permitted activity has been completed. All survey readings shall be recorded to the nearest one-hundredth (0.01) of a foot. Digital photographs of the pavement conditions shall also be taken prior and after the pipe installation.
- (d) All operations shall stop immediately whenever monitored points indicate a vertical change in elevation of 1/2 inch or more, or any surface disruption is observed. The Contractor shall then immediately report the amount of settlement to the MDOT Engineer/ Inspector.



**2.11 Failure**

- (a) Should anything prevent completion of this operation, the remainder of the pipe shall be constructed and/or abandoned by methods approved by the MDOT Engineer/Inspector.
- (b) Abandonment of any component of the installation shall only be allowed as approved by the MDOT Engineer/Inspector.

**3.12 Contamination**

When an area of contaminated ground is encountered, all operations shall stop immediately, and shall not proceed until approved by the MDOT Engineer/Inspector. Any slurry shall be tested for contamination and disposed of in a manner, which meets Local, State and/or Federal requirements.

**3.13 Bulkhead**

Pipe ends shall be temporarily sealed with a cap until the connection is made permanent, to prevent water or earth infiltration.

**3.14 Work Site Restoration**

- (a) Access pits and excavations shall be backfilled with suitable material, and in a method approved by the MDOT Engineer/Inspector.
- (b) The disturbed grass-surface area shall be top soiled, seeded, fertilized, mulched, and anchored according the current MDOT Standard Specifications for construction, sections 816 and 917.
- (c) Upon completion of the work, the contractor shall remove and properly dispose of all excess materials and equipment from the work site.

**Special Conditions:** Permit Reference # 93228

**Failure to comply with the following special conditions will result in a stop work order.**

#### SPECIFIC PERMIT CONDITIONS

1. There is MDOT storm sewer in the vicinity of your proposed work. MDOT storm is not part of Miss Dig. The permit applicant will need to locate & determine depth of MDOT storm sewer.
2. There are MDOT signals in the vicinity of your proposed work. MDOT signals are not part of Miss Dig and require staking per Special Condition 12d below.
3. All work and lane closure requests for work on a Saturday, Sunday, or Monday will require notification to MDOT Inspector no later than the preceding Wednesday by 4:00 pm. Failure to follow this will result in denial of work.
4. MDOT has a project in the vicinity of your proposed work. MDOT may not be able to accommodate your proposed permit work until our MDOT project is completed.
5. All work at night shall be in compliance with MIOSHA standards for night lighting
6. All traffic control signing shall be flagged with a colored ribbon (color to be determined by MDOT Permit Inspector) for easy identification of responsible party.
7. No work during inclement weather or holidays.
8. Extra caution and possible lane closures may be needed due to soft ground and possible damage to greenbelt area.
9. MDOT Archaeologist has determined that the proposed work location is in a highly sensitive area where archaeological deposits, including human remains, could be preserved below the ground surface. Therefore, the MDOT permit coordinator must provide the Contractor with MDOT Construction Manual/Standard Spec (CM/SS) Section 107.09 prior to the start of any construction, and as a condition of the permit, the contractor must follow Construction Manual/Standard Spec (CM/SS) Section 107.09 at all times within MDOT right of way in the event that bones and/or archaeological/historical remains are encountered during construction.
10. See the attached memo and agreement between MDOT and WRC

#### GENERAL CONDITIONS

11. **Submit "Advance Notice" via MDOT Permit Gateway at least 21 days prior to beginning your work, but no later than 5 days before your planned start date. This notice informs MDOT of your readiness to commence work. Once approved, reach out to your inspector a minimum of 72 hours in advance to determine required inspections and arrange scheduling.**
12. **72 hours prior to starting work** in the MDOT ROW the applicant/contractor shall contact:
  - a. Wioletta Bilan at 248-388-0020 or [bilanw@michigan.gov](mailto:bilanw@michigan.gov)
  - b. Sneha Mahadeva, 313-569-6561 or [sneha.mahadeva@aecom.com](mailto:sneha.mahadeva@aecom.com)
13. All utilities including drainage facilities shall be located prior to work in the MDOT Right-of-way. MDOT facilities are not located through the MISS DIG system. Therefore, staking requests for MDOT electrical facilities (ITS, Traffic Signals, Roadway Lighting, and other electrical) must be submitted to the appropriate MDOT staking request coordinator **a minimum of five (5) business days prior to starting work** to obtain information regarding the existing MDOT electrical utilities in the field. Contact information for MDOT staking request coordinators is listed below or is located on the appropriated staking request form (attached).
  - a. SEMTOC/ITS Staking Request Form 5300 - [MDOT-ITS-Staking-Metro@michigan.gov](mailto:MDOT-ITS-Staking-Metro@michigan.gov)
  - b. Freeway Lighting Staking Request Form 5300 - [MDOT-FLP-Staking-Metro@michigan.gov](mailto:MDOT-FLP-Staking-Metro@michigan.gov)
  - c. Electrical Staking Request Form 5300 - [MDOT-Electrical-Staking-Metro@michigan.gov](mailto:MDOT-Electrical-Staking-Metro@michigan.gov)
  - d. MDOT Signals Staking Request – Maintenance – Jesse Thomas at 248-228-6730 or [thomasj19@michigan.gov](mailto:thomasj19@michigan.gov)
  - e. MDOT Pumpstations Staking Request – Maintenance – Bill Bair at [bairw@michigan.gov](mailto:bairw@michigan.gov)

14. **Applicant shall notify Southeast Michigan Transportation Operations Center (SEMTOC) a minimum of 72 hours prior to any lane/shoulder/ramp closures and/or traffic stoppages. SEMTOC shall also be contacted within 30 minutes of implementation and/or completion of a lane/shoulder/ramp closures/traffic stoppages or schedule changes. SEMTOC can be contacted at 844-965-0888. SEMTOC shall be notified on a daily basis for all freeway work.**
15. It is the applicant's responsibility to ensure that any required quality control and testing as indicated in MDOT 2020 Standard Specifications for Construction, be completed as directed by the inspector.
16. **The permit conditions/plans of this permit can be modified at the discretion of MDOT. This permit does not relieve the designer, applicant, or contractor from any problems that should arise before, during, and after construction that relates to the approved permit.**
17. All trees within the MDOT right of way shall remain uncut unless prior written approval from MDOT has been received and a tree replacement plan has been approved.
18. Upon request, MDOT shall be provided with copies of all documentation related to this permit, including but not limited to inspection reports, test reports, as-builts, etc. which shall be provided free of charge.
19. Any non-compliance to permit conditions may subject you to a citation from the local law enforcement agency.

#### TRAFFIC CONTROL

20. All traffic control must follow the MDOT Standard Specification for Construction – See Temporary Traffic Control for Construction Zone Operations Section 812. <https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm>
21. Work shall be coordinated with other contractors working in the area per Subsection 104.08 of MDOT 2020 Standard Specification for Construction.
22. The permitted work shall be completed under the following restrictions:
  - a. Work hours are restricted to the time frames below.
    - Daytime, 9:00am to 3:00pm, Monday-Friday
    - Weekend, 9:00pm Friday to 5:00am Monday
    - Traffic control restrictions and hours are subject to change at time of submittal of advance notice due to other projects and work in the area. MDOT can't guarantee that work will be able to be performed on weekdays.
    - MDOT will require you to submit the name and contact information for the supplier of your traffic control devices
    - MDOT will require that the permit applicant submit the attached "Lane Closure Request Form" with the advance notice. MDOT will deny the advance notice if the lane closure form is not attached or not accurately filled out.
      - For work longer than 1 week MDOT will require you submit a weekly lane closure report to the MDOT Traffic Operations Engineer
  - b. Effective October 1, 2020 all permit activities within the state highway right of way utilizing drums / 42-inch channelizing devices require Type IV fluorescent sheeting per SOA 2016-002.
  - c. MDOT has a project in the area and has placed temporary traffic control devices to accommodate local traffic. DO NOT adjust or remove any signs, barrels or channeling devices. Work hours and lane closures must be coordinated with the MDOT inspector and construction office. Any traffic control utilized shall be per MDOT standards.
  - d. NO LANE CLOSURES GRANTED. Advance notice signing must be placed to clearly identify the work zone to ensure motorist and worker safety.
  - e. Traffic control as per approved permitted plans, or as directed by inspector.

- f. Temporary Concrete Barrier (TCB) per MDOT Standard Plan R-126. Must provide MDOT Inspector with copy of crash test report prior to installation.
  - g. Short duration, Mobile operations are allowed per MDOT detail **MD-M12, MD-M23**
  - h. **Sidewalk closure allowed please refer to MMUTCD Part 6, Figure 6H-29 – Typical Application 29 for Crosswalk and Pedestrian Detours for guidance. Type II Pedestrian Barricades must be used when closing the sidewalk, unless directed otherwise by the inspector.**
  - i. Detour signs are acceptable on MDOT ROW. If they are in place more than 14 days, they must be post driven per WZD-100-A. Signs must not conflict with any other signing in the area. Single lane moving closures to place signs are acceptable during Mon-Fri 9a-3p and Sat/Sun 8a-5p. Do not block lanes unnecessarily when placing the signs. Remove all signs once work has been completed for 10 days.
  - j. Ground-driven temporary signing mounted on conventional driven sign supports **must** be used for projects that last more than **fourteen (14) days**. Portable sign supports should be used when it is not possible to use ground-driven sign supports.
  - k. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days may require the removal of lane closures at the Contractor's expense.
  - l. Remove all traffic control devices (including detour signing) and equipment from the project site that no is longer needed within 3 calendar days of reopening the shoulder/lane/roadway. Any traffic control devices left after day 4 may be removed by MDOT and permit applicant may be liable for cost incurred.
23. Use mobile attenuators for all overhead work, except when working on traffic signals, as directed by the MDOT Inspector.
24. Access to businesses, residents, hospitals, and fire hydrants in the work zone shall be maintained at all times. Access for emergency vehicles (fire, ambulance, and police) shall be maintained to adjacent homes, businesses, and residences at all times.
25. When a bus stop is influenced by the permitted work, the applicant/contractor shall maintain the bus stop or coordinate the work and/or lane closure with the affected bus line. Contact the appropriate bus line coordinator a minimum of five (5) business days prior to starting work.
- a. The bus line coordinator for the Detroit Department of Transportation (DDOT) bus line is Ms. Geena Schofield, Transportation Operations Assistant. She can be contacted at 313-833-7973 or [geesch@detroitmi.gov](mailto:geesch@detroitmi.gov).
  - b. The bus line coordinator for the Suburban Mobility and Regional Transportation (SMART) bus line are Greg Lorenz at 248-419-7904 or [glorenz@smartbus.org](mailto:glorenz@smartbus.org) and Dana Hilthon at 248-419-7905 or [dhilthon@smartbus.org](mailto:dhilthon@smartbus.org).
26. The following is a list of MDOT prequalified companies that may be utilized for setting up the required traffic control devices. **Charges associated with traffic control procurement shall be the sole responsibility of the permit applicant.**
- a. Give 'Em A Brake Safety 616-531-8705
  - b. Highway Service Company 734-675-1000
  - c. POCO, Inc. 734-397-1677
  - d. Spartan Barricading & Traffic Control, Inc. 313-292-2488
  - e. State Barricades, Inc. 586-756-8282
  - f. Traffic Management Incorporated 313-825-2956
27. No materials or equipment shall be stored onsite or within MDOT right of way unless directed by the MDOT inspector. Do not operate or park equipment or store materials within a tree drip line

#### UTILITY UNDERGROUND

28. **Special Conditions for Underground Construction (form 2205C) shall be followed. See permit attachments.**



29. Method of installation to be per MDOT approved Trenchless Technology: 3703A,B,C,D,E,F,G,H See permit attachments.
30. Backfill shall be completed in accordance with MDOT standard detail for Utility Trench Backfill, R-83-Series. See permit attachments.
31. Flowable Fill Special Provision for Utility Permits (form 3717) shall be followed. See permit attachments.
32. For proposed bore 12" or larger per MDOT approved Trenchless Technology:
- The contractor conducting the work must review subsurface information and provide the necessary methods and means to ensure a successful bore without causing distress to the pavement. This includes any dewatering.
  - The use of pneumatic, impact, or vibratory methods to advance the proposed pipe is prohibited.
  - A geotechnical inspector experienced with the proposed installation method must be on-site during the boring operation to oversee the operation and site conditions. The inspector must review the subsurface conditions after the bore pits or access points have been installed.
  - The boring crossing must be installed in one continuous effort. Stopping the boring intermittently overnight will not be acceptable.
  - A daily report must be generated documenting all aspects of the operation including but not limited to production, soils encountered, pavement survey elevations, materials, equipment breakdowns, and other pertinent details and submit to MDOT.
  - Complete an as-built survey of the surface of the roadway and compare the pre-installation survey with the completed survey information. Conduct an as-built survey of the installed pipe and submit as-built plans to MDOT.
  - It is expected that during all aspects of the boring operation strict adherence to these recommendations will be followed. Any deviations from these recommendations or those provided by the geotechnical engineer must be approved by the MDOT Geotechnical Services Section.
  - It is desirable that MDOT staff conduct a site visit during the operation to ensure recommendations are being followed.
33. All work shall be behind the back of curb or within existing manhole only, no pavement/curb cuts or excavation will be allowed.
34. All open trenches with vertical faces greater than five (5) feet shall have appropriate shoring, bracing, or box trench to prevent potential trench collapses and meet MIOSHA standards.
35. The stability of any trenchwork/excavation pits must be ensured by using appropriate and adequate means per MDOT 2020 Standard Specifications for Construction, such as trench-boxes, sheet piling, etc. The sheeting/shoring design shall adhere to MDOT standards, shall be completed by a licensed Professional Engineer in the State of Michigan, and shall be submitted to the Permit Agent for verification.
- In the case that the Contractor will be developing the Temporary Earth Retention System (TERS) for any open cut/bore pit section the TERS plans shall be signed and sealed by a licensed PE in the State of Michigan.
  - The TERS shall be provided to the MDOT Inspector to coordinate MDOT review.
  - MDOT requires a minimum three-week review time frame.
  - MDOT approval of the TERS is required prior to start of work.
36. No open excavations shall remain overnight or while not actively working. Any open excavation in the work zone shall be plated and open to traffic during non-working hours. If the area is too large to be plated, the open excavation shall be properly shielded with temporary concrete barrier wall, orange construction fencing, etc. These measures shall be placed to prohibit pedestrians and motorist from accessing the excavation.

37. No digging or excavation allowed within ten (10) feet of any traffic signal/utility pole. No boring within three (3) feet of any traffic signal/utility pole.
38. Manhole covers located within the roadway shall be marked (spray painted from cover to pavement) prior to removal for indication of the original location in which the cover was positioned. The manhole covers shall be replaced according to the markings.
39. Manhole cleaning and pumping requirements include:
  - a. All water pumped from the existing manholes shall be tested for contamination prior to pumping.
  - b. Any contaminated water shall be pumped into a separate container and disposed of in accordance with the Michigan Department of Environmental Quality standards.
  - c. Any uncontaminated water shall be pumped to an existing greenbelt area, not directly into the catch basin.
  - d. Any uncontaminated water removed, not near an existing greenbelt area may be pumped to an existing catch basin; use of the proper soil erosion and sedimentation control measures (such as filter fabric bags) shall be taken prior to pumping the water.
40. Removal of existing facilities shall be completed as directed/agreed upon by the MDOT Inspector.

#### PAVEMENT

41. Backfill shall be completed in accordance with the MDOT standard detail for Utility Trench Backfill, R-83-Series.
42. Pavement shall be restored permanently upon completion of work.
43. Pavement shall be restored in accordance with the *Metro Region Soils & Materials Construction Permit Guidance*; Section 2.2.
44. The pavement to be restored shall be saw-cut to the nearest joint to ensure proper joint spacing, obtain a uniform repair, and provide appropriate area to tie into. The repair shall be full lane width unless directed otherwise by the MDOT inspector.
45. All pavement restoration within the MDOT Right-of-Way must be done by a MDOT pre-qualified paving contractor.
46. No mainline pavement removal is allowed from November 15 to April 15 unless emergency work.

#### PAVEMENT RESTORATION-FULL DEPTH CONCRETE

47. Backfill – Place granular material Class IIIA around utilities according to the 2020 MDOT Standard Specifications for Construction (section 823.03.S) and the Standard Plan R-83 series.
  - a. Compaction of Class IIIA material shall be according to section 823.03.S (6-inch maximum lift, 95% compaction), using tampers or hand plate compactors.
  - b. Use of frozen material is not acceptable; heated aggregates may be required. Delivery of heated aggregate material should be scheduled to minimize risk of material freezing prior to compaction.
  - c. Please have a certified density technician on hand to perform proper density testing (information regarding density testing consultant qualifications should be available MDOT inspection staff prior to beginning backfill operations).
48. Aggregate base – Place a 6-inch-thick dense graded aggregate base (21AA material).
49. Pavement shall be restored permanently upon completion of work.

50. Pavement shall be restored according to the 2020 MDOT Standard Specifications for Construction (section 603) and the Standard Plans R-44 (Concrete Pavement Repair) and R-30 (Concrete Curb and Gutter) series along with the *Metro Region Soils & Materials Construction Permit Guidance*; Section 2.2.
51. The pavement to be restored shall be saw-cut to the nearest joint to ensure proper joint spacing, obtain a uniform repair, and provide appropriate area to tie into. The repair shall be full lane width unless directed otherwise by the MDOT inspector.
52. Concrete - Utilize type P-NC reinforced concrete.
  - a. New concrete pavement thickness shall match existing concrete pavement thickness.
  - b. Follow sections 601.03.F and 602.03.T for temperature/weather restrictions when placing concrete pavement. Provide for cold weather protection of concrete as required.
  - c. Epoxy coated lane ties shall be used at longitudinal joints to tie new pavement into existing pavement as appropriate.
  - d. Joint and dowel bar types shall be determined (per R-44) after saw cutting limits are established.

#### TEMPORARY RESTORATION METHOD

53. The backfill around the utilities should be granular material Class IIIA placed in according to the 2020 MDOT Standard Specifications for Construction (section 823.03.S) and the Standard Plan R-83 series.
54. Compaction of Class IIIA material shall be according to section 823.03.S (6-inch maximum lift, 95% compaction), using rollers, tampers or hand plate compactors.
55. The aggregate base should be at least 6-inch-thick dense graded aggregate base (21AA material).
56. Bituminous materials should be placed at a minimum in the top 4 inches of the patch.
  - a. The aggregate base can be increased to get within the 4”.
  - b. Place bituminous material in 2” layers. Compact each layer separately.
  - c. Compact the surface with a steel wheeled roller. A pneumatic roller or vibrating hand compactor may be approved for use if a steel wheeled roller is not available.
57. The finished and compacted patch surface must be even with the surrounding pavement.

#### WINTER RESTORATION METHODS

58. Backfill – Place granular material Class IIIA around utilities according to the 2020 MDOT Standard Specifications for Construction (section 823.03.S) and the Standard Plan R-83 series.
  - a. Compaction of Class IIIA material shall be according to section 823.03.S (6-inch maximum lift, 95% compaction), using tampers or hand plate compactors.
  - b. Use of frozen material is not acceptable; heated aggregates may be required. Delivery of heated aggregate material should be scheduled to minimize risk of material freezing prior to compaction.
  - c. Please have a certified density technician on hand to perform proper density testing (information regarding density testing consultant qualifications should be available to MDOT inspection staff prior to beginning backfill operations).
59. Aggregate base – Place a 6-inch thick dense graded aggregate base (21AA material).
60. Concrete (base course) - Utilize type P-NC reinforced concrete.
  - a. Bottom of concrete base course shall match the bottom of the existing concrete pavement. The top of concrete base course shall be 4 inches below the top of existing pavement.
  - b. Follow section 601.03.F for concrete temperature, and heating of concrete constituents. Provide for cold weather protection of concrete during curing.
  - c. Epoxy coated lane ties shall be used to tie new pavement into existing pavement as appropriate.

- d. Use of C and E joints will need to be determined after saw cutting limits are established.
- 61. Concrete (surface course) – Place a concrete bond breaker product to ensure a well-defined cold-joint between concrete base course and concrete surface course.
  - a. Utilize type P-NC reinforced concrete. Concrete surface course shall be 4 inches thick.
  - b. Joints shall be tooled into concrete surface course on approximately 5 foot spacing in the transverse and longitudinal directions.
  - c. Follow section 601.03.F for concrete temperature, and heating of concrete constituents. Provide for cold weather protection of concrete during curing.
- 62. After Asphalt plants have reopened in the spring you are required to remove the concrete surface course and replace with 5E10 Superpave HMA to match existing pavement.

#### SIDEWALK/DRIVEWAY RESTORATION

- 63. Backfill shall be completed in accordance with the MDOT standard detail for Utility Trench Backfill, R-83-Series.
- 64. Sidewalk shall be restored permanently upon completion of work.
- 65. Sidewalk shall be replaced in full flags in accordance with MDOT Typical R-28 and R-29.
- 66. The driveway material shall be in accordance with the MDOT Metro Region Soils & Materials Construction Permit Guidance document, section 2.1. *Driveways*.
- 67. All materials for the construction of a temporary approach shall meet MDOT 2020 Standard Specifications for Construction and be approved by the MDOT inspector prior to placement. The applicant/contractor shall be responsible for hauling away unsatisfactory material as directed without cost to the Department.

#### SIDEWALK/DRIVEWAY

- 68. The driveway material shall be in accordance with the MDOT Metro Region Soils & Materials Construction Permit Guidance document, section 2.1. *Driveways*
- 69. All materials for the construction of a temporary approach shall meet MDOT 2020 Standard Specifications for Construction and be approved by the MDOT inspector prior to placement. The applicant/contractor shall be responsible for hauling away unsatisfactory material as directed without cost to the Department
- 70. Aggregate base under HMA compacted to 98%. Aggregate base under concrete compacted to 95%.
- 71. A 2' butt joint may be required as directed by the MDOT Inspector

#### SOIL EROSION

- 72. All soil erosion sedimentation control must follow the MDOT Standard Specification for Construction – See Soil Erosion and Sedimentation Control Section 208. <https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm>
- 73. The permit applicant/contractor shall notify MDOT immediately should any hazardous material be found in MDOT right of way. All hazardous material shall be removed and disposed of per MDOT standards. All costs associated are the responsibility of the permit applicant.

# 107.09 Archeological and Historical Findings

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Email this Page ([mailto:Change?body=http://mdotwiki.state.mi.us/construction/index.php/107.09\\_Archeological\\_and\\_Historical\\_Findings](mailto:Change?body=http://mdotwiki.state.mi.us/construction/index.php/107.09_Archeological_and_Historical_Findings))

## ARCHEOLOGICAL AND HISTORICAL FINDINGS

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MDOT's archaeologist, Environmental Services Section, is solely responsible for administration of MDOT Trunkline cultural resources preservation requirements, in accordance with applicable federal, state and local laws, regulations and rules, including the National Environmental Protection Act (NEPA) and the National Historic Preservation Act (NHPA).

In accordance with subsection 107.09 of the Standard Specifications for Construction the following procedure must take place if items of potentially historical significance (such as bones, artifacts or buried foundations) are encountered during construction. **All project personnel shall treat any discovery as confidential. Photographs of finds may not be taken.**

The laws include, but are not limited to, the following:

- Contacting the appropriate law enforcement/medical agency in the case of human remains discovery in compliance with Section 2853 of the Public Health Code, MCL 333.2853 ([http://www.legislature.mi.gov/\(S\(lepygpsc0qtdad5texio4mb0\)\)/mileg.aspx?page=GetObject&objectname=mcl-333-2853](http://www.legislature.mi.gov/(S(lepygpsc0qtdad5texio4mb0))/mileg.aspx?page=GetObject&objectname=mcl-333-2853)); MSA 14.15 (2853); 1982 AACRS, R 325.8051.
- No further construction in the area of discovery will proceed until the requirements of 36 CFR 800.13 (<https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.13>) have been satisfied.
- Information about historic properties, potential historic properties, or properties considered historic are or may be subject to the provisions of Section 304 of The National Historic Preservation Act (NHPA) (<https://www.gsa.gov/cdnstatic/NHPA.pdf>) and the Michigan Compiled Laws § 399.4a; § 15.231(l)(p) (Freedom of Information Act) ([http://www.legislature.mi.gov/\(S\(u2bbr3jgzq3h3s3sir3kf3ci\)\)/mileg.aspx?page=GetObject&objectname=mcl-15-231](http://www.legislature.mi.gov/(S(u2bbr3jgzq3h3s3sir3kf3ci))/mileg.aspx?page=GetObject&objectname=mcl-15-231)). These statutes allow MDOT to withhold from disclosure to the public. Information about the location, character, or ownership of a historic resource if MDOT determines that disclosure may:
  - 1) cause a significant invasion of privacy;
  - 2) risk harm to the historic resource; or
  - 3) impede the use of a traditional religious site by practitioners.
- Michigan law states, any person who willfully digs up, disinters, or moves human remains from their place of burial, or who aids in such activities without being lawfully authorized to do so can be found guilty of a felony punishable by up to 10 years in prison and a fine of up to \$5000.



Engineer will:

- Immediately direct the Contractor to cease operations and preserve the location/s of the item discovery (per specification)
- Immediately contact MDOT's archeologist ([https://www.michigan.gov/mdot/0,4616,7-151-9623\\_11154-22167--,00.html](https://www.michigan.gov/mdot/0,4616,7-151-9623_11154-22167--,00.html)) for consultation.
- Immediately contact local law enforcement if discovery appears to be human remains
- Provide plan of action to the Contractor, in consultation with MDOT's Archeologist.
- Order Contractor to resume operations in the affected work area only after approval from the MDOT Archeologist.
- Review any Contractor requests for extension of time and/or adjustments.

MDOT's Archeologist will:

- Provide the Engineer direction as deemed prudent and necessary, including how to maintain compliance with applicable laws, regulations, and rules
- Immediately consult with state archaeologist, SHPO, Tribes, and others, if necessary, to determine an appropriate course of action.
- Arrange a site visit with appropriate parties, if needed, to make determination.
- If necessary, coordinate cultural resource work which may include obtaining disinterment/reinterment court orders/permits for human remains or any other necessary clearances.
- Provide Engineer with appropriate course of action if suspension of work in discovery area is necessary. Assist in designing a plan for avoiding, minimizing, or mitigating adverse effects to the discovery area.
- Provide Engineer with approval to resume operations.

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## **LAP Project Considerations**

LAP Projects are subject to the same guidance ([https://mdotwiki.state.mi.us/construction/index.php/107.09\\_Archeological\\_and\\_Historical\\_Findings](https://mdotwiki.state.mi.us/construction/index.php/107.09_Archeological_and_Historical_Findings)) except the following procedures must be followed: The Engineer must immediately notify the MRC/DR and LRC ([https://mdotwiki.state.mi.us/construction/index.php/Local\\_Agency\\_Program\\_\(LAP\)#Definitions](https://mdotwiki.state.mi.us/construction/index.php/Local_Agency_Program_(LAP)#Definitions)). In lieu of contacting the MDOT Archeologist, the Engineer is to contact the State Historical Preservation Office (SHPO) Archeologist (<https://www.miplace.org/historic-preservation/about-shpo/contact-shpo/>) for consultation and direction. The DR may consult with the MDOT Archeologist.

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**This page was last edited on 4 January 2022, at 10:25.**

## GENERAL CONDITIONS

This permit is issued subject to the following General Conditions:

1. This permit grants to the permittee only those rights specifically stated and no other. Maintenance work within the trunkline right of way may require a separate permit unless authorized within the scope of the annual permit.
2. Issuance of this permit does not relieve permittee from meeting any and all requirements of law, or of other public bodies or agencies. The permittee shall be responsible for securing including but not limited to any other permissions including or required by law including but not limited to cities, villages, townships, corporations, or individuals for the activities hereby permitted.
3. The permittee agrees as a General Condition of this permit to:
  - a. Have in the permittee's or the permittee's representative's possession on the job site at all times the approved permit, advanced notice and any necessary plans or sketches.
  - b. Submit Advance Notice through the online Construction Permit System (CPS) at least five (5) working days prior to commencement of any operations covered by this permit. No work shall start until an approved Advance Notice is e-mailed to the permittee.
  - c. Perform no work except emergency work, unless authorized by the Department (Michigan Department of Transportation [MDOT]), on Saturdays, Sundays, or from 3:00 p.m. on the day proceeding until the normal starting time the day after the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
  - d. Perform no work except emergency work during periods of inclement weather when reduced visibility or slippery conditions impair trunkline traffic.
  - e. Provide and maintain all necessary precautions to prevent injury or damage to persons and property from operations covered by this permit.
  - f. Furnish, install and maintain all necessary traffic controls and protection during permittee's operations in accordance with the Michigan Manual of Uniform Traffic Control Devices and any supplemental specifications set forth herein.
  - g. Once work is initiated that includes any lane restrictions, that work must be continued daily until completed. A lack of work activity for more than 3 days will require the removal of lane closures at no expense to the Department.
  - h. Notify the Department of completion of work authorized by this permit through CPS, so that final inspection may be made and surety deposit released (where applicable). Surety deposit will not be released until the work authorized by the permit has been completed and inspected, and all inspection charges billable to the permittee are paid.
4. Nothing in this permit shall be construed to grant any rights whatsoever to any public utilities, except as to the consent herein specifically given, nor to impair any existing rights granted in accordance with the constitution or laws of this state.
5. Any operations in the trunkline right of way not covered by permit and the appropriate Department specifications are in violation of the jurisdictional authority of the Department, with respect to the control of the trunkline right of way, unless approved by the Department. Any change or alteration in the permit activities requires prior approval of the Department and may require a new permit.
6. Performance of the requirements of this permit is the responsibility of the permittee. The permittee shall complete all operations for which this permit is issued in accordance with the General Conditions and conditions of this permit, by the specified completion date. The permittee shall meet all requirements of the current Department Standard Specifications for Construction, and the Supplemental Specifications set forth on/or incorporated as a part of this permit.
7. The construction, operation and maintenance of the facility covered by this permit shall be performed without cost to the Department unless specified herein. The permittee shall be responsible for the cost of restoration of the state trunkline and right of way determined by the Department to be damaged as a result of the activities of the permittee.
8. Facilities allowed on state trunkline right of way shall be placed and maintained in a manner which will not impair the state trunkline or interfere with the reasonable safe and free flow of traffic. Failure of the permittee to maintain the facilities located within the State trunkline right of way so as not to interfere with the operation, maintenance or use of the state trunkline by the traveling public may result in revocation of the permit.
9. The permittee is solely and fully responsible for all activities undertaken pursuant to the permit. Any and all actions by the Department and those governmental bodies performing permit activities for the Department pursuant to a maintenance contract, including but not limited to any approved reviews and inspections of any nature, permit issuing, and final acceptance or rejection of the work or activity authorized by the permit shall not be construed as a warranty or assumption of liability on the part of the Department or those governmental bodies. It is expressly understood and agreed that any such actions are for the sole and exclusive purposes of the Department and the governmental bodies acting in a governmental capacity. Any such actions by the Department and governmental bodies will not relieve the permittee of its obligations hereunder, nor are such actions by the Department and the governmental bodies to be construed as a warranty as to the propriety of the permittee's performance.

Note: The following General Condition does not apply to municipalities with executed resolutions on file with MDOT.

The permittee shall indemnify, defend, and save harmless the State of Michigan, Michigan Transportation Commission, the Department and all officers, agents and employees thereof, and those governmental bodies performing permit activities for the Department and all officers, agents and employees thereof, pursuant to a maintenance contract, against any and all claims for damages arising from operations covered by this permit except claims resulting from the sole negligence or willful acts or omissions of said indemnities, its agent, or employees. In addition, permittee upon request shall furnish proof of insurance coverage for the term of this permit in an amount pre-specified.
10. The permittee or representative must ensure that all insurance policies and binders include an endorsement by which the insurer

agrees to notify the Department in writing at least 30 days before there is a cancellation or material change in coverage. The permittee or representative must stop operations if any insurance is cancelled or reduced and must not resume operations until new insurance is in force. The State of Michigan, Michigan Transportation Commission, Department of Transportation, and governmental bodies performing permit activities under a maintenance contract, and all officers, agents, and employees of all the above, for claims arising out of, under, or by reason of operations covered by the permits issued to the permittee.

11. This permit is not assignable and not transferable unless specifically agreed to by the Department.
12. The permittee, upon request of the Department, shall immediately remove, cease operations, and surrender this permit, or alter or relocate, at the permittee's own expense, the facility for which this permit is granted. Upon failure to do so, the Department may take any necessary action to protect the trunkline interest and the permittee shall reimburse the Department for its costs in doing same. The permittee expressly waives any right to claim damages or compensation in the event this permit is revoked.
13. The permittee shall, upon request by the Department, furnish a performance surety deposit in the form of a bond, cash, certified check, or (when authorized by the Department) an irrevocable letter of credit in such amount as deemed necessary by the Department to guarantee restoration of the trunkline highway or performance under the General Conditions and conditions of the permit.
14. The permittee hereby acknowledges and agrees that the Department has the right to demand completion by the permittee, or the performance surety, or to complete any uncompleted activity authorized by this permit which adversely affects the operation and/or maintenance of the state trunkline highway, or which is not completed by the expiration date of the permit, including:
  - a. Completion of construction of driveway and/or approach (not authorized by annual permit).
  - b. Removal of materials.
  - c. Restoration of the trunkline facilities and right of way as necessary for the reasonably safe and efficient operations of the trunkline highway.

The permittee further agrees to immediately reimburse the Department in full for all such costs incurred by the Department upon receipt of billing, and that upon failure to pay, the Department may affect payment with the performance surety deposit. Should the surety deposit be insufficient to cover expenses incurred by the Department, the permittee shall pay such deficiency upon billing by the Department. If the surety deposit exceeds the expense incurred by the Department, any excess will be returned or released to the depositor upon completion of the work to the satisfaction of the Department.

15. The Department reserves the right during the time any or all of the work is being performed to assign an inspector to protect the trunkline interest, and to charge the permittee all such costs incurred. In addition, the permittee may be billed any engineering and review fees incurred by the Department or its agent in connection with the work covered by this permit.
16. Emergency Operations: In time of disaster or emergency, or when utility lines or facilities are so damaged as to constitute a danger to life and/or property of the public, access to the same may be had by the most expeditious route. Work is to be completed in a manner which will provide the traveling public with maximum possible safety and minimize traffic distribution. Notice of such situations shall be given to the nearest police authority and the department as soon as can reasonably be done under the

circumstances. During normal Department work hours, the facility owner shall advise the Department of any operations within right of way which affect traffic operations or the highway structure or facilities prior to performance of the work. After normal Department work hours, the permittee, at the beginning of the first working day after the emergency operation, shall advise the Department of any operations which affect traffic operations or the highway structures and facilities. If determined necessary by the Department, the permittee shall secure an individual permit for such work after notification.

17. Upon the Department's request, as built drawings of work performed will be furnished to the Department within 30 days after completion of the work.
18. The permittee shall give notice to public utilities in accordance with Act 174 of 2013, as amended, and comply with all applicable requirements of this act. The permittee shall also comply with requirements of Act 451, P.A. of 1994, as amended.
19. The permittee acknowledges that the Department is without liability for the presence of the permittee's facility which is located within the trunkline right of way. Acceptance by the Department of work performed, and/or notice of termination of performance obligations for the surety and/or the permittee do not relieve the permittee of full responsibility for the permittee's work or for the presence of the permittee's facility in the trunkline right of way.
20. Where the Department has accepted an Indemnification Commitment in lieu of bond and/or insurance policies, such commitment is incorporated into this permit by reference.
21. It is illegal to discharge substances other than storm water into the Department's storm sewer system unless permission has been obtained in writing for other discharges.
22. The permittee shall be responsible for obtaining information on permitted environmental site closures within MDOT right of way. MDOT has implemented a program that allows environmental contamination to remain within the right of way by use of a permit. Issued permit information can be obtained from the Region/TSC in which the permit is issued. If the permittee will encounter a site area identified as a site closure permit area, the permittee shall follow instructions and conditions set forth in Supplemental Specifications #3 and specifications found in form 2205-C, "Special Conditions for Underground Construction".
23. Other than for normal daily vehicle and equipment usage requirements, the permittee shall not use or store unattended equipment, or the following types of hazardous materials on, over, under, or immediately adjacent to Department or Local Agency owned buildings, bridges and structures, unless expressly approved by the Department in writing;

Explosive, flammable gas, non-flammable gas, inhalation hazard, oxygen, flammable liquids, fuel oil, combustible, gasoline, flammable solids, spontaneously combustible, dangerous-when-wet, oxidizer organic peroxide, toxic, poisonous, inhalation hazard, infectious, radioactive, corrosive, or any other potentially hazardous material.

Furthermore, the permittee shall not allow hazardous or unreasonably objectionable smoke, fumes, vapor, or odors to emit from any permitted operation. No junk, garbage, refuse or unused construction materials shall be stored or accumulated within the MDOT Right-of-Way.

24. It is the responsibility of the utility owner to provide the depth and location of their facilities within MDOT ROW upon the department's request.

## SUPPLEMENTAL SPECIFICATIONS

1. Construction and Maintenance of Facilities – To construct and maintain utility crossings of limited access highways, access for the utility's service vehicles may be from county roads, service roads, and openings authorized in limited access right of way fences. The construction of utilities across limited access highways should be for the purpose of serving a general area rather than providing individual services, unless extenuating circumstances necessitate such crossings.

Equipment, vehicles or personnel will not operate within a distance of 30 feet from the edge of the pavement of roadways or ramps on limited access highways. At locations where utilities have been constructed in medians having a width greater than 80 feet or have otherwise been allowed to remain or to be constructed in limited access right of way, ingress and egress shall be by such routes as specified by the Department, which may also specify additional safety provisions.

2. Restoration- Restoration of the trunkline highway and right of way will be such that it will provide a condition equal to or better than the original condition, in accordance with Michigan Department of Transportation Standard Specifications.
3. Excavation and Disposal of Excavated Material – The permittee shall provide and place the necessary sheeting, shoring and bracing required to prevent caving, loss or settlement of foundation material supporting the pavement, or any other highway installation such as sewers, culverts, etc. The permittee shall assume the full responsibility for this protection and shall not proceed in these areas before approval of the methods by the Department.

Construction equipment and excavating material shall not be stocked in such locations that it creates a traffic hazard or interferes with the flow of traffic; and on limited access highways, shall be a minimum of 30 feet from the traveled way. Sod and topsoil shall be stacked separately from other excavated material. The permittee shall dispose of all surplus and unsuitable material outside of the limits of the highway, unless the permit provides for disposal at approved locations within right of way. In the latter case, the material shall be leveled and trimmed in an approved manner.

When the permittee is excavating within trunkline right of way and discovers existing contaminated soil and/or an abandoned underground storage tank, special permit specifications entitled "Special Conditions for Underground Construction" (Form 2205-C) shall apply.

4. Utility Cuts, Trenches and Pavement Replacement – Utility crossing by pavement cutting and removal are generally prohibited. If extenuating circumstances make tunneling, boring and jacking impractical pavement cutting may be used with approval of the Department. All utility cuts, trenching and pavement replacement shall comply with the requirements of the Standard Specifications and the Standard Plan "Utility Cuts, Trenches and Pavement Replacement". Unless otherwise specified, cuts in concrete residential and commercial drives shall be as above; except that the patch width shall be a minimum of 3 feet and the remaining slab from patch to existing joint shall be a minimum of 3 feet. Backfill shall be made with sand-gravel as specified in the Standard Specifications, unless otherwise directed. After the backfill has been placed and compacted by controlled density method, the pavement shall be replaced with new pavement of the original type and quality, unless at the season of the year when it is not feasible to replace

pavement in kind. In this case, a temporary surface of bituminous material shall be placed with Department approval and later replaced with pavement of the original type at the applicant's expense. Other pavement types may be allowed with prior approval of the Department.

5. Crossing Roadbed by Tunneling or Boring and Jacking – All crossing of roadbed operations involving tunneling, boring and jacking shall comply with the Department's special provisions for such work.
6. Backfilling and Compacting Backfill – Unless otherwise specified, all trenches, holes and pits shall be filled with sound earth or with sand-gravel if so provided, placed in successive layers not more than 9 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping. All backfill compaction will be subject to check by the controlled density method.
7. Depth of Cover Method- Unless otherwise authorized, pipes shall be placed to a depth that will provide not less than 6 feet of cover between the top of the roadway surface and the pipe, 3 feet cover below the ditch line. All bores across MDOT highways that are 12" or larger will require a geotechnical report that complies with the General Conditions and conditions of the permit.
8. Trees:
  - a. The permittee is responsible for obtaining permission from abutting owners when trimming or removing trees on easement right of way.
  - b. Tree removal or trimming may be undertaken only after submission of an "Advance Notice" through CPS, a field review by the Region Resource Specialist and an approved copy of the advanced notice is e-mailed to the permittee.
  - c. Limbs, logs, stumps and litter shall be disposed of in a manner acceptable to the Department.
  - d. Tree roots shall be bored a distance of one foot for each one inch of trunk diameter for underground utility installations
9. Aerial Wire Crossings – Vertical clearance of wires, conductors and cables over state trunkline shall not be less than required by Section 232 of the National Electrical Safety Code, except in no case shall the under-clearance below any wire, conductor, or cable, under any temperature or loading condition, be less than eighteen feet (18').



# System Operations Advisory

SOA 2016-002

May 1, 2016

Revised: 9/30/2016

From Mark Geib, Engineer of Operations Field Services Division

**MDOT**  
Division of Operations  
6333 Lansing Road  
Lansing, MI 48917  
Fax/517-322-3385

Questions regarding this advisory should be directed to:

Chris Brookes  
Work Zone Delivery  
Engineer  
(517) 636 -0300  
[Brookesc@michigan.gov](mailto:Brookesc@michigan.gov)

Or

Chuck Bergmann  
Work Zone Tech Specialist  
(517)322-3314  
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## Fluorescent Sheeting Implementation

The Michigan Department of Transportation (MDOT) has been working with Michigan Infrastructure and Transportation Association (MITA) and its industry partners on the use of a 6-inch wide angle prismatic lens reflective sheeting for reflectorizing reboundable traffic control devices such as drums and 42-inch channelizing devices. MDOT, MITA, and industry partners piloted a number of successful projects over the last two years and have been working jointly to develop an implementation plan. Safety for both the motoring public and the workers is the number one reason for this change. Fluorescent reflective sheeting can increase distance visibility providing up to 2.5 seconds of additional driver reaction time at 55 MPH, compared with high intensity sheeting. Additionally, during weather events and low light conditions when approximately 35 percent of work zone crashes occur historically in Michigan, improved motorist visibility will reduce the potential of a traffic crash or fatality. This is a safety initiative that will help reach MDOT's goal of "Towards Zero Deaths".

Specification will be according to ASTM D 4956. The fluorescent orange sheeting color must have a daytime luminance factor that meets or exceeds 20, (ASTM D 4956 Table 2 – Daytime Luminance Factor (Y %)), and the fluorescent orange and white sheeting classified as Type IV sheeting. For projects incorporating the new sheeting the following pay items will be used:

- "Plastic Drum, Fluorescent, Furn"
- "Plastic Drum, Fluorescent, Oper"
- "Channelizing Device, 42 Inch, Fluorescent, Furn"
- "Channelizing Device, 42 Inch, Fluorescent, Oper"

The following implementation plan was based on the average service life of the drums and 42-inch channelizing devices, which will allow industry to upgrade during the normal replacement cycle. The schedule detailed below, provides inclusion beginning with October 2017 project lettings on the interstate system.

The phase in period is described below for project letting dates:

- Official notification to industry of the upcoming phase in period was provided on 4/7/2016.
- Project lettings on or after 10/1/2017 – Type IV Fluorescent Orange and Type IV White required on all “I” routes.
- Project lettings on or after 10/1/2018 – Type IV Fluorescent Orange and Type IV White required on all “BR”, “US”, and “M” routes.
- Project lettings on or after 10/1/2020 – Type IV Fluorescent Orange and Type IV White required on all projects let through MDOT including local agency projects.
- Maintenance, utility, and permit work performed on state trunk line on or after 10/1/2020 will require – Type IV Fluorescent Orange and Type IV White.
- Selected projects may require the use of the new sheeting on a project-by-project basis after the Frequently Used Special Provision is released for each cycle

Contractors may implement new fluorescent sheeting on drums and 42 inch channelizing devices prior to the above specific dates, as an “equal to or better than” substitution, at no additional cost to MDOT.

During the phase in period, the intermixing of drums and 42 inch channelizing devices with fluorescent orange sheeting and high intensity standard orange sheeting, on the same project will not be allowed.

Intermixing of drums and 42 inch channelizing devices with fluorescent sheeting from different companies of the same grade will be allowed.

Please contact the Work Zone Delivery Engineer for any additional guidance.