

**BID DOCUMENTS
FOR
2017 STREET PROGRAM**



**CITY OF OWOSSO
301 W. MAIN STREET
OWOSSO, MICHIGAN 48867**

June 29, 2017

NOTICE TO BIDDERS
2017 STREET PROGRAM
FOR THE CITY OF OWOSSO, MICHIGAN

Sealed proposals will be received by the city of Owosso for the 2017 STREET PROGRAM bid and should be addressed to:

Bid Coordinator
City of Owosso
301 W. Main Street
Owosso, Michigan 48867

Major items include: HMA pavement reconstruction and/or resurfacing, including sidewalk and curb and gutter, storm sewer and water main construction at various locations within the city of Owosso.

Bids will be accepted until **3:00 p.m. TUESDAY, JULY 25, 2017** for the 2017 STREET PROGRAM at which time bids will be publicly opened and read aloud.

All bids must be in writing and must contain an original signature by an authorized officer of the firm. Electronic bids (i.e., telephonic, fax, email, etc.) are **NOT** acceptable.

All bids must be accompanied by a certified **Cashier's Check or Bid Bond** for a sum of not less than five percent (5%) of the total bid and shall be made payable to the city of Owosso. This amount shall be forfeited in the case of failure on the part of the successful bidder to sign a contract and furnish satisfactory bonds as required within ten (10) consecutive calendar days after the acceptance of the bid by the city of Owosso.

The bidder agrees that if the city accepts their proposal, the bidder will, within 10 consecutive calendar days after receiving notice of this acceptance, enter into a contract to furnish all labor, equipment and tools necessary to execute the work at the unit prices named in the bid proposal and will furnish the surety for performance, for one hundred percent (100%) of this bid, which shall be accepted and approved by the city.

All bids shall clearly contain on the outside of the **sealed** envelope in which they are submitted:

2017 STREET PROGRAM BID

Hard copies of the proposal, contract forms and specifications are on file and may be obtained for a fee in accordance with the city's FOIA Policy at the office of the Bid Coordinator, City Hall, 301 West Main Street, Owosso, Michigan 48867. Bid documents are available at no charge on our website at www.ci.owosso.mi.us or on the MITN website at www.mitn.info.

The city reserves the right to accept any proposal; or to reject any proposal; to waive irregularities in a proposal; or to negotiate if it appears to be in the best interest of the city of Owosso.

No work can begin before August 14, 2017 and all work is to be completed by June 29, 2018.

INQUIRIES/ADDENDUMS

Addendums will be available on the city's website at www.ci.owosso.mi.us and on the MITN website at www.mitn.info.

All inquiries regarding this bid request must be received at least five (5) calendar days prior to the submission and shall be received in, and responded to, in writing, or via FAX at 989-723-8854 or by e-mail to randy.chesney@ci.owosso.mi.us, Call 989-725-0550 to arrange a field inspection.

INSTRUCTIONS TO BIDDERS

Each proposal must be signed by the bidder with his usual signature. Bids by partnerships should be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and title of the person signing. Proposals by corporations must be signed with the name of the corporation, followed by the signature and designation of the president, vice-president or person authorized to bind it in the matter. **Any paperwork not filled out properly or signed will cause the bid to be considered non-responsive and shall be rejected by the city.**

Proposals, to receive consideration, must be received prior to the specified time of opening and reading as designated in the invitation.

Bidders are requested to use the proposal form furnished by the city when submitting their proposals. Envelopes must be **sealed** when submitted and clearly marked on the outside indicating the name of the bid.

Proposals having and erasures or corrections thereon may be rejected unless explained or noted over the signature of the bidder.

References in the specifications or description of materials, supplies, equipment, or services to a particular trade name, manufacturer's catalog, or model number are made for descriptive purposes to guide the bidder in interpreting the type of materials or supplies, equipment, or nature of the work desired. They should not be construed as excluding proposals on equivalent types of materials, supplies, and equipment or for performing the work in a manner other than specified. However, the bidders' attention is called to General Condition seven (7).

Proposals should be mailed or delivered to: Bid Coordinator's Office, City Hall, 301 W. Main Street, Owosso, MI 48867.

Special conditions included in this inquiry shall take precedence over any conditions listed under General Conditions or Instructions to Bidders.

Insurance coverage – The winning bidder, prior to execution of the contract, shall file with the city copies of completed certificates of insurance naming the city of Owosso as an additional insured party, as evidence that the contractor carries adequate insurance satisfactory to the city.

The city of Owosso has a local preference policy for the purchase of goods and services. The policy in part states: *A business located within the city limits and paying real or personal property taxes to the city of Owosso will be granted a six percent (6%) bid advantage or \$2,500, whichever is less, over a business located outside Shiawassee County. A business located outside the city limits but within Shiawassee County and paying property taxes to the county will be granted a three percent (3%) bid advantage or \$2,500, whichever is less, over a business located outside Shiawassee County. The preference also applies to subcontractors performing twenty-five percent (25%) or more of the work of a general contract.*

The following items must be included with the bid response:

Vendor Proposal

Local Preference Affidavit

W-9 Request for Taxpayer ID No. and Certification

Signature Page & Legal Status/ Acknowledgement of Addendum(s)

Insurance Endorsement

Bid Bond

BID Proposal

2017 STREET PROGRAM

TO: THE CITY OF OWOSSO (HEREINAFTER CALLED THE "CITY")

Bidder must provide pricing for each item listed. If additional pricing elements are being offered by the bidder are to be listed under "other services/items offered."

The undersigned, having examined the bid proposal forms and specifications, does hereby offer to 2017 Street Program from **AUGUST 14, 2017** through **JUNE 29, 2018** listed below at the following prices to wit:

Road and Storm Sewer (Bid Items 1-72):

Item	Description	Approx. Quantity	Unit	Unit Price	Total
1	Mobilization, Max \$73,646.00 (2017 Road and Storm)	1	LSUM		
2	Mobilization, Max \$31,562.00 (2018 Road and Storm)	1	LSUM		
3	Dr Structure, Abandon	2	Ea		
4	Dr Structure, Rem	61	Ea		
5	Sewer, Rem, Less than 24 inch	1619	Ft		
6	Sewer, Rem, 24 inch to 48 inch	45	Ft		
7	Curb and Gutter, Rem	2900	Ft		
8	Pavt, Rem	1500	Syd		
9	Sidewalk, Rem	660	Syd		
10	Machine Grading, Modified	106	Sta		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
11	Subgrade Undercutting, Type II	200	Cyd		
12	Erosion Control, Inlet Protection, Fabric Drop	50	Ea		
13	Aggregate Base, 6 inch, Modified	11,132	Syd		
14	Aggregate Base, 8 inch, Modified	11,715	Syd		
15	Maintenance Gravel	300	Ton		
16	Geotextile, Separator	22,600	Syd		
17	Sewer, SDR-26, 6 inch, Tr Det B, Modified	10	Ft		
18	Sewer, SDR-26, 8 inch, Tr Det B, Modified	50	Ft		
19	Sewer, SDR-26, 10 inch, Tr Det B, Modified	1213	Ft		
20	Sewer, SDR-26, 12 inch, Tr Det B, Modified	723	Ft		
21	Sewer, SDR-26, 15 inch, Tr Det B, Modified	392	Ft		
22	Sewer, SDR-26, 18 inch, Tr Det B, Modified	521	Ft		
23	Sewer, SDR-26, 24 inch, Tr Det B, Modified	446	Ft		
24	Sewer Bulkhead, 18 inch	1	Ea		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
25	Sewer Bulkhead, 24 inch	1	Ea		
26	Dr Structure Cover, Adj, Case 1	34	Ea		
27	Dr Structure Cover, EJ 1060	27	Ea		
28	Dr Structure Cover, EJ 1120 w/ Gasket Seal	29	Ea		
29	Dr Structure Cover, EJ 7000	36	Ea		
30	Dr Structure, 24 inch dia, Modified	2	Ea		
31	Dr Structure, 36 inch dia, Modified	34	Ea		
32	Dr Structure, 48 inch dia, Modified	23	Ea		
33	Dr Structure, 60 inch dia, Modified	3	Ea		
34	Dr Structure, Adj, Add Depth	10	Ft		
35	Dr Structure, Temp Lowering	5	Ea		
36	Cold Milling HMA Surface	4011	Syd		
37	HMA Surface, Rem	21,993	Syd		
38	HMA Base Crushing and Shaping, 6 inch, Modified	7095	Syd		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
39	Asphalt Cement Stabilized Base Course, 4 inch	7095	Syd		
40	Asphalt Cement Binder	11,350	Gal		
41	Hand Patching	20	Ton		
42	HMA, 2C	6200	Ton		
43	HMA, 13A	836	Ton		
44	HMA, 4E3	475	Ton		
45	HMA, 5E3	3010	Ton		
46	HMA Approach	20	Ton		
47	Cement	5	Ton		
48	Saw Cutting	9000	Ft		
49	Driveway, Nonreinf Conc, 6 inch	46	Syd		
50	Driveway, Nonreinf Conc, 7 inch	57	Syd		
51	Approach, CI II, LM	15	Ton		
52	Curb and Gutter, Conc, Det F4, Modified	2900	Ft		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
53	Detectable Warning Surface	250	Ft		
54	Sidewalk Ramp, Conc, 4 inch	4500	Sft		
55	Sidewalk, Conc, 4 inch	3500	Sft		
56	Sidewalk, Conc, 6 inch	200	Sft		
57	Post, Mailbox	20	Ea		
58	Valve Box, Adj	6	Ea		
59	Sanitary Serv Conflict	4	Ea		
60	Abandoned Gas Main Conflict	10	Ea		
61	Pavt Mrkg, Ovly Cold Plastic, 6 inch, Crosswalk	100	Ft		
62	Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar	36	Ft		
63	Pavt Mrkg, Waterborne, 4 inch, White	4845	Ft		
64	Barricade, Type III, High Intensity, Double Sided, Furn & Oper	62	Ea		
65	Pedestrian Type II Barricade, Temp	12	Ea		
66	Lighted Arrow, Type C, Furn & Oper	4	Ea		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
67	Minor Traf Devices	1	LSUM		
68	Plastic Drum, High Intensity, Furn & Oper	140	Ea		
69	Sign, Type B, Temp, Prismatic, Furn & Oper	1000	Sft		
70	Traf Regulator Control	1	LSUM		
71	Turf Establishment, Performance	3000	Syd		

Bidder's Initial _____

Subtotal of Road and Storm Sewer (Bid Items 1-71):

(use words)

\$ _____

(use figures)

(Note: Bid Items 72-99 Reserved for Additional Items, if Necessary)

Water Main (Bid Items 100-135):

Item	Description	Approx. Quantity	Unit	Unit Price	Total
100	Mobilization, Max \$26,653.00 (2017 Water Main)	1	LSUM		
101	Mobilization, Max \$26,653.00 (2018 Water Main)	1	LSUM		
102	Connect to Ex. Water Main	22	Ea		
103	Existing Valve with Valve Box Abandonment	31	Ea		
104	Existing Hydrant Removal	9	Ea		
105	4" PVC Water Main, Trench Backfill Detail 'G'	56	Lf		
106	6" PVC Water Main, Trench Backfill Detail 'G'	682	Lf		
107	8" PVC Water Main, Trench Backfill Detail 'G'	297	Lf		
108	12" PVC Water Main, Trench Backfill Detail 'G'	650	Lf		
109	12" PVC Water Main, Directional Drill	4670	Lf		
110	8" Tee	1	Ea		
111	12" x 6" Tee	28	Ea		
112	12" x 8" Tee	6	Ea		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
113	12" Tee	3	Ea		
114	12" x 6" Reducer	1	Ea		
115	12" x 8" Reducer	1	Ea		
116	8" x 6" Reducer	4	Ea		
117	8" x 4" Reducer	1	Ea		
118	6" x 4" Reducer	4	Ea		
119	4" Plug	5	Ea		
120	6" Plug	15	Ea		
121	12" Plug	2	Ea		
122	4" 90° Bend	7	Ea		
123	6" 22.5° Bend	2	Ea		
124	6" 45° Bend	20	Ea		
125	6" 90° Bend	24	Ea		
126	12" 22.5° Bend	4	Ea		

Item	Description	Approx. Quantity	Unit	Unit Price	Total
127	12" 45° Bend	20	Ea		
128	12" 90° Bend	1	Ea		
129	6" Valve and Valve Box	14	Ea		
130	8" Valve and Valve Box	5	Ea		
131	12" Valve and Valve Box	14	Ea		
132	90° Fire Hydrant Assembly	14	Ea		
133	New Water Service, Open Cut	45	Ea		
134	New Water Service, Freebore	50	Ea		
135	2" Blow-Off and Copper Line to Surface	18	Ea		

Bidder's Initial _____

Subtotal of Water Main (Bid Items 100-135):

_____ (use words)

\$ _____

(use figures)

BID TOTAL

Total of all Road and Storm Sewer (Bid Items 1-72) and Water Main (Bid Items 100-135):

(use words)

\$

(use figures)

For the following streets:

- S. Chestnut Street from South Street to Stewart Street
- W. Stewart Street from Chestnut Street to Chipman Street
- S. Chipman Street from South Street to Stewart Street
- N. Chipman Street from Oliver Street to King Street
- N. Chipman Street from Willow Springs Drive to Harding Street

As per the construction plans.

VARIANCE FROM SPECIFICATIONS: If the bidder is unable to comply with the specifications as outlined, the bidder shall clearly note these variations from the specifications. The bidder may also propose additions to these specifications for the city to consider, but the costs associated with these additions shall be stated separately.

If the work is not complete on or before the date set for completion or any extension, the Contractor shall pay the city liquidated damages of **\$1,300.00** a calendar day until the work is satisfactorily completed. Liquidated damages for delay may be deducted from payments due the contractor or may be collected from the Contractor or the Contractor's surety.

The undersigned agrees that if the city accepts this proposal, Contractor will, within 10 consecutive calendar days after receiving notice of this acceptance, enter into a contract to furnish all labor, equipment and tools necessary to execute the work at the unit prices named in the bid proposal. Contractor will furnish the surety for performance, for 100% of this bid, which shall be accepted and approved by the city.

The undersigned agrees that if the city accepts this proposal, Contractor will start this project no sooner than **AUGUST 14, 2017** and will substantially complete the entire work as described within the **PROJECT CLAUSE** under this contract by **JUNE 29, 2018**. This schedule may be extended for rain days or cold weather for calendar days after **JUNE 29, 2018**, only as approved by the city of Owosso.

On behalf of _____, I hereby submit this proposal for 2017 STREET PROGRAM for your consideration. The undersigned acknowledges that this proposal is subject to the General Conditions and the General Specifications included in the contract documents. In submitting this proposal, it is understood that the right is reserved by the CITY to reject any and all proposals, and waive any irregularities in the bidding process. The CITY may award this contract based on any combination of the total bid and/or alternates.

Dated and signed at _____ State of _____

This _____ day of _____, 20____.

Bidder

Witness:

By/s/

Business Address

Signature

Printed Name

Title

Telephone Number

E-Mail Address

GENERAL CONDITIONS

The contractor shall direct all phases of the work. A representative of the contractor, authorized to make decisions, shall be on the job when work is in progress. Contractor shall build this work according to the **2012 M.D.O.T. Standard Specifications Construction**.

Unless stated otherwise, all materials, procedures and testing shall follow the **M.D.O.T. 2012 Standard Specifications for Construction**.

The streets under construction shall be closed to through traffic during the project, with access for local traffic to their driveways.

The contractor, before execution of the contract, shall file with the city copies of completed certificates of insurance naming the city of Owosso as an insured party, as evidence that the contractor carries adequate insurance, satisfactory to the city.

1. LOCAL PREFERENCE POLICY

The city of Owosso has a local preference policy for the purchase of goods and services. The policy in part states: *A business located within the city limits and paying real or personal property taxes to the city of Owosso will be granted a 6% bid advantage or \$2,500, whichever is less, over a business located outside the city limits of Owosso. A business located outside the city limits but within Shiawassee County and paying property taxes to the county will be granted a 3% bid advantage or \$2,500, whichever is less, over a business located outside Shiawassee County. The preference also applies to subcontractors performing 25% or more of the work of a general contract.*

2. BID ACCEPTANCE

The city reserves the right to reject any or all proposals. Unless otherwise specified, the city reserves the right to accept any item in the proposal. In case of error in extending the total amount of the bid, the unit prices shall govern.

3. PAYMENT

Unless otherwise stated by the bidder, time, concerning discount offered, will be computed from date of delivery and acceptance at destination or from date correct bill or claim voucher properly certified by the contractor is received. When so stated herein, partial payments, based on a certified approved estimate by the city of materials, supplies or equipment delivered or work done, may be made upon presentation of a properly-executed claim voucher. The final payment will be made by the city when materials, supplies, equipment or the work done have been fully delivered or completed to the full satisfaction of the city.

4. BID DEFAULT

In case of default by the bidder or contractor, the city of Owosso may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess cost occasioned thereby.

5. UNIT PRICES

Prices should be stated in units of quantity specified.

6. QUOTED PRICES

Unless otherwise stated by the bidder, prices quoted will be considered as being based on delivery to a designated destination and to include all charges for packing, crating, containers, shipping, etc., and being in strict accordance with specifications and standards as shown.

7. SUBSTITUTIONS

Wherever a reference is made in the specifications or description of the materials, supplies, equipment, or services required, to a particular trade name, manufacturer's catalog, or model number, the bidder, if awarded a contract or order, will be required to furnish the particular item referred to in strict accordance with the specifications or description unless a departure or substitution is clearly noted and described in the proposal.

8. HOLD CITY HARMLESS

The bidder, if awarded an order or contract, agrees to protect, defend, and save the city harmless against any demand for payment for the use of any patented material, process, article, or device that may enter into the manufacture, construction, or form a part of the work covered by either order or contract. Bidder further agrees to indemnify and save the city harmless from suits or action of every nature and description brought against it, for or on account of any injuries or damages received or sustained by any party or parties, by or from any of the acts of the contractor, his employees, subcontractors, or agents.

9. COMPETITIVE BIDDING STATUTES

The laws of the state of Michigan, the charter and ordinances of the city of Owosso, as far as they apply to the laws of competitive bidding, contracts and purchases, are made a part hereof.

10. SAMPLES

Samples, when requested, must be furnished free of expense to the city and, if not destroyed, will upon request be returned at the bidder' expense.

11. BONDS

A certified check or bid bond may be required, payable to the City of Owosso. If so required in the bid documents, a performance bond and labor and material bond in the amounts stated in the bid documents, shall be on file with the city before work commences. The city will determine the amount and sufficiency of the sureties.

12. PROPOSAL GUARANTY

All checks or bid bonds except those of the three lowest bidders will be returned when the bids have been opened and tabulated. The certified checks or bid bonds of the three lowest bidders will be held until the contract documents have been signed, after which remaining certified checks or bid bonds will be returned to the respective bidders.

13. BIDDERS

The city may demand that the contractor file a sworn experience and financial statement setting forth the financial resources, adequacy of plant and equipment, organization, experience and other pertinent and material facts as may be desirable.

14. DAMAGE LIABILITY AND INSURANCE

The contractor shall save harmless and indemnify the city and its employees against all claims for damages to public or private property and for injuries to persons arising during the progress and because of the work.

- a. Workers' compensation insurance - The contractor, before the execution of the contract, shall file a certification that the contractor carries workers' compensation insurance.
- b. Bodily injury and property damage - The contractor, before execution of the contract, shall file with the city copies of completed certificates of insurance acceptable to the city naming the city as an insured party. The coverage shall afford protection against damage claims to public or private property, and injuries to persons, arising out of and during the progress of the work, and to its completion and, where specified in the proposal, similar insurance to protect the owners of premises on or near where construction operations take place.
- c. Bodily injury and property damages other than automobile - Unless otherwise specifically required by special provisions in the proposal, the minimum limits of property damage and bodily injury liability covering each contract shall be:

Bodily injury and property damage liability:

Each occurrence: \$1,000,000

Aggregate: \$2,000,000

Such insurance shall include, but not be limited to, coverage for: a) underground damage to facilities due to drilling and excavating with mechanical equipment and b) collapse or structural injury to structures due to blasting or explosion, excavation, tunneling, pile driving, cofferdam work, or building moving or demolition.

- d. Owners' protective liability - Bodily injury and property damage protection shall be extended to the city.
- e. Bodily injury liability and property damage liability automobiles - Unless otherwise specifically required by special provisions in the proposal, the minimum limits of bodily injury liability and property damage liability shall be:

Bodily injury liability:

Each person: \$ 500,000

Each occurrence: \$1,000,000

Property damage liability:

Each occurrence: \$1,000,000

Combined single limit for bodily injury and property damage liability:

Each occurrence: \$2,000,000

- f. Notice - The contractor shall not cancel or reduce the coverage of any insurance required by this section without providing 30-day prior written notice to the city. All such insurance must include an endorsement under which the insurer shall agree to notify the city immediately of any reduction by the contractor. The contractor shall cease operations on the occurrence of any such cancellation or reduction, and shall not resume operations until new insurance is in force.
- g. Reports - At the request of the city, the contractor or the contractor's insurance carrier shall report claims received, inspections made, and disposition of claims.

15. PROTECTION OF LAND MONUMENTS AND PROPERTY STAKES

Land monuments or stakes marking property corners shall not be moved or otherwise disturbed except as directed by the city. If any land monuments or lot stakes are moved or disturbed by the contractor, the cost of replacing each land monument or lot stake so moved or disturbed shall be deducted from any money due the contractor, as payment to the city for the cost of replacing said land monument or lot stakes.

16. CONTRACTOR'S RESPONSIBILITY FOR WORK

The contractor shall be responsible for any damages that the work may sustain before its acceptance, and shall rebuild, repair, restore and make good, at its own expense, all injuries and damages to any portion of the work by the action of the elements or from any cause whatsoever before its acceptance. Neither the final payment nor any provision in the contract documents shall relieve the contractor of the responsibility for negligence or faulty materials or workmanship within the extent and period provided by law, and, upon written notice, the contractor shall remove any defects due therefrom and pay for any

damaged due to other work resulting therefrom, which shall appear within one year after the date of completion and acceptance.

17. PAYMENT

At monthly intervals commencing after construction has been started, the city will make partial payment to the contractor based on a duly-certified estimate prepared by the city of the work done by the contractor during the preceding four-week period. Each estimate will be submitted to the city council for approval on either the first or third Monday of each month. The city will retain ten percent (10%) of the amount of each such estimate until final completion and acceptance of all work covered by this contract.

Before the contractor shall demand final estimates or payment, contractor will furnish to the city, supported by sworn statements, satisfactory evidence that all persons that have supplied labor, materials, or equipment for the work embraced under this contract have been fully paid for the same; and that, in case such evidence be not furnished as aforesaid, such sums as the city may deem necessary to meet the lawful claims of such persons may be retained by the city from any monies that may be due or become due to the contractor under this contract until such liabilities shall be fully discharged and the evidence thereof be furnished to the city.

18. CITY'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF

Besides the payment to be retained by the city under the preceding provisions of these general conditions, the city may withhold a sufficient amount of any payment otherwise due to the contractor to cover a) payments earned or due for just claims for furnish labor or materials on the project under this contract, b) for defective work not remedied and c) for failure of the contractor to make proper payments to subcontractors. The city shall disburse and shall have the right to act as agent for the contractor in disbursing such funds as have been previously withheld pursuant to this paragraph to the party or parties who are entitled to payment from it. The city will pay to the contractor a proper accounting of all such funds disbursed for the contractor.

19. OWNER'S RIGHT TO DO WORK

If the contractor should neglect to prosecute the work properly or fail to perform any provisions of this contract, the city, after three (3) days' written notice to the contractor and contractor's surety, may without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost of it from the payment due the contractor.

20. DEFINITION OF NOTICE

Where in any of the contract documents there is any provision in respect to the giving of notice, such notice shall be deemed given to the owner, when written notice is delivered to the city manager, or placed in the United States mail addressed to the city clerk; as to the contractor, when a written notice shall be delivered to contractor's representative at the project site or by mailing such written notice in the United States mail addressed to the contractor at the place stated in the bid proposal as the business address; as to the surety on the performance bond, when a written notice is placed in the United States mail addressed to the surety at the surety's home office or to its agent or agents who executed such performance bond on behalf of the surety.

21. SUBCONTRACTS

The contractor shall not subcontract any work in the execution of this contract without the written consent of the city. The contractor shall be responsible for the acts or omissions of any subcontractor and of anyone employed directly or indirectly by such subcontractor.

22. ASSIGNMENT OF CONTRACT

The contractor shall not assign this contract or any part hereof without the written consent of the city. No assignment shall be valid unless it shall contain a provision that any funds to be paid to the assignee under this agreement are subject to a prior lien for services rendered or materials or supplies for the performance of the work specified in the contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

23. MAINTAINING TRAFFIC

The contractor shall provide flares, signs, barricades, traffic regulators, etc., to conform to the current *Michigan Manual of Uniform Traffic Control Devices* or as directed by the city. The contractor shall not close any road or street without the permission of the city. If any street or road is to be closed by the contractor, it shall be the responsibility of the contractor to notify the Owosso fire department when the street will be closed and again when the street is open to traffic. Traffic control devices for any detours deemed necessary by the city shall be provided by the contractor. Cost of maintaining shall be incidental to the cost of the project unless otherwise provided.

24. ORDER OF COMPLETION

The contractor shall submit, whenever requested by the city, a schedule of the work showing completion dates. The city may request that certain portions of the work be done before other portions. If so requested, the contractor shall arrange to schedule to meet the request by the owner.

25. USE OF COMPLETED PORTIONS

The city shall have the right to take possession and use any completed or partially completed portions of the work; but such taking possession and use shall not be deemed acceptance. Pending final completion and acceptance of the work, all necessary repairs and adjustments on any section of the work due to defective material, workmanship, natural causes, or other operations of the contractor, other than normal wear and tear, shall be done by and at the expense of the contractor.

26. WATER SUPPLY

The contractor shall secure an adequate water supply for use in construction and for drinking water for his employees. If the city's water is used on the work, the contractor shall make the necessary application and shall pay all costs involved. Connections, piping and fittings for conveying water shall be furnished and maintained by the contractor. Contractor shall pay for water according to the city's established rates.

27. CLEANUP

The contractor shall keep the project free from waste materials or rubbish caused by its employees or work. This includes as a minimum excess excavation or backfill material, broken or rejected materials, empty containers or general debris. The owner may require complete cleanup of certain areas as construction is completed.

28. SUPERVISION

The contractor shall have a superintendent on the job site to coordinate and expedite the various construction activities for the duration of this contract.

29. EQUAL EMPLOYMENT OPPORTUNITY AND OTHER CLAUSES

The contractor shall agree not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined by Michigan Compiled Statutes, or national origin. This provision shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation, and selection for training including apprenticeship. The contractor further agrees to take affirmative action to ensure equal employment opportunities for persons with disabilities. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of the non-discrimination clause.

LOCAL PREFERENCE POLICY

The following affidavit should be completed if a bidder is located within Shiawassee County or intends to sub-contract more than twenty-five percent (25%) to a Shiawassee County based business: The city of Owosso has a local preference policy for the purchase of goods and services as recorded in the city ordinance in section 2-348. "Lowest qualified bidder" defined.

1. The term "lowest qualified bidder," as used in this division, shall mean the lowest bidder having qualifications to perform the work which are satisfactory to the council. The lowest bidder shall be determined based on an adjusted bid tabulation which shall be prepared in the following manner: To the bid of any bidder which is neither a city-based business nor a county-based business shall be added an amount equal to six (6) percent of the bid or two thousand five hundred dollars (\$2,500.00), whichever is less.
2. To the bid of any bidder which is a county-based business shall be added an amount equal to three (3) percent of the bid or two thousand five hundred dollars (\$2,500.00), whichever is less; provided, however, that if no bid is received from a city-based business, no additional amount shall be added to the bid of a county-based business.
3. "Owosso-based business" shall be interpreted to mean a business registered with the county clerk or a corporation registered with the state having a business address within the city limits which pays real and/or personal property taxes levied by the city.

The term "county-based business" shall be interpreted to mean a business other than a city-based business registered with the county clerk or a corporation registered with the state having a business address within the county which pays real and/or personal property taxes levied by the county.

4. If twenty-five (25) percent or more of a contract for construction or other services is to be subcontracted by a city-based business bidder to a non-city-based business or businesses, or by a county-based business bidder to a non-county-based business or businesses, the adjusted bid shall be calculated by applying the provisions of this section separately to each portion of the contract based on the status of the contractor or subcontractor performing that portion of the contract as a city-based or county-based business.

AFFIDAVIT

In accordance with Section 2-348 of the Owosso city code, the bid from a business located in Shiawassee County shall be adjusted to reflect a preference. In order for the city to calculate the adjustment, the bidder hereby deposes and states that their business address is registered, and is currently paying real and/or personal property taxes in Shiawassee County at the following address:

Registered business address

The affiant further deposes and states that a sub-contract with a business registered, and paying real and/or personal property taxes in Shiawassee County will be executed for a percentage equal to or greater than twenty-five percent (25%) as stated below:

Business name and address of sub-contractor

Percentage of contract

Authorized signature

Date

Title

Company name

SIGNATURE PAGE AND LEGAL STATUS

The undersigned certifies that he is an official legally authorized to bind his firm and to enter into a contract should the city accept this proposal.

Bid proposal by _____
(Name of Firm)

Legal status of bidder. Please check the appropriate box and **USE CORRECT LEGAL NAME.**

A. Corporation ____ ; State of Incorporation _____

B. Partnership ____ ; List of names _____

C. DBA ____ ; State full name _____ DBA

D. Other ____ ; Explain _____

Signature of Bidder _____ Title _____
(Authorized Signature)

Printed name _____

Signature of Bidder _____ Title _____
(Authorized Signature)

Printed name _____

Address _____ City _____ Zip _____

Telephone () _____

Signed this _____ day of _____ 20____.

Bidder acknowledges receipt of the following Addenda:

ADDENDUM NO.	BIDDER'S INITIALS
_____	_____
_____	_____
_____	_____

W-9 INFORMATION FOR LEGAL STATUS

Sole proprietor. Enter your individual name as shown on your income tax return on the "Name" line. You may enter your business, trade, or "doing business as (DBA)" name on the "Business name/disregarded entity name" line.

Partnership, C Corporation, or S Corporation. Enter the entity's name on the "Name" line and any business, trade, or "doing business as (DBA) name" on the "Business name/disregarded entity name" line.

Disregarded entity. Enter the owner's name on the "Name" line. The name of the entity entered on the "Name" line should never be a disregarded entity. The name on the "Name" line must be the name shown on the income tax return on which the income will be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a domestic owner, the domestic owner's name is required to be provided on the "Name" line. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on the "Business name/disregarded entity name" line. If the owner of the disregarded entity is a foreign person, you must complete an appropriate Form W-8.

Note. Check the appropriate box for the federal tax classification of the person whose name is entered on the "Name" line (Individual/sole proprietor, Partnership, C Corporation, S Corporation, Trust/estate).

Limited Liability Company (LLC). If the person identified on the "Name" line is an LLC, check the "Limited liability company" box only and enter the appropriate code for the tax classification in the space provided. If you are an LLC that is treated as a partnership for federal tax purposes, enter "P" for partnership. If you are an LLC that has filed a Form 8832 or a Form 2553 to be taxed as a corporation, enter "C" for C corporation or "S" for S corporation. If you are an LLC that is disregarded as an entity separate from its owner under Regulation section 301.7701-3 (except for employment and excise tax), do not check the LLC box unless the owner of the LLC (required to be identified on the "Name" line) is another LLC that is not disregarded for federal tax purposes. If the LLC is disregarded as an entity separate from its owner, enter the appropriate tax classification of the owner identified on the "Name" line.

Other entities. Enter your business name as shown on required federal tax documents on the "Name" line. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on the "Business name/disregarded entity name" line.

Please see attached W-9 Request for Taxpayer Identification Number and Certification form for a detailed explanation on filling out the W-9 form.

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
2 Business name/disregarded entity name, if different from above	
3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
6 City, state, and ZIP code	
7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number												
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Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a) 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on

Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a) J—

A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

PROOF OF INSURANCE

This is to certify that the following endorsement is part of the policy(ies) described below:

NAMED INSURED (CONTRACTOR)

COMPANIES AFFORDING COVERAGE

ADDRESS

A.
B.
C.

It is hereby understood and agreed that the city of Owosso, its city council and each member thereof and every officer and employee of the city shall be named as joint and several assureds with respect to claims arising out of the following project:

2017 STREET PROGRAM

It is further agreed that the following indemnity agreement between the city of Owosso and the named insured is covered under this policy: Contractor agrees to indemnify, hold harmless and defend city, its city council and each member thereof and every officer and employee of city from any and all liability or financial loss resulting from any suits, claims, losses or actions brought against and from all costs and expenses of litigation brought against city, its city council and each member thereof and any officer or employee of city which results directly or indirectly from the wrongful or negligent actions of contractor’s officers, employees, agents or others employed by Contractor while engaged by contractor in the (performance of this agreement) construction of this project.

It is further agreed that the inclusion of more than one assured shall not operate to increase the limit of the company’s liability and that insurer waives any right on contribution with insurance which may be available to the city of Owosso.

The contractor, or any of their subcontractors, shall not commence work under this contract until they have attained the insurance required below, and shall keep such insurance in force during the entire life of this contract. All coverage shall be with insurance companies licensed and admitted to do business in the State of Michigan and acceptable to the city of Owosso. The requirements below should not be interpreted to limit the liability of the Contractor. All deductibles and SIR’s are the responsibility of the Contractor.

The Contractor shall procure and maintain the following insurance coverage:

1. **Worker’s Compensation Insurance** including Employers’ Liability Coverage, in accordance with all applicable statutes of the State of Michigan.
2. **Commercial General Liability Insurance** on an “Occurrence Basis” with limits of liability not less than \$1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent, if not already included.
3. **Automobile Liability** including Michigan No-Fault Coverages, with limits of liability not less than \$1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.
4. **Additional Insured:** Commercial General Liability and Automobile Liability, as described above, shall include an endorsement stating the following shall be **Additional Insureds:** City of Owosso, all elected and appointed officials, all employees and volunteers, all boards, commissions, and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed by naming City of Owosso as additional insured, coverage afforded is considered to be primary and any other insurance the city of Owosso may have in effect shall be considered secondary and/or excess.
5. **Cancellation Notice:** All policies, as described above, shall include an endorsement stating that it is understood and agreed that a Ten (10) days notice for non-payment of premium is required and a Thirty (30) days notice is required for Non-Renewal, Reduction, and/or Material Change, shall be sent to: City of Owosso, Bid Coordinator, 301 W. Main Street, Owosso, Michigan 48867.

6. **Proof of Insurance Coverage:** The Contractor shall provide the city of Owosso, at the time that the contracts are returned by him/her for execution, a Certificate of Insurance as well as the required endorsements. In lieu of required endorsements, if applicable, a copy of the policy sections where coverage is provided for additional insured and cancellation notice would be acceptable. Copies or certified copies of all policies mentioned above shall be furnished, if so requested.

If any of the above coverages expire during the term of this contract, the Contractor shall deliver renewal certificates and endorsements to the city of Owosso at least ten (10) days prior to the expiration date.

Please include a copy of insurance declaration verifying amounts of coverage. The verification of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

DATE _____

BY _____
Authorized Insurance Agent

AGENCY _____

TITLE _____

ADDRESS _____

**SPECIAL PROVISION
FOR
ABANDONED GAS MAIN, CONFLICT**

City of Owosso/RC

1 OF 1

June, 2017

GENERAL

The work of Abandoned Gas Main, Conflict shall be performed in accordance with Sections 402 and 702 of the MDOT 2012 Standard Specifications for Construction.

DESCRIPTION

The work of Abandoned Gas Main, Conflict consists of removing abandoned gas main, of various size and material, that directly conflicts with proposed storm sewer installation, and bulk heading the two exposed ends, as shown on the plans or as directed by the Engineer. The Engineer will determine whether a conflict exists and advise the Contractor in advance of any work.

MATERIALS

The materials for bulk heading shall include mortar, geotextile wrap, and tape for attachment. Mortar mix shall be Type H-1 non-shrinking mortar and grout mixture.

CONSTRUCTION

The Contractor shall expose the existing pipe crossing in advance of proposed construction and confirm with the utility that the pipe is abandoned. The Contractor shall inform the Engineer of the conflict in advance of any work. After agreement is reached, then the Contractor shall remove that portion of conflicting abandoned pipe across the trench influence area and seal each exposed remaining ends with bulk heads. The bulk heads shall be constructed such that prepared mortar mix shall be extended at least one foot into the pipe, then wrapped with geotextile material same as used for the road, and secured in place with tape.

MEASUREMENT AND PAYMENT

The completed as measured for Abandoned Gas Main, Conflict will be paid for at the Contract Unit Price for the following Contract Item (Pay Item):

Contract Item (Pay Item)	Pay Unit
Abandoned Gas Main, Conflict	Each

Abandoned Gas Main, Conflict will be measured in place by the unit Each; and will be paid for at the contract unit price per Each, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.

**SPECIAL PROVISION
FOR
AGGREGATE BASE, ___ INCH, MODIFIED**

City of Owosso/ RC

1 OF 1

Feb, 2017

DESCRIPTION

The work of Aggregate Base, ___ Inch, Modified shall be done in accordance with Section 302 of the MDOT 2012 Standard Specifications for Construction for furnishing, placing, and compacting aggregate, and as modified herein.

MATERIALS

The material shall meet gradation requirements of Section 902 of the MDOT 2012 Standard Specifications for Construction for 21AA aggregate, except all material shall be 100% crushed limestone. No substitutes will be allowed. The material shall be tested and certified in advance of delivery to the work site.

CONSTRUCTION METHODS

Aggregate material shall be properly placed and compacted in accordance with the project plans or as directed by the Engineer. Depth measures shall be taken at intervals not exceeding 100 lineal feet; locations will be as selected by the Engineer. Measured depth may be ½-inch less than specified thickness provided that the average of all measurements meet or exceed the specified thickness. Sections found deficient in thickness shall be corrected by the Contractor and retested by the Engineer.

MEASUREMENT AND PAYMENT

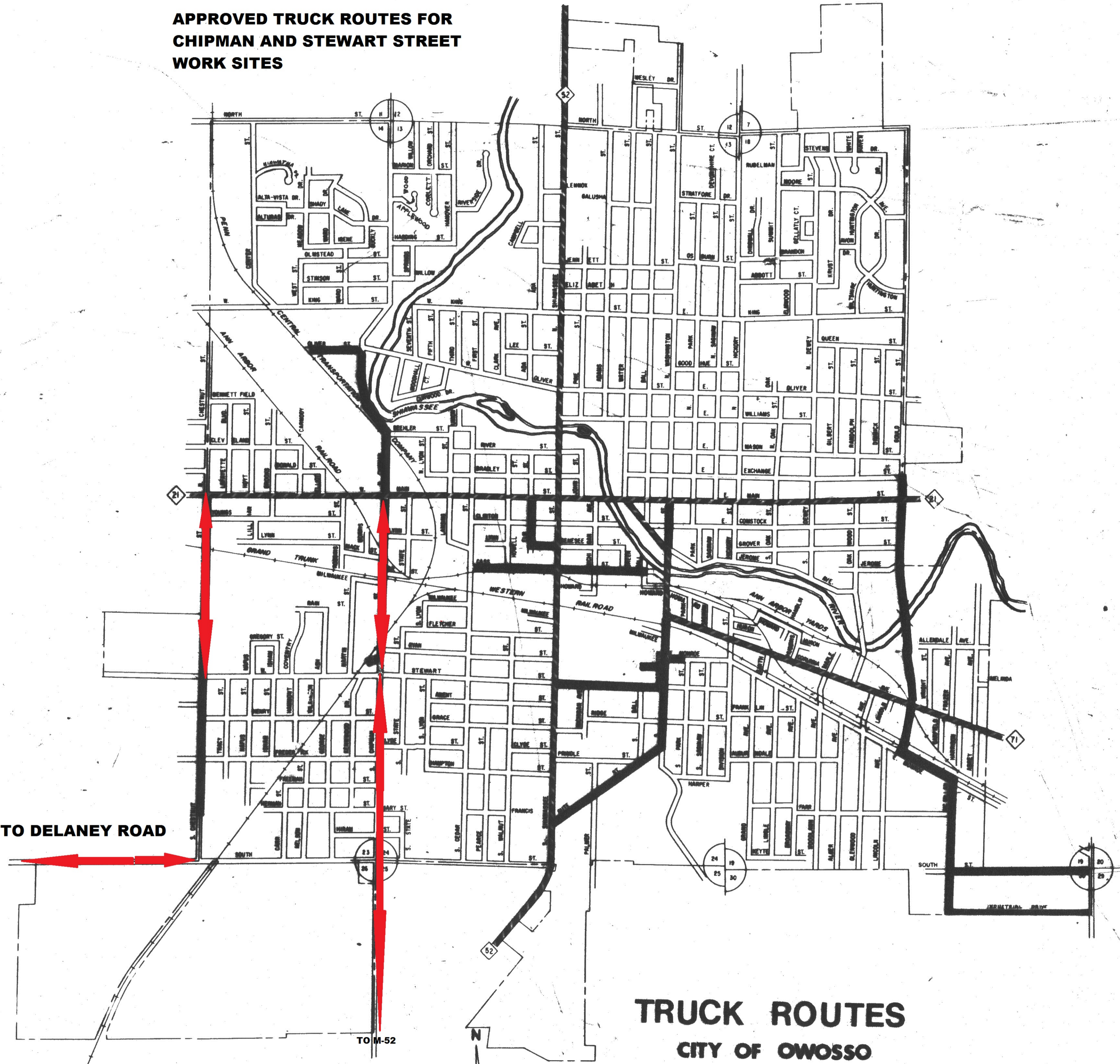
The completed work as measured for Aggregate Base, ___ Inch, Modified will be paid for at the Contract Unit Price for the following Contract Item (Pay Item):

Contract Item (Pay Item)	Pay Unit
Aggregate Base, ___ Inch, Modified	Square Yard

Aggregate Base, ___ Inch, Modified will be measured in area by square yard; and will be paid for at the contract unit price per square yard, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.


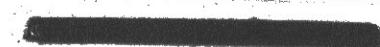
CITY OF
OWOSSO
SHIAWASSEE COUNTY
T. 7 N.-R. 283 E.
POP. 17,179 - 1970 CENSUS

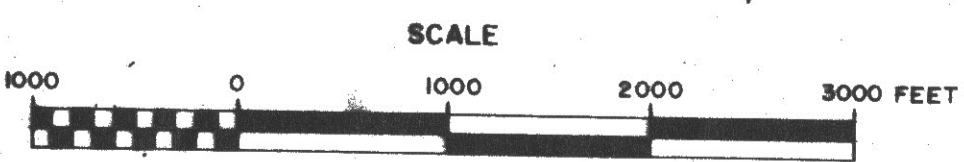
**APPROVED TRUCK ROUTES FOR
CHIPMAN AND STEWART STREET
WORK SITES**



**TRUCK ROUTES
CITY OF OWOSSO**

TRAFFIC CONTROL ORDER
EFFECTIVE DATE 6-15-81

STATE HIGHWAY 
DESIGNATED TRUCK ROUTES 



**SPECIAL PROVISION
FOR
CONCRETE PAY ITEMS**

City of Owosso/RC

1 OF 1

Feb, 2017

DESCRIPTION

This work shall be done in accordance with sections 601 and 701 of the MDOT 2012 Standard Specifications for Construction, except as modified herein. This special provision indicates the type of concrete mixture to be used for pay items related to curb and gutter, drive approaches, and sidewalks.

MATERIALS

Cement content for Concrete, Grades S2 and P1, shall be 564 pounds per cubic yard (6 Sack) for all concrete items, in accordance with Sections 601 and 701 of the MDOT 2012 Standard Specifications for Construction. Concrete mix shall not include fly ash or water reducing agents.

CONSTRUCTION

Construction of concrete related items including but not limited to curb and gutter, driveways, sidewalks, ADA ramps shall be done in accordance with the MDOT 2012 Standard Specifications for Construction, or as directed by the Engineer.

MEASUREMENT AND PAYMENT

Payment for the completed work for the various concrete pay items in this contract using a six full sack mix shall be included as part of their individual unit prices.

**SPECIAL PROVISION
FOR
DRAINAGE STRUCTURE COVER EJ _____**

City of Owosso

1 OF 1

Feb, 2017

GENERAL DESCRIPTION

Drainage Structure Cover EJ _____, shall consist of materials and work meeting requirements of Section 403 of the MDOT 2012 Standard Specifications for Construction, and as modified herein.

COVER DESCRIPTION

All covers will be manufactured and supplied by East Jordan Iron Works. Cover types shall match with the pay item cover number.

MEASUREMENT AND PAYMENT

The completed work as measured for Drainage Structure Cover EJ ____ will be paid for at the Contract Unit Price for the following Contract Item (Pay Item):

Contract Item (Pay Item)	Pay Unit
Drainage Structure Cover EJ 1030	Each
Drainage Structure Cover EJ 1060	Each
Drainage Structure Cover EJ 1020 W/Gasket Seal	Each
Drainage Structure Cover EJ 7000	Each

Drainage Structure Cover EJ ____ will be measured in place by count of Each; and will be paid for at the contract unit price per Each, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.

**SPECIAL PROVISION
FOR
DR STRUCTURE, ___ INCH DIA., MODIFIED**

City of Owosso/RC

1 OF 1

June, 2017

DESCRIPTION

The work of Dr. Structure, ___ Inch Dia., Modified, of varying diameters, shall be done in accordance with Sections 403 and 913 of the 2012 MDOT Standard Specifications for Construction, MDOT Standard Plans, and as modified herein. The Contractor shall construct **Dr. Structure, ___ Inch Dia., Modified** of the size and at locations as shown on the plans or as directed by the Engineer.

MATERIALS

Drainage structures shall be precast reinforced concrete units and manufactured in accordance with ASTM C-478 specifications and Section 913 of the 2012 MDOT Standard Specifications for Construction, with either a cast in place bottom or fitted precast concrete base as detailed on the plans. Precast reinforced concrete units shall be furnished with butyl rubber sealant that conforms to ASTM C 990; or as updated by MDOT design standard change.

Whenever conditions allow: provide 4" up to 12" adjustment area between top of cone to base of cover.

MEASUREMENT AND PAYMENT

The completed work of Dr. Structure, ___ Inch Dia., Modified will be paid for at the contract unit price for the following contract item (pay item):

Contract Item (Pay Item)	Pay Unit
Dr. Structure, ___ Inch Dia., Modified	Each

Dr. Structure, ___ Inch Dia., Modified will be measured in place by the unit Each; and will be paid for at the contract unit price per Each, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work. The unit price for Dr. Structure, ___ Inch Dia., Modified shall include the cost of the concrete footing, and no greater than 8 feet of drainage structure depth. The unit price for Dr. Structure, ___ Inch Dia., Modified includes the cost of temporary and/or final grade adjustments of the structure.

In the event where it is necessary to modify connection holes in the field, or additional taps are required into the structure walls, then this work will be paid for separately as Dr. Structure, Tap, ___ Inch of the appropriate size required to complete that special work.

**SPECIAL PROVISION
FOR
GEOTEXTILE SEPARATOR**

RC/City of Owosso

1 of 1

February 2017

DESCRIPTION OF WORK

The work of Geotextile Separator shall consist of furnishing and placing geotextile in accordance with section 910 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, and as noted herein:

MATERIALS

Geotextile Separator shall be mechanically bonded non-woven fabric, meeting or exceeding products manufactured as Mirafi 180N, US Fabrics 205NW, or Synthetic Industries 801 non-woven product, or approved equal.

CONSTRUCTION

Spread geotextiles smoothly on prepared grade and anchor firmly prior to placing backfill or other cover materials. Construction equipment shall not operate directly onto the geotextile. Wrinkles and waves shall be smoothed by hand before placing cover material. Concurrent transverse and longitudinal edges between blankets shall be either shingle-lapped (minimum 24 inches) or seamed. Seamed edges may be either factory sewn or made by overlapping in the field. Factory sewn seams must meet specified grab tensile strength requirements of the manufacturer. Finished seams must lie upward after installation. Any cutting and fitting of the geotextile must be done to requirements of the manufacturer.

MEASUREMENT AND PAYMENT

The completed work as measured for Geotextile Separator will be paid for at the contract unit price for the following contract item (Pay Item):

<u>PAY ITEM</u>	<u>PAY UNIT</u>
Geotextile Separator	Square Yard

Geotextile Separator will be measured in place by area in square yards and will be paid for at the contract unit price per square yard which price shall be payment in full for all labor, material and equipment necessary to accomplish this work. Overlaps, cutting and fitting of Geotextile Separator will not be measured and paid for separately, but are considered included as part of the in-place area measure of the Geotextile Separator.

**SPECIAL PROVISION
FOR
MACHINE GRADING, MODIFIED**

City of Owosso/RC

1 OF 2

June, 2017

DESCRIPTION

The work of Machine Grading, Modified shall be done in accordance with Section 205 of the MDOT 2012 Standard Specifications for Construction and as modified herein. The work of Machine Grading, Modified shall include all excavation including earth, embankment, and necessary grading to shape the subgrade to the cross sections shown on the plans for pavements, sidewalks, curbs, drive approaches, etc., within the R.O.W.'s of the project. The work shall also include proper disposal of excavated materials and handling of suitable material for backfill (embankment) in select locations.

The work item Machine Grading, Modified shall apply for the S. Chipman Street and Stewart Street work sites only. For N. Chipman work sites; all necessary excavation of earth and backfilling for curb and gutter, and sidewalk, will not be paid for separately, but will be considered included as part of the related pay items.

The work of Machine Grading, Modified shall also include locating, protecting and preserving all public and private utility appurtenances within the proposed work area.

CONSTRUCTION METHODS

The roadbed shall be finished to grade with a blade grader then roller compacted. The finished grade will be inspected by the Engineer to determine whether subgrade undercutting is necessary before the finished grade is approved. Where undercuts below bottom of grade require additional excavation, that work shall be measured and paid for separately as Subgrade Undercutting, Type II.

The disposal of excavated surplus and unsuitable material shall be done in accordance with section 205.03P of the MDOT 2012 Standard Specifications for Construction. Disposal of excavated surplus and unsuitable material will not be paid for separately, but shall be considered included with payment for Machine Grading, Modified.

MEASUREMENT AND PAYMENT

The completed work as measured for Machine Grading, Modified will be paid for at the Contract Unit Price for the following Contract Item (Pay Item):

Contract Item (Pay Item)	Pay Unit
Machine Grading, Modified	Station

Machine Grading, Modified will be measured in length in Stations along the curb line extended, each side of the roadway to be measured separately; and will be paid for at the contract unit price per Station, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.

Work at intersections will not be paid for separately, but shall be considered included as part of the payment for Machine Grading, Modified.

Roadway earthwork volumes are approximated upon average end area cross sections and are for the contractor's information only.

FOR STEWART STREET

Approximately 1911 cubic yards of earth will be excavated in front of, under, and behind the curb and gutter. Suitable excavated material, as determined by the Engineer, will be used as embankment material behind the proposed curb. Approximately 40 cubic yards of excavated material may be used as embankment.

FOR S. CHIPMAN STREET, FROM SOUTH ST. TO STEWART ST.

Approximately 2523 cubic yards of earth will be excavated in front of, under, and behind the curb and gutter. Suitable excavated material, as determined by the Engineer, will be used as embankment material behind the proposed curb. Approximately 112 cubic yards of excavated material may be used as embankment.

**SPECIAL PROVISION
FOR
MAINTAINING TRAFFIC**

City of Owosso/RC

1 OF 3

June, 2017

GENERAL REQUIREMENTS

All work shall be done in accordance with the requirements of Section 812 of the MDOT 2012 Standard Specifications for Construction and as modified herein. The Contractor is advised that the 2011 Michigan Manual of Uniform Traffic Control Devices, as amended, is hereby established as governing all work in connection with traffic control devices, barricading, signing, etc. as required for the project.

The Contractor shall furnish, erect, maintain, move and adjust, and-upon completion of work-remove all traffic control devices, barricades within the project limits and around the perimeter of the project, as part of the contract pay item Minor Traffic Devices.

Through traffic will be detoured while construction work is performed on the work site, in accordance with the detour plans.

Walks, driveways, and entrances to buildings shall not be unnecessarily blocked. Vehicular access shall be maintained to all commercial properties as directed by the Engineer. Unless otherwise specified herein, construction shall be completed in such a manner as to maintain the required entrance width for traffic at all times. When partial widths of new pavement are available to local traffic, access to driveways shall be provided. Maintenance Gravel shall be placed, maintained, and removed in the roadway and driveways whenever possible, during construction phases.

The Contractor shall identify and coordinate any removal of permanent traffic control signs such as street name, stop, speed, etc. with the Engineer. The Contractor will carefully remove and salvage sign and post for pickup by City DPW crews. DPW crews will install temporary stop signs and install permanent signs after construction. Payment for Contractor to remove and salvage existing permanent signs will not be paid for separately, but will be considered as part of other work items.

Protection for and protection of pedestrian traffic shall be maintained at all times.

For HMA paving, no traffic will be allowed on the surface being placed until rolling is completed and the surface cooled sufficiently to prevent damage from traffic. The Contractor shall provide traffic regulators in sufficient number to maintain traffic as described herein, and to keep traffic off sections being surfaced, and provide for safe travel at all times, as directed by the Engineer. Providing traffic regulators and maintaining traffic are included as part of the pay item Minor Traffic Devices.

Base, surface preparation, manholes, catchbasins, and other structure adjustment or reconstruction, shall be maintained longitudinally in such a manner as to provide the required traffic flow without undue shifting of traffic from lane to lane.

CONSTRUCTION INFLUENCE AREA (CIA)

The CIA of the project shall include the area within the right-of-ways of the street receiving construction work, 300' either direction on adjacent streets, and to the location of the furthest advance warning signs required for the project.

SPECIFIC REQUIREMENTS

The project will be completed as four work sites (parts); separated as follows:

- Part 1: Stewart Street, from Chestnut Street to Chipman Street.
- Part 2: Chestnut Street, from South Street to Stewart Street.
- Part 3; North Chipman Street; from Oliver Street to King Street, and from Willow Springs Drive to Harding Avenue.
- Part 4: South Chipman Street, from South Street to Stewart Street.

HMA Surface, Remove shall be done in such a manner so as to maintain road and driveway access to adjacent residences. The Contractor shall organize a work plan such that minimal amount of HMA surface is removed until storm sewer and storm structure work is complete.

Aggregate Base, ___ Inch, Modified shall be placed the same workday that earth is excavated and trimmed, in all locations of the project. The Contractor is responsible for coordinating work activities such that opened subgrade is covered the same workday. Any damage occurring to the subgrade from unnecessary exposure to the elements will be undercut, removed, and replaced in accordance with the pay item Subgrade Undercutting, Type II; all at the Contractor's expense.

The Contractor is responsible for coordinating construction activities with all local businesses and residences; keeping them advised before and during construction activities as to their access and potential disruption of access.

The Contractor shall schedule work between the hours of 7:00 am and 7:00 pm, Monday through Saturday. No work is allowed outside these time periods. The Contractor shall coordinate work so that any necessary preliminary or closing operations are also done within these time periods.

No work will be allowed on national holidays Memorial Day, July 4, Labor Day holiday periods commencing 3:00 pm Friday before and 7:00 am workday after the national holiday.

Contractor will be limited to haul routes in accordance with City of Owosso Truck Route system. Any deviation from this requirement must receive advance approval by the City Engineer.

MEASUREMENT AND PAYMENT

The completed work as measured for the following pay items will be paid for at the Contract Unit Price for the following Contract Items (Pay Item):

Contract Item (Pay Item)	Pay Unit
Maintenance Gravel	Ton
Barricade, Type III, High Intensity, Double Sided, Furn. & Oper.	Each
Pedestrian Type II Barricade	Each
Plastic Drum, High Intensity, Furnish & Operate	Each
Sign, Type B, temporary, Prismatic, Furnish & Operate	Square Feet
Minor Traffic Devices	Lump Sum

Individual pay items will be measured in in place by their respective pay unit measure; and will be paid for at the contract unit price per respective pay unit measure, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work. Payment for the work item Minor Traffic Devices will be effective for the entire contract time period and will not be adjusted for extended work time.

NOTICE TO BIDDERS

UTILITY COORDINATION

F&V/GLR

1 of 2

6/22/17

The Contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 108.09 of the Michigan Department of Transportation 2012 Standard Specifications for Construction.

For protection of underground utilities and in conformance with Public Act 53, the Contractor shall dial 1-800-482-7171 (or 811) a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

The following Public Utilities have facilities located in the road right-of-way or project area:

<u>NAME AND ADDRESS OF OWNER</u>	<u>KIND OF UTILITY</u>	<u>PHONE NUMBER</u>
Charter Communication 1480 S. Valley Center Dr Bay City, Michigan 48706	Cable Television	(989) 233-9404 Mark Kelly
Frontier 1943 W. M-21 Owosso, Michigan 48867	Fiber	(989) 723-0373 Mark Stevens
Consumers Energy 530 West Willow Street PO Box 30162 Lansing, Michigan 48909	Gas	(517) 374-2329 Tyler Lawrence
Consumers Energy 530 West Willow Street PO Box 30162 Lansing, Michigan 48906	Electric	(517) 374-2329 Jacob Chalut
City of Owosso 301 W. Main Street Owosso, Michigan 48867	Water	(989) 725-0555 Glenn Chinavare
City of Owosso 301 W. Main Street Owosso, Michigan 48867	Sanitary Sewer	(989) 725-0555 Glenn Chinavare
Daystarr Communications 307 N. Ball Street Owosso, MI 48867	Fiber	(989) 720-1000 Casey Rose

City Engineer
301 W. Main Street
Owosso, Michigan 48867

Road and Storm Drainage

(989) 725-0550
Randy Chesney, P.E.

The owners of existing service facilities that are within grading or structure limits and in conflict will move them to locations designated by the Construction Engineer or will remove them entirely from the highway Right-of-Way. Owners of Public Utilities will not be required by the City of Owosso to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Construction Engineer that such poles or structures constitute a hazard to the public or are extraordinarily dangerous to the contractor's operations.

The existing utilities shown on the plans represent the best information available as obtained from survey and existing records. This information does not relieve the Contractor of the responsibility of protecting all existing utilities, in case utilities have been constructed or removed since the survey date or if utilities are encountered in different locations or if any utilities are not shown on the plans.

All existing utilities shall be located as to both horizontal and vertical position prior to starting any utility construction or other excavation. Cost shall be included in the new utility or excavation pay item.

The Contractor's attention is directed to the requirements for cooperation with others, as covered in Section 104.08 of the MDOT 2012 Standard Specification for Construction.

UTILITY DAMAGE

The Contractor shall be responsible for the protection of all existing utilities during construction of this project. Any utilities damaged by the Contractor shall be repaired in accordance with the related utilities specifications at the Contractor's expense.

UTILITY REPLACEMENTS

Consumers Energy is currently replacing gas main along the south side of W. Stewart Street and the west side of S. Chipman Street. All work is anticipated to be completed prior to commencement of this project. Approximate location of new main and the location of the main to be abandoned have been depicted on the plans.

In addition, the City of Owosso will be constructing and replacing water valve manholes where required for service leads.

SECTION 01 22 00

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SUMMARY:

- A. This Section includes, but is not necessarily limited to, descriptions of the method of measurement and basis of payment criteria applicable to the Work. It also includes the form of Application for Payment to be used by CONTRACTOR in requesting payment for Work performed under the Contract.

1.02 SUBMITTALS:

- A. Application for Payment: Submit three (3) copies to ENGINEER on the attached form or related format with supporting documentation as required by the Contract Documents.

1.03 MEASUREMENT OF QUANTITIES:

- A. Measurement devices:
 - 1. Weigh scales: Inspected, tested and certified.
 - 2. Platform scales: Of sufficient size and capacity to accommodate the conveying vehicle.
 - 3. Metering devices: Inspected, tested and certified.
- B. Measurement by weight: Concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook weights.
- C. Measurement by volume: Measured by cubic dimension using mean length, width and height or thickness.
- D. Measurement by area: Measured by square dimension using mean length and width or radius.
- E. Linear measurement: Measured by linear dimension, at the item centerline.

1.04 MEASUREMENT AND PAYMENT SCHEDULE:

- A. The following schedule outlines the method of measurement and basis of payment to be used on the project. Requirements for materials and methods described under each item are included in the related specification SECTION.

- 1. Inspection and testing fees: Payment by OWNER, unless specifically noted otherwise.
- 2. General Conditions, Bonds, Insurance and Mobilization: Shall be paid for on a lump sum basis for the CONTRACTOR's costs to provide required bonds and insurances, mobilization and miscellaneous requirements stipulated in Section 00 72 00 – GENERAL CONDITIONS. This quantity shall not exceed 5% of the total contract amount. Fifty percent (50%) will be paid on the first Application for Payment and twenty five percent (25%) will be paid on the second and third Applications for Payment.

Mobilization will be measured and paid for over two construction seasons with maximum amounts as submitted in the Bid Proposal.

3. Shoring: All shoring required for construction, safety and convenience will be considered temporary and included in construction items.
4. Dewatering for Construction: Payment by CONTRACTOR and included in construction items.
5. Temporary soil erosion and sedimentation control: Included in construction items, unless otherwise noted as a pay item.
6. Sawcutting: Measured and paid for by the linear foot in accordance with the special provision.
7. Erosion Control, Inlet Protection, Fabric Drop: Counted and paid for by the unit, installed at locations as directed by the ENGINEER or shown on the plans.
8. Turf Establishment, Performance: Measured and paid for by the square yard in accordance with the special provision. Grading, topsoil surface, seeding, fertilizing and mulch are included as part of this item.
9. Aggregate Base, _ inch, Modified: Measured and paid for by the square yard, placed and compacted, in accordance with the special provision.
10. Maintenance Gravel: Measured and paid for by the ton.
11. Geotextile, Separator: Measured and paid for by the square yard in place, to the limits shown on the plans, in accordance with the special provision.
12. HMA, 2C: Measured by tallying load tickets and paid for by the ton, placed and compacted. Submit bituminous load tickets to ENGINEER at time of delivery. The pay item HMA, 2C will be used for isolated HMA base repairs and sewer trench repairs where the adjacent HMA pavement is to remain in place.
13. HMA, _E3: Measured by tallying load tickets and paid for by the ton, placed and compacted. Submit bituminous load tickets to ENGINEER at time of delivery.
14. HMA, 13A: Measured by tallying load tickets and paid for by the ton, placed and compacted. Submit bituminous load tickets to ENGINEER at time of delivery.
15. Hand Patching: Measured by tallying load tickets and paid for by the ton, placed and compacted. Use HMA 2C mix for hand patching material placed in maximum 4.5 inch layers and compacted. Hand Patching shall be used for replacement of material adjacent to curb and gutter repair areas. The pay item HMA, 2C will be used for isolated HMA base repairs and sewer trench repairs where the adjacent HMA pavement is to remain in place.
16. HMA Approach: Measured by tallying load tickets and paid for by the ton, placed and compacted. Submit bituminous load tickets to ENGINEER at time of delivery. The pay item HMA Approach will be used for residential and commercial drive approaches. Street approaches will be paid for as part of the mainline paving pay items.
17. Driveway, Nonreinf Conc, __ inch: Measured and paid for by the square yard.

18. Curb and Gutter, Conc, Det F4, Modified: Measured along the back of curb and paid for by the lineal foot for the type specified in accordance with the detail shown on the plans. Replacement of subgrade or base material, or excavation or embankment necessary to achieve proper grade, shall be included in the concrete curb and gutter pay items and will not be paid for separately. All new sections of curb and gutter must be tied to the existing curb and gutter on both ends with epoxy coated #4 bars. Cost for this work, including the drilling into the existing curb, shall be included in this pay item.
19. Sidewalk Ramp, Conc, 4 inch: Measured and paid for by the square foot for specified thickness, including the thickened 7 inch edge adjacent to concrete curb and gutter according to the detail shown on the plans.
20. Sidewalk, Conc, ___ inch: Measured and paid for by the square foot and in accordance with the notes and details shown on the plans. Concrete sidewalks through driveways shall be of greater thickness as shown and directed by the ENGINEER.
21. Detectable Warning Surface: Measured along the center of the 24 inch wide detectable warning surface and paid for by the lineal foot.
22. Cement: Measured and paid for by the ton.
23. Machine Grading, Modified: Measured along the curb line extended and paid for by the 100 foot station and completed in accordance with the special provision. Each side of the roadway to be measured separately.
24. Subgrade Undercutting, Type ___: Measured and paid for by the cubic yard as measured for the material specified.
25. Curb and Gutter, Rem: Measured along the back of curb and paid for by the lineal foot. Base disturbed during removal of curb and gutter shall be recompacted. Sawcutting of existing curb and gutter shall be included in this pay item and will not be paid for separately. Replacement of subgrade or base material, or excavation or embankment necessary to achieve proper grade, shall be included in the concrete curb and gutter pay items and will not be paid for separately.
26. Sidewalk, Rem: Measured and paid for by the square yard.
27. Pavt, Rem: Measured and paid for by the square yard for the full depth removal of existing pavements, regardless of type or thickness. Pavt, Rem shall also include the preparation, grading, and compacting of subgrade prior to pavement placement as directed by the ENGINEER. Pavt, Rem shall be used for removal of existing drives, pavement repair areas, and adjacent to curb and gutter repair areas. Pavt, Rem will also be used for the removal of pavement for sewer trenches for N. Chipman Street. Pavement removed for sewer and water main trenches for S. Chipman Street and W. Stewart Street will be measured and paid for as HMA Surface, Rem.
28. HMA Surface, Rem: Measured and paid for by the square yard for the full depth removal of HMA, regardless of thickness, to the limits shown on the plans or as directed by the ENGINEER.

29. Cold Milling HMA Surface: Measured and paid for by the square yard to the depth, width, grade, and cross section shown on the plans. Surface cleaning shall be included in this pay item.
30. HMA Base Crushing and Shaping, Modified: Measured and paid for by the square yard in accordance with the special provision.
31. Asphalt Cement Stabilized Base Course: Measured and paid for by the square yard in accordance with the special provision.
32. Asphalt Cement Binder: Measured and paid for by the gallon in accordance with the special provision.
33. Approach, CI II, LM: Measured and paid for by the cubic yard.
34. Dr Structure, Temp Lowering: Counted and paid for by the each.
35. Sanitary Serv Conflict: Counted and paid for by the each in accordance with the special provision.
36. Abandoned Gas Main Conflict: Counted and paid for by the each in accordance with the special provision.
37. Sewer, SDR-26, ___ inch, Tr Det B, Modified: Measured horizontally on the surface along the pipe centerline from center to center of structures and paid for by the linear foot by the pipe size, installed and backfilled, in accordance with the Trench Detail B – Modified Detail shown on the plans.
38. Dr Structure Cover, Adj, Case 1: Counted and paid for by the each.
39. Dr Structure Cover, EJ ____: Counted and paid for by the each and in accordance with the special provision.
40. Dr Structure, ___ inch dia, Modified: Counted and paid for by the each for the structure diameter, installed and backfilled, and in accordance with the special provision.
41. Dr Structure, Adj, Add Depth: Measured and paid for by the vertical foot.
42. Dr Structure, Tap, ___ inch: Counted and paid for by the each.
43. Dr Structure, Temp Lowering: Counted and paid for by the each.
44. Dr Structure, Rem: Counted and paid for by the each including excavation, backfill and disposal of the structure removed.
45. Dr Structure, Abandon: Counted and paid for by the each.
46. Sewer, Rem, _____: Measured and paid for by the linear foot removed, including excavation, backfill and disposal of the pipe removed. Removal of sewer 12 inch or less, within the excavation limits of new sewer, is included in the unit price for new sewer and will not be paid for separately.

47. Sewer Bulkhead, ___ inch: Counted and paid for by the each for bulkheading storm sewers with a diameter larger than 12 inches.
48. Valve Box, Adj: Counted and paid for by the each in accordance with the special provision.
49. Post, Mailbox: Counted and paid for by the each. Existing mailboxes shall only be removed in areas necessary for watermain or road construction as directed by the ENGINEER. Post, Mailbox pay item shall include, in addition to the requirements of Section 807 of the MDOT 2012 Standard Specifications for Construction, the removal of existing mailboxes and posts, temporarily relocating existing mailboxes during construction, the placement of existing mailboxes on new posts at the end of construction, and disposal of old posts as directed by the ENGINEER. All of the above work shall be included in the pay item Post, Mailbox, and will not be paid for separately. Newspaper receptacles shall be relocated as necessary to maintain delivery service. This work will be included in the pay item for Post, Mailbox and will not be paid for separately. Access to the existing, temporary or new permanent mailbox locations by the property owner and the U.S. Postal Service shall be maintained by the Contractor throughout construction. The Contractor shall coordinate this item with each property owner and the U.S. Postal Service.
50. Traf Regulator Control: Lump sum complete and paid in accordance with Section 812 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.
51. Minor Traf Devices: Lump sum complete and paid in accordance with Section 812 of the 2012 Michigan Department of Transportation Standard Specifications for Construction.
52. Construction signing, drums, lighted arrows, and barricades: Measured or counted and paid for by the unit, furnished, installed, maintained, moved and removed.
53. Pavt Mrkg, Waterborne, 4 inch, (color): Measured and paid for by the linear foot.
54. Pavement marking, symbols, arrows, legends, stop bars and crosswalks: Measured or counted and paid for by the unit.
55. Connect to Ex. Water Main: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for connecting new water main to existing watermain and shall include, but is not limited to, all water main pipe, fittings, adapters, all necessary excavation, removal of existing plugs and reducers, sheeting and bracing, shoring, draining, dewatering, laying, jointing, bedding, testing, disinfecting, filling, backfilling with the type or classification of material specified, disposal of excess backfill and fill material, thrust blocks, cleanup, and all other items necessary to complete the work, whether specifically mentioned or implied.
56. 2" Blow-off and Copper Line to Surface: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary to furnish, install, and remove blowoff and copper line to new watermain and shall include, but is not limited to, all, fittings, adapters, all necessary excavation, sheeting and bracing, shoring, draining, dewatering,

laying, jointing, bedding, testing, disinfecting, filling, backfilling with the type or classification of material specified, disposal of excess backfill and fill material, thrust blocks, cleanup, and all other items necessary to complete the work, whether specifically mentioned or implied.

57. Existing Valve with Valve Box Abandonment: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for Existing Valve with Valve Box Abandonment and shall include, but is not limited to, closing the existing valve, excavation, removal of the valve box, backfilling of the excavated area, and restoration. The City of Owosso shall have right of first refusal of all valve boxes.. All other material shall be properly disposed of off site by the Contractor. Existing Valve with Valve Box Abandonment shall also include all items necessary to complete the work, whether specifically mentioned or implied.
58. Existing Hydrant Removal: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for Existing Hydrant Removal and shall include, but is not limited to, excavation, removal of the hydrant, valve, valve box, bends, and piping up to the hydrant tee. Backfilling of the excavated area and restoration shall also be included. The City of Owosso shall have right of first refusal on all hydrants, valves, valve boxes, bends and piping. All other material shall be properly disposed of off site by the Contractor. Existing Hydrant Removal shall also include all items necessary to complete the work, whether specifically mentioned or implied.
59. Water main pipe: Measured horizontally on the surface along the pipe centerline and paid for by the linear foot of the type, diameter, class, and backfill specified, installed, and accepted. Price paid shall be payment in full for all labor, material, and equipment necessary for furnishing and installing water main and shall include, but is not limited to, all excavation, sheeting and bracing, shoring, concrete cradles, draining, dewatering, laying, free boring, jointing, deflecting, bedding, testing, disinfecting, backfilling with the type or classification of material specified, disposal of excess excavated material, anchorage/restraints, final cleanup, maintaining existing utilities, and all other items and operations necessary to complete the work, whether specifically mentioned or implied. Measurement for water main will be by length in feet along the centerline of the pipe and shall include the installation length of valves, fittings, and appurtenances.
60. Reducers, Crosses, Tees, Bends: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for furnishing and installing reducers, crosses, tees, and bends and shall include, but is not limited to, all fittings, excavation, sheeting and bracing, shoring, concrete cradles, draining, dewatering, laying, jointing, deflecting, bedding, testing, disinfecting, backfilling with the type or classification of material specified, disposal of excess excavated material, anchorage/restraints, encasement, final cleanup, maintaining existing utilities, and all other items and operations necessary to complete the work, whether specifically mentioned or implied.
61. Plug: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for plugging the existing water main and shall include, but is not limited to, all plugs, fittings, adapters restraint, all necessary excavation, sheeting and bracing, shoring, draining, dewatering, laying, jointing, bedding, testing, disinfecting, filling, backfilling with the type or

classification of material specified, disposal of excess backfill and fill material, thrust blocks, cleanup, and all other items necessary to complete the work, whether specifically mentioned or implied.

62. Valve and Valve Box: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for furnishing and installing valve and valve box, and shall include, but is not limited to, all necessary excavation, sheeting and bracing, shoring, dewatering, backfilling, anchorage/restraints, disposal of excess excavated material, cleanup, and all other items necessary to complete the work, whether specifically mentioned or implied.
63. 90° Fire Hydrant Assembly: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for furnishing and installing fire hydrant assembly, and shall include, but is not limited to, fire hydrant, valves, valve boxes, connecting piping and fittings, bends, all necessary excavation, sheeting and bracing, shoring, dewatering, stone or gravel sub-base, backfilling, disposal of excess excavated material, thrust blocks or joints restraints, cleanup, and all other items necessary to complete the job, whether specifically mentioned or implied.
64. Fire Hydrant Assembly: Counted and paid for by the each. Price paid shall be payment in full for all labor, material, and equipment necessary for furnishing and installing fire hydrant assembly, and shall include, but is not limited to, fire hydrant, valves, valve boxes, connecting piping and fittings, bends, all necessary excavation, sheeting and bracing, shoring, dewatering, stone or gravel sub-base, backfilling, disposal of excess excavated material, thrust blocks or joints restraints, cleanup, and all other items necessary to complete the job, whether specifically mentioned or implied.
65. New Water Service, Open Cut or Freebore: Counted and paid for by the each. Price paid shall include all labor and materials required to completely install a new water service from the new main to the existing service at the curb stop box, including corporation, copper service line, new curb stop and box, removing existing curb box and closing existing curb stop, tapping the new main, making connection with the existing service at the curb stop box, and surface restoration. Leads to opposite side of the road of the new watermain will be installed with more length than services installed on the watermain construction side.

Water services on the opposite side of the road of the new watermain shall be paid for as 'New Water Service, Freebore' (EA).

Water services on the same side of the road as the new watermain shall be paid for as 'New Water Service, Open Cut' (EA).

Where the existing curb stop box is located immediately adjacent to concrete sidewalk, a maximum of 12 lineal feet (48 square feet) of sidewalk may be removed and replaced as necessary to facilitate the service transfer. To be paid for as 'Sidewalk, Rem' and 'Sidewalk, Conc, 4 inch".

PART 2 - PRODUCTS

Not Used.

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DESCRIPTION

This work shall consist of installing water main and appurtenances in accordance with the plans, this special provision, AWWA, MDEQ, and the MDOT 2012 Standard Plans and Specifications. This shall include all labor, equipment, and materials to complete the work.

For the protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall contract the Miss Dig system, Inc. by phone at 811 or 800-482-7171 or via the web at either elocate.missdig.org for single address or rte.missdig.org, a minimum of 3 business days prior to excavation, excluding weekends and holidays.

The Department of Public Works can assist the Contractor in locating existing water service leads and mains. All removed valves and hydrants shall be salvaged and returned to the Department of Public Works.

The Contractor shall contact the Engineer to schedule work that may interfere with existing water service. Approval of temporary shut off shall be obtained from the Department of Public Works.

MATERIALS

All materials supplied by the Contractor shall be new, meeting the specifications contained herein. Michigan and United States of America products shall be used whenever possible and shall comply with the Safe Drinking Water Act.

Pipe

Water main constructed of PVC pipe shall conform to AWWA C900/C909. Pipe shall meet both NSF/ANSI Standard 61 and NSF/ANSI Standard 14. PVC pipe shall have a ratio of diameter to wall thickness of 18, unless noted otherwise on the plans or in the proposal.

Water main constructed of ductile iron pipe shall conform to AWWA C151/C600. Pipe shall meet Thickness Class 52 and Pressure Class 350. Ductile iron pipe shall be lined with a cement mortar and bituminous seal coat in accordance with AWWA C104.

Pipe manufacturer and class shall be marked on each length of pipe.

Pipe, fittings, joints, and fire hydrants in soils contaminated with volatile organic compounds, as determined in the field by the Engineer, shall require the use of 8 mil low-density or 4 mil high density polyethylene film encasement up to one foot of finished grade following ASTM C105.

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Fittings/Joints

Joints shall be push-on type with elastomeric gaskets meeting the requirements of ASTM D3139/F477 or AWWA C111 and shall be provided with an electrical conductivity device.

Fittings shall be cast iron or ductile iron with mechanical joints and shall be in accordance with AWWA A21.10/C110. Fittings shall be cement lined in accordance with ANSI/AWWA A21.4/C104 and rated for 250 psi, or more.

Following manufacturer's standards, mechanical joint restraint shall be required and shall be MEGALUG by EBAA Iron, or approved equal.

Corrosion protective material shall be required and shall be Sanchem, Inc. NO-OXG-ID GG-2, Corotech coal tar epoxy 10 mil dmt, or equal.

Ductile iron water main shall require the use of nitrile gaskets.

Fire Hydrants

This item shall include the fire hydrant, an auxiliary valve (placed 3 feet from hydrant), valve box, connector pieces and the hydrant tee. These items shall be installed in accordance with the standard construction practices and the standard fire hydrant detail. Bends approved by Engineer and Department of Public Works may be added into the connection, but shall not be paid for separately. Extensions will also not be paid for separately.

All fire hydrants shall be EJIW, or approved equal, and manufactured in accordance with AWWA C502 specifications. Hydrants shall be provided as outlined in the details within the construction plans and below:

1. Dry-barrel fire hydrant traffic model or traffic flange type and 150 pound working pressure, compression type, and opening with the line pressure, with mechanical joints.
2. Fire hydrants shall be bronze mounted throughout with no iron-to-iron or steel contacts or threads. The operating stem in the base and valve seat shall be bronze.
3. All iron parts shall be of high strength grey iron conforming ASTM A126 Class B.
4. Fire hydrants shall have a 6-inch valve opening with a 6-inch mechanical joint inlet.
5. The minimum inside dimension shall be 8 inches.
6. The operating nut shall turn to the right to open and have a weather shield. The opening direction shall be plainly marked with an arrow near the operating nut showing the opening direction.
7. The operating nuts and nut nozzle caps shall be square and slightly tapered; and it shall be $1\frac{5}{16}$ " at its base and $1\frac{3}{16}$ " square at its end and $1\frac{1}{8}$ " long.

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8. Fire hydrants shall be completely assembled at the factory with the drain opening sealed with a threaded plug.
9. Provide two fire hose connections and one pumper connection in accordance with municipality standards.
10. All nozzles shall be on a movable head on the hydrant barrel so that they may be rotated by changing the position of the top flange without removing the barrel.
11. Provide a Spring Cap Style McGard Fire Hydrant Lock for hydrant.
12. Provide proper length for installation in a water main depth as indicated on the drawings.
13. All fire hydrants shall have a concrete collar around the lower barrel, 12" below the ground line with 1" of expansion joint material between the hydrant barrel and collar, as directed by the Engineer. The collar shall be 6 inches thick with a diameter of at least 24 inches. Diameter will be as wide as necessary to reach undisturbed earth. Fire hydrants shall be tested to 300 pounds hydrostatic pressure from inlet side with valve in both open and closed position.
14. Fire hydrants shall be painted red above the grade line conforming to the municipality standards and black below the grade line.
15. Fire hydrants shall be designed so one man can easily remove or replace the working parts without removing the main valve seat.
16. Fire hydrants shall be flagged per municipality specifications.

Gate Valves & Boxes

Gate valves shall be manufactured by EJIW, or approved equal. All valves for use in water distribution systems shall be resilient seat, single wedge valves. The valves shall be in accordance with AWWA Specification C509 and shall also meet any supplemental requirements or specifications of the municipality. Valves used on this project shall have mechanical joints. The valves shall be manually operated with non-rising stems, iron body, bronze trim, and be furnished with a standard AWWA 2 inch square-operating nut. The wrench nut shall turn right (clockwise) to open and shall be indicated by an arrow cast on the operating nut skirt. Valve stem risers are required for depths greater than 6'-6" and will not be paid for separately.

Valve boxes shall be manufactured by EJIW, or approved equal. The valve box shall be cast iron, 5-½ inch diameter, and three-piece adjustable screw type. Valve box extensions are required for depths greater than 6'-6" and will not be paid for separately. No. 6 round bases are required for gate valves up 8" in diameter and No. 160 oval bases for gate valves 10" and greater. The drop covers shall be stamped "water".

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Curb Stops/Boxes, Taps, and Services

The water service piping shall be copper tubing, Type K, annealed, in accordance with ASTM B88. The size of tubing shall match the existing size of the water service being replaced. The fittings shall conform to ASTM B16.26, cast bronze. The joints of the copper tubing shall be flared.

Taps less than or equal to 2" shall be Ford Model #F-600-3, or approved equal.
Taps larger than ¾" up to 2" shall have Ford Brass Style 202B Double Strap Saddles, or approved equal.

Curb stops/boxes shall follow below:

1. Curb Stops shall be manufactured by Ford, Model #Z-22-333.
2. Curb Stops shall be 6' deep.
3. Curb Stop Boxes shall be the Standard Buffalo patterns and all parts of the same, including extension sections, shall be interchangeable and fit up with corresponding parts of other Standard Buffalo pattern boxes.
4. The internal diameter of the base shaft shall be 2-1/2 inches for (3/4 inch and 1 inch curb stop).
5. The boxes shall be cast iron, suitable coated to resist corrosion and the casting shall be smooth and free of any imperfections.
6. The covers shall overlap and fit outside the rim of the upper section, and they shall have a horseshoe-shaped groove in them to receive the bolt head and the word "water" embossed on the top surface.
7. All boxes shall be Tyler 6500 (2-1/2" Boxes) Series.

Tracer Wire and Boxes

Tracer wire shall be polyethylene coated steel core copper wire, attached to pipe by tape or other approved means, and manufactured by Copperhead Industries, LLC – Copperhead Reinforced Tracer Wire, or equal. Tracer wire connectors must contain a dielectric waterproof and corrosion proof sealant, lock shut, and be color coded blue.

Tracer wire boxes shall be magnetized, with a direct connection to tracer wire without removing the cover, be color coded, have a locking cover. Boxes shall be installed at every water main valve and shall be Copperhead Industries, LLC – SnakePit Magnetized Tracer Box, or equal.

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CONSTRUCTION METHODS

Excavation

The Contractor shall excavate all material to the depths necessary to construct the water main as shown on the plans. Excavation shall include the removal of rock, dirt, abandoned pipelines, old foundations, stumps and roots and similar materials encountered. Excavation, of whatever material encountered, shall be included in the contract unit prices for water main installation and will not be paid for separately. Pavement removal and restoration will be paid for at the contract unit prices for the appropriate item in accordance with the Standard Specifications and Supplemental Specifications.

Excavated material that is suitable for backfill material shall be neatly piled adjacent to the excavation so as to prevent cave-ins of the excavation and damage to adjacent trees, shrubs, fences, and other property.

The excavated area shall be kept free of water at all times. Sheeting and shoring shall be provided if necessary for the protection of the workers.

Excavated material that is not to be used as backfill shall be disposed of by the Contractor.

Backfilling shall follow immediately behind trench excavation and pipe laying operations. In no case shall more than 100 ft. of trench excavation be open at any one time. Any excavation left open and unattended shall be protected with lighted Type III barricades and a "snow fence" constructed around the perimeter of the excavation.

The Contractor shall excavate to the depths required to construct the water main and appurtenances as described on the plans. For water main construction, trench excavation shall be to a depth sufficient to provide at least 5' cover over the top of the pipe and a four-inch sand cushion below the pipe. Over excavation will be at the Contractor's expense. The trench width at a level of twelve inches above the pipe shall be no greater than 32 inches in width.

In areas where the proposed construction may interfere with existing utilities, additional excavation may be required to determine the exact location of said existing utilities. This work will be included within the water main pay items and no additional compensation will be due to the Contractor for this work.

In some cases, the plans call for removing an existing water main or sewer in order to construct a new water main. All gate boxes shall be removed to at least 3 feet below the pavement surface under the road and to at least 12 inches below the planned grade outside the road. The Contractor shall remove said existing pipelines and gate boxes and dispose of them at his expense.

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Open ends of an abandoned pipeline that is to be left in the ground shall be capped with a metallic cap, flowable filled, and bulkheaded with one course of brick and mortar. Removal, disposal, flowable filling, and bulkheading of pipelines to be abandoned is included in Cut and Plug Water Main pay item.

Pipe Handling

Pipe shall be handled in such a manner as to prevent the ends from splitting, damages to the protective coatings, and other undesirable conditions. Pipe shall not be dropped, skidded, or rolled into other conditions. Repairs to damaged pipe must be approved by the Engineer.

Pipe Cutting

Pipe cutting shall be done in a neat and workmanlike manner without damage to the pipe or lining and as to leave a smooth end at right angles to the axis of the pipe. Cutting shall be done by an approved mechanical saw or cutter. Hydraulic squeeze cutters are not acceptable.

Pipelaying

Pipe located inside structures shall be rigidly supported.

Pipe laid underground shall be uniformly supported through its entire length on a four-inch cushion of sand. A depression shall be carved out of the sand cushion to accommodate the pipe bells.

Pipe shall be inspected for defects, debris, or dirt while suspended in a sling prior to lowering it into the trench. Defective pipe shall be removed from the project site immediately. Lumps, blisters, and excess coal tar coating shall be removed from inside the bell and outside the spigot. These areas shall be wirebrushed and wiped clean with a dry oil-free rag. No debris, tools, clothing, or other materials shall be allowed in the pipe.

Pipe shall be laid in a dry trench with bell ends facing in the direction of laying. After placing a length of pipe in the trench, and after installing the gasket and applying the gasket lubricant, the spigot end shall be centered in the bell and the pipe pushed home and brought to the correct line and grade. The pipe shall be secured in place by tamping granular material Class II around it. Precautions shall be taken to prevent dirt from entering the joint space. A watertight plug shall be inserted in the open end(s) of the pipe to prevent water, dirt, animals, or other foreign matter from entering the pipe.

When it is necessary to deflect pipe from a straight line, either horizontally or vertically, the deflection shall not exceed the following values:

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Nominal Pipe Size (In.)	Mechanical Joint Maximum Deflection (In./18 ft. length)
8	20
12	18

Jointing

Mechanical joints shall be installed in accordance with the joint manufacturer's recommendations. Copies of such recommendations shall be furnished to the Engineer prior to the start of construction.

Backfilling

Backfilling shall be in accordance with the trench detail called for on the plans or as directed by the Engineer in accordance with the following:

Trench Detail G shall be used when part of the trench is within the 1 on 1 influence area of an existing or proposed roadway, sidewalk, building, or similar structure. The trench shall be backfilled with granular material Class III, in lifts of ten inches, and mechanically tamped to 95% of maximum unit weight.

Trench Detail F shall be used when the trench is not within the 1 on 1 influence area of a road or structure. The trench shall be backfilled with granular material Class III to a level of six inches above the top of the pipe and compacted to not less than 95% of maximum weight. The remaining portion of the trench shall be backfilled in twelve-inch lifts with suitable excavated material and compacted to at least 90% of maximum unit weight. Suitable excavated material used for backfill shall be free of rocks, debris, trees, stumps, broken concrete, and organic material. Backfill material shall not be saturated with water.

Where the proposed water main crosses under an existing utility, the proposed water main shall be deflected around the existing utility in accordance with the following:

1. Maintain 5' 6" cover over top of proposed water main.
2. Maintain at least 18" of vertical separation and 10' horizontal separation between the outside of the proposed water main and the outside of a sewer, drain pipe, or catch basin lead.
3. Maintain at least one foot of vertical separation between the outside of the proposed water main and the outside of an existing utility other than a sewer, drain, or catch basin lead.
4. When crossing an existing sewer, drain pipe, or catch basin lead, construct the proposed water main so that its joints are equidistant from the utility being crossed.

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Hydrants

General

Hydrants shall be located as shown on the plans and approved by the municipality.

Use of bends in connection shall be approved by Engineer and municipality.

Bury depth shall be a 5 1/2 foot minimum.

Valves

General

Valves shall be located as shown on the plans and approved by the municipality. Valves placed in location without approval will require that the Contractor correct the error at his own expense.

Setting Valves

Valves shall be examined by the Contractor prior to lowering in the trench. Check all nuts and bolts to assure tightness.

Valves shall be installed with the valve closed, supported on two 2" x 6" x 18" hardwood blocks, and vertically plumb. The valve box shall be set plumb and its axis shall be in line with the stem. Valve boxes shall have the ability for future adjustments of up to 6 inches, above or below grade.

Reaction Backing

All tees, bends, and other fittings that may be subjected to unequal thrust shall be restrained using mechanical joint fittings with retainer glands.

Boring and Jacking

1. Construct and maintain jacking/boring pits as required. Adequately clear site required for pits as needed to perform the work. Size pits for boring machine, frames, reaction blocks, minimum 2 sections of pipe and with sufficient room for working. Provide steel safety ladder.
2. Locate pits such that no damage occurs to trees, poles (not specified for removal) or structures in the immediate area.

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3. Construct pits with sheeting and bracing as required for proper support in accordance with O.S.H.A. Standards and as needed to sufficiently support reaction blocks.
4. Place crushed rock or approved bedding to sufficiently support equipment and protect pit floor.
5. A pushing or jacking frame shall be built and furnished to fit or match the end of the pipe to be jacked so that the pressure of the jacks will be evenly distributed over the end of the pipe.
6. The hydraulic jacks shall have sufficient power to apply a smooth and even pressure to move the pipe in place. Hammering or ramming of the pipe will not be allowed.
7. The pipe shall be jacked upgrade where possible.
8. The excavation shall be done within the inside of the pipe and shall not exceed 12" ahead of the pipe being jacked in place.
9. After each pipe section is in place the pipe shall be checked for correct grade and line. Pipe not meeting the correct grade and line shall be rejected and replaced.
10. Excavation at the top and sides may be approximately 1" greater than the outside periphery of the pipe.
11. The bottom of the excavation shall be accurately cut to line and grade.
12. Adjoining sections of pipe sleeve shall be attached with a continuous weld. Connecting steel pipe to concrete shall be completed with a poured in place concrete collar with reinforcement.

Hydrostatic Pressure Test

All new construction shall be subjected to a hydrostatic pressure test. Testing should be performed as soon as possible after construction on a section is complete.

The Contractor shall provide all equipment, materials, and labor necessary to perform the tests, including pumps, gauges, plugs, corporations, excavation and backfill, water, miscellaneous piping and fittings, and a means of measuring the volume of water lost.

The Contractor shall fill the main with water through hydrants or corporations. Air shall be bled off at the ends and at highpoints through corporations or hydrants. The Contractor shall plug all taps made solely for the pressure test by inserting brass plugs.

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Water shall be added until the hydrostatic pressure at the highest point of the main is at least 150 psig.

The Engineer shall be notified two hours prior to testing and shall witness the test and determine the leakage over a two hour period.

Water shall be added as necessary throughout the two hour test period to maintain a uniform pressure of 150 psi, plus or minus 5 psi.

At the end of the two hour period, the total volume of water added to maintain the required test pressure will be determined and will be the actual leakage in a two hour period.

The allowable leakage rate will be determined by the following formula:

$$L = \frac{S * D * (P)^{1/2}}{148,000}$$

Where:

- L = Total allowable leakage rate (gal/hr).
- S = Total number of joints in line segment being tested.
- D = Nominal inside pipe diameter (inches).
- P = Actual test pressure (p.s.i.g).
- ^{1/2} = Square Root of P

Maximum leakage for 8 inch pipe = 1.3 gallons per two hours per 100 joints.

If the actual leakage rate exceeds the allowable leakage rate, the Contractor at his own expense, shall locate and repair the leak(s). The test process shall be repeated until satisfactory results are obtained.

The cost of pressure testing shall be included in the pay item for Testing and Chlorination.

STERILIZATION

General

1. All pipe and fittings connected to and forming a part of a potable water supply shall be sterilized in accordance with the AWWA Standard C651-14.
2. Generally, sampling taps shall be provided on the water main every five hundred (500) feet, in order to afford representative water testing and sample collection. When long transmission mains are constructed, without side connections, the distance between each

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tap may, at the discretion of the Engineer, be increased. In all instances, however, sampling taps shall be provided to collect a source sample and enough representative water samples for laboratory examination.

Preliminary Flushing

The main shall be flushed prior to sterilization as thoroughly as possible with water pressure and outlets available. The main shall be flushed from the north gate valve first with the south gate valve closed, the north valve shall then be closed and the south valve opened. After the flushing is completed the plug for the 8 inch tee shall be installed. The minimum velocity in the main shall be 3.0 fps. The flushing operation shall be done after the pressure test has been made.

Disinfecting

1. Before being placed in service, all mains and existing piping disturbed in any manner by the work shall be disinfected in accordance with the AWWA Standard C651-14. Drawing the water from existing piping or even lowering the water pressure more than one-half will constitute disturbances of the piping.
2. The disinfecting of water mains, valves and other appurtenances incorporated into the main construction shall be done in accordance with the AWWA Standard C651-14.
3. During the disinfecting operation, valves, hydrants and other mechanical devices controlling the water shall be operated to permit full effectiveness of the disinfectant. Valves shall be manipulated so that the strong solution within the main being sterilized will not flow back into the supply line nor flow into mains already in service.

Final Flushing and Tests

1. After the required period of retention has elapsed, the heavily chlorinated water shall be flushed out completely discharged to the sediment basin by the Contractor until the replacement water throughout the length of the main shall, upon test, be proven comparable in quality to the water supply source.
2. When the water in the treated main shall have been proven comparable to that of the source, at least 2 safe bacteriological samples collected at least 24 hours apart must be obtained from every 500 feet sections of WM, must be obtained before placing each section WM section in service. Samples shall be taken in the presence of the Department of Public Works. Under no circumstances shall such samples be collected from hydrants or unsterilized hose connections. Should the results of the bacteriological examination prove satisfactory, the main shall be placed in service. Should the initial disinfecting fail

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to result in approval, the disinfecting procedure shall be repeated until satisfactory results are obtained.

3. Bacteriological samples must be picked up by the Contractor and run by a commercial or other laboratory, approved by the Engineer, employed and paid by the Contractor.

PROGRESS CLAUSE

1 Of 1

RC/City of Owosso/2017 Street Program

June, 2017

The Contractor shall submit at the pre-construction meeting a complete Progress Schedule to the City Engineer. The Progress Schedule shall include, as a minimum, the controlling work items for the completion of the project and the planned dates that these work items will be the controlling operations; all for each of the two project work sites. The street shall be opened to traffic no later than the project completion date.

The Contractor is required to coordinate work with the following criteria:

1. **No work shall begin before August 14, 2017.**
2. **Part 1: Stewart Street, from Chestnut Street to Chipman Street. This street shall be completed, except for Turf Establishment, on or before October 27, 2017. Liquidated damages will apply for all non-excusable delays after October 27, 2017. The work of Turf Establishment, Performance may be completed during the 2018 construction season.**
3. **Part 2: Chestnut Street, from South Street to Stewart Street. All work on this street shall be completed on or before October 27, 2017. Liquidated damages will apply for all non-excusable delays after October 27, 2017.**
4. **Part 3; North Chipman Street; from Oliver Street to King Street, and from Willow Springs Drive to Harding Avenue. Both street sections shall be constructed in unison. HMA leveling course shall be placed the same workday that HMA cold-milling is performed. Both street sections shall be completed, except for Turf Establishment, on or before October 27, 2017. Liquidated damages will apply for all non-excusable delays after October 27, 2017. The work of Turf Establishment, Performance may be completed during the 2018 construction season.**
5. **Part 4: South Chipman Street, from South Street to Stewart Street. Work shall commence no earlier than April 16, 2018 without written approval of the city of Owosso. All work on this street shall be completed on or before June 29, 2018.**
6. **The completion date for all work is June 29, 2018.**
7. **Local traffic must be maintained in accordance with the special provision for Maintaining Traffic.**

The contractor must build sufficient work days into the schedule to ensure all necessary work is completed on or before the critical dates. The contract period is based upon 2012 Standard Specifications for Construction Section 108.08D (1) for a standard project.

The approved low bidder for the work covered by this proposal is required to participate in a pre-construction meeting with the city to review and work out a detailed progress schedule. The meeting will occur soon after the low bidder is determined. Any named sub-contractors should also attend the scheduled meeting.

Failure on the part of the Contractor to carry out the provisions of this Progress Schedule may be considered sufficient cause to prevent bidding future projects until a satisfactory rate of progress is again established.

**SPECIAL PROVISION
FOR
SANITARY SERVICE, CONFLICT**

City of Owosso/RC

1 OF 1

Feb, 2017

DESCRIPTION

The work of Sanitary Service, Conflict consists of relocating (lowering) existing sanitary service connections that conflict with proposed storm sewer installation as shown on the plans or as directed by the Engineer. The work must be coordinated with City of Owosso DPW officials.

MATERIALS

The materials for relocating existing sanitary sewer service connections shall consist of new material meeting the requirements of the City of Owosso. City DPW officials will review with the Contractor the type of material found, then determine suitable new material and adaptors required to reconnect the sanitary service.

CONSTRUCTION

The City of Owosso will be responsible for temporarily shutting off the wastewater system. The Contractor shall cooperate with City of Owosso DPW officials in establishing service relocation, material selection, and work method in order to reroute the sanitary service under the proposed storm sewer. The entire crossing area shall be filled with 6A compacted crushed stone.

MEASUREMENT AND PAYMENT

The completed as measured for Sanitary Service, Conflict will be paid for at the Contract Unit Price for the following Contract Item (Pay Item):

Contract Item (Pay Item)	Pay Unit
Sanitary Service, Conflict	Each

Sanitary Service, Conflict will be measured in place by the unit Each; and will be paid for at the contract unit price per Each, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.

**SPECIAL PROVISION
FOR
ASPHALT STABILIZED AGGREGATE BASE COURSE**

CITY OF OWOSSO/RC

1 OF 3

JUNE, 2017

DESCRIPTION

This work will be done in accordance with the requirements of Section 305, 501, 902, and 904 of the MDOT 2012 Standard Specifications for Construction, except as herein specified.

This work shall be accomplished in place and shall consist of blending crushed material with hot asphalt cement at the specified rate and depth, shaping to specified elevation and slope, and compacting to specified density.

MATERIALS

Materials shall meet the following requirements:

Asphalt Cement PG 52-28	904
Fog Coat SS - 1H	904
Aggregate Base 22A	902

The asphaltic material for stabilizing shall be applied at the rate and temperature (minimum 350° F) as determined by the Engineer, so that the residual bitumen added will be between two (2) and five (5) per cent by weight of the asphaltic material.

EQUIPMENT REQUIREMENTS

1. Compaction Equipment - Rollers. Rollers must meet the requirements as specified under Section 501.03 for rollers, except that combination pneumatic-steel wheel and vibratory rollers will be permitted. A minimum of three (3) rollers in operating condition will be required on the project and shall be of the following types:
 - Minimum of (2) shall be steel drum vibratory type;
 - Minimum of (1) shall be pneumatic - tire type.All rollers are to be approved by the Engineer prior to beginning construction.
2. Stabilizing Equipment - The stabilizing plant shall be a single-pass, multi-drum, self-propelled machine. The mixing chamber shall have a positive depth control to insure a uniform depth of stabilized material and must be capable of loosening the base materials to the depth called for without disturbing the subbase. The stabilizing plant shall add the asphalt in predetermined and accurately metered quantities, while maintaining a constant and fixed rate of forward motion, thoroughly blend the asphalt with the road materials, and spread the mixture uniformly on the roadway.

A spray bar for distribution of the liquid asphalt shall be mounted inside the mixing chamber and shall have nozzles spaced at increments not to exceed six (6) inches and shall operate in such a manner that all asphalt will be uniformly applied throughout the mixing chamber at the time of injection. The asphalt additive system shall consist of a positive displacement pump and shall display the temperature, pressure and flow rate to accurately check the rate of application of the asphalt at any time. Note - Full width processing is required to eliminate longitudinal joints in the stabilizing material necessitating the use of two (2) or more stabilizing machines; depending on the width of road to be processed. The system for distributing the asphalt material shall be adjustable for the rate of asphalt application and shall measure accurately the amount of asphalt material being applied. A foot per minute meter and a gallon per minute meter shall be in clear view of the operator and both shall be controlled by the operator from the operator's station.

CONSTRUCTION METHODS

1. Mixing with Asphalt Materials - Prior to adding the asphaltic material, the moisture content of the crushed material shall be adjusted by aerating or by adding water. The asphaltic material shall be added only to that material which can be completely mixed and compacted in one day. The asphaltic material shall be added through the mixer at the rate and within the temperature range directed by the Engineer. The temperature shall be kept below the flash point of the asphalt cement but shall not fall below 350° F.
2. Shaping, Rolling and Compacting - Shaping and compacting shall be done while the asphalt material is in a workable state. The final shaping and compaction shall be accomplished as soon as possible after addition of the asphaltic material. The mixed material shall be so shaped that when compacted it shall be in a reasonably close conformity with lines, grades, and cross-sections shown on the plans or as directed by the Engineer. Stabilized material trimmed from the grade shall be used adjacent to the shoulder to complete the cross section as shown on the plans. Material in excess of the quantity required to complete the cross section shall become the property of the Contractor.

Initial rolling shall be done with one or more pneumatic-tired rollers. The aggregate-asphalt mixture shall be compacted to not less than 98 percent of the unit weight obtained by the Michigan Modified T 180 Test as described in the Density Control Handbook. Such test shall be made on the aggregate-asphalt mixture at the filled moisture content existing during the compacting operation. Required density shall be maintained until the material has been surfaced. Density testing requirements are hereby waived for this project, but may be used, as directed by the Engineer, to assure density is being maintained. After final

rolling, the Engineer will test the surface using a 10-foot straightedge at selected locations. The variation of the surface from the testing edge of the straightedge between any two contacts with the surface shall at no point exceed $\pm\frac{3}{8}$ inch.

5. Curing - The base may be opened to traffic for a period of time to be determined by the Engineer prior to placing of the surface. Any areas which show evidence of cracking or instability will be investigated and corrected within 48 hours, before any work proceeds. If the stabilized asphalt aggregate pavement is to be left unsurfaced for more than seven (7) days, a fog coat of SS-1H shall be applied at the rate of 0.20 to 0.30 gallons per square yard, at the Contractor's expense.
6. Weather Limitations - Asphaltic material shall not be applied to the grade or to the aggregate when rain is threatening or when the air temperature is lower than 50° F.

The Stabilization work shall be performed in the Lower Peninsula during the period May 15 to October 15, and in the Upper Peninsula during the period June 1 to October 1, unless otherwise authorized by the Engineer.

MEASUREMENT AND PAYMENT

The completed work as measured for asphaltic stabilized aggregate base course will be paid for at the contract unit prices for the following contract items (Pay Items).

<u>Pay Item</u>	<u>Pay Unit</u>
Asphalt Cement Stabilized Base Course, 4 Inch	Square Yard
Asphalt Cement Binder	Gallon

Payment for Asphalt Cement Stabilized Base Course, 4 Inch includes the furnishing, hauling, placing, mixing of the asphalt cement into the crushed base material, shaping, and compacting of the mixture. This item will be measured by completed width and length required in the plans to a maximum depth of four (4) inches.

Payment for Asphalt Cement Binder shall be paid for by the gallon applied to the base course.

Payment for Asphalt Emulsion Fog coat SS-1H will not be paid for separately but will be included as part of the work of Asphalt Cement Stabilized Base Course.

Any aerating or adding water necessary to achieve proper moisture will not be paid for separately but will be included as part of the work of Asphalt Cement Stabilized Base Course.

SECTION 33 05 24

HORIZONTAL DIRECTIONAL DRILLING

PART 1 - GENERAL

1.01 SUMMARY:

- A. This Section includes the work required to install a carrier or casing pipe for underground utilities under an obstacle using the method commonly known as horizontal directional drilling (HDD), to the grades and alignments shown on the Drawings.

1.02 REFERENCES:

- A. ASTM - American Society of Testing Materials, *Latest Edition*.
- B. PPI - Plastics Pipe Institute
- C. AWWA - American Water Works Association
- D. ANSI - American National Standards Institute

1.03 GENERAL REQUIREMENTS:

- A. The CONTRACTOR shall be responsible for the method of construction, the stability and accuracy of the drilled and reamed hole and pits constructed, and all costs for damages resulting from any failure thereof. The CONTRACTOR shall be solely responsible for the safety of the pits and related structures and personnel engaged in underground construction throughout the duration of the work.
- B. The CONTRACTOR's methods and schedule shall consider the overall project requirements and anticipated subsurface soils and groundwater conditions. The CONTRACTOR's selection of inadequate, inappropriate or inefficient equipment and methods will not be cause for adjustments to the contract price or contract time.
- C. The general dimensions, arrangement and details for the drilled hole and pits to be constructed shall be as needed to complete the required work.
- D. Methods of excavation, equipment and procedures for the directional drilling operation and pits shall be selected by the CONTRACTOR to provide adequate working space and clearances for the work to be performed.
- E. Pit excavation methods, groundwater control and pit support techniques shall be selected by the CONTRACTOR.
- F. The CONTRACTOR shall comply with the HDD Plan for Preventing and Controlling the Loss of Drilling Mud in Paragraph 3.15 SCHEDULES.

1.04 CONTRACTOR QUALIFICATIONS:

- A. The CONTRACTOR who will complete the work contained in this Section must be experienced in the type of work specified in this Section and must have successfully completed similar projects within the last three years.

- B. Personnel that will perform the work must be trained and experienced in the fabrication and installation of the materials and equipment, as well as being knowledgeable of the design and the reviewed shop drawings.
- C. At the ENGINEER's request, the CONTRACTOR responsible for the completion of the work contained in this Section shall submit a list of jobs successfully completed within the last three years. Information on each job must include the following:
 - 1. Date of Project
 - 2. Location
 - 3. Length of Directional Drill
 - 4. Size and Material of Pipe
 - 5. General CONTRACTOR's name, contact and phone number.
 - 6. OWNER's name, contact and phone number.
 - 7. Other information relevant to the successful completion of the project.

1.05 SAFETY:

- A. The CONTRACTOR shall become familiar with, and shall at all times conform to, all applicable codes, ordinances and laws in relation to the work required.
- B. Directional drilling equipment machine safety requirements shall include a common grounding system to prevent electrical shock in the event of a high voltage underground cable strike. The grounding system shall connect all pieces of interconnecting machinery; the drill, mud mixing system, drill power unit, drill rod trailer, operator's booth, worker grounding mats and any other interconnected equipment to a common ground. The drill shall be equipped with an "electrical strike" audible and visual warning system that shall notify the system operators of an electrical strike.
- C. Operators of the drill shall wear electrical shock protection equipment and operate from common grounding mats as required.

1.06 SUBMITTALS:

- A. Submit in accordance with SECTION 01 33 00 - SUBMITTALS.
- B. Proposed drill profile data including the minimum information listed below:
 - 1. Entrance angle
 - 2. Exit angle
 - 3. Minimum radius of curvature
 - 4. Depth of pipe every 50 feet
 - 5. Pilot hole diameter
 - 6. Back ream hole diameter
 - 7. Wet or dry pullback
 - 8. Estimated maximum pullback force
- C. Polyethylene pipe data including, but not limited to, the following:
 - 1. Manufacturer's brochures and catalog sheets
 - 2. Dimensions
 - a. Inside diameter
 - b. Outside diameter
 - c. Standard dimension ratio
 - d. Yield stress
- D. HDPE to DI connection and restraint:
 - 1. Manufacturer

2. Product data sheet
3. Dimension drawing
4. Installation instructions

E. Drilling Fluid:

1. Bentonite (or alternate):
 - a. Product manufacturer
 - b. Product data sheet
 - c. Mixing instructions
2. Polymer:
 - a. Product manufacturer
 - b. Product data sheet
 - c. Mixing instructions
 - d. Material safety data sheet (MSDS)

F. Drill Path Documentation upon completion: See Article 3.07.

1.07 DELIVERY, STORAGE AND HANDLING:

- A. Handle and store materials in a manner that will prevent:
 1. Deterioration or damage
 2. Contamination with foreign matter
 3. Damage by weather or elements
- B. After the pipe is fused together and before it is pulled through the drilled hole, the CONTRACTOR shall be responsible to provide vehicular and emergency access to all properties affected by the fused pipeline. The CONTRACTOR shall be responsible to repair all damage to existing surface and site improvements damaged by the fused pipeline.

1.08 UTILITY PROTECTION:

- A. All underground utilities shown on the drawings are shown according to the best available information. It is the CONTRACTOR's responsibility to verify the location of all existing utilities prior to working in the area.
- B. All utilities are to remain in service and shall be protected by the CONTRACTOR from any damage as a result of his operations.
- C. Where utilities are encountered and are not shown on the drawings, the CONTRACTOR shall report them to the OWNER before proceeding with the work.
- D. All utilities damaged by the CONTRACTOR's activities shall be repaired or replaced by the CONTRACTOR without preventable delay. All costs to repair the utility including, but not limited to, materials, labor, inspection, testing and temporary service shall be born by the CONTRACTOR with no cost to the OWNER.
- E. All utilities in close proximity to the drill pilot bore, back ream or product pipe installation must be exposed in accordance with all codes, ordinances and regulations to ensure, by visual inspection, that the CONTRACTOR's work has not caused any damage to the utility or to the CONTRACTOR's work and adequate clearance between the utility and the CONTRACTOR's work is maintained.

1.09 APPLICABLE REGULATIONS:

- A. All work covered by this Section shall be performed in accordance with all applicable federal, state and local laws, regulations, codes and ordinances which pertain to such work, as well as the supplemental regulations contained in these specifications. If a conflict exists between any laws, regulations, codes or ordinances, the most stringent shall govern.

PART 2 - PRODUCTS

2.01 MATERIALS:

1. PVC Pipe: Polyvinyl-chloride Fusible (PVC) pipe shall be of a class and designation as shown on Drawings, with a DR of 18 to 14 or less compound designation Class No. 12454, ASTM-D1784. PVC pipe shall be in accordance with current AWWA Standard C-900 (4-12 inches).
 2. The pipe shall have a nominal diameter as indicated on the plans and a standard dimension ratio (SDR) of no greater than _____. The working pressure shall be rated at 160 psi.
 3. The CONTRACTOR is responsible for calculating loads placed on the pipe during its installation based on the CONTRACTOR's chosen means and methods of construction. It is the CONTRACTOR's responsibility to ensure the pipe will withstand all loadings placed on it during installation. If the pipe with dimensions given above will not withstand the installation loads, it is the CONTRACTOR's responsibility to size the pipe to withstand the installation loads.
 4. Manufacturers:
 - a. Phillips Driscopipe, Inc.
 - b. Chevron Chemical Company (Plexco)
 - c. or Engineer approved equal
- B. DRILLING FLUIDS
1. The CONTRACTOR must use a high quality Bentonite drilling fluid or equivalent to ensure hole stabilization, cuttings transport, bit and electronics cooling, and hole lubrication to reduce drag on the drill pipe and the product pipe. Oil-based drilling fluids or fluids containing additives that can contaminate the soil or ground water will not be considered acceptable substitutes. Composition of the drilling fluid must comply with all federal, state and local environmental regulations.
 2. Polymer used as lubrication in the drilling fluid is acceptable, if desired.
 3. Drilling fluids must be mixed with water that is free from significant solids and contamination. Potable water is acceptable. River water is acceptable provided no organic matter or soil particulates are mixed into the drilling fluid. It is the CONTRACTOR's responsibility to apply for and obtain any necessary permits for the procurement of drilling fluid water. It is also the CONTRACTOR's responsibility to pay permit application fees, metering charges or any other costs associated with drilling fluid mixing water.
- C. HDPE TO DUCTILE IRON CONNECTION
1. A restrained connection between the HDPE pipe and DI pipe shall be made with a self-restraining, fusible, molded PE3408 mechanical joint adapter meeting the requirements of ASTM D2513 and ANSI/AWWA C906 and manufactured by Central Plastics Company or approved equal. The mechanical joint adapter shall be of the same SDR rating as the pipe. Additional restraint shall be provided on the ductile iron

pipe side of the connection point by restraining pipe joints for a distance of at least 150 feet. Additional restraint may be provided on the HDPE pipe side in the form of an HDPE anchor ring encased in concrete or other approved methods.

D. TRACER WIRE:

1. The Contractor shall install, with the directionally drilled pipe, a 12 gauge copper clad steel locator wire with insulation suitable for direct burial. The tracer wire shall be as manufactured by Copperhead Industries, or equal. In rural areas, a test station shall be installed at approximately 1,000 foot intervals, near a fire hydrant or other structure that would fall closest to that interval. In built up urban areas, a station shall be provided at each intersection.

2.02 EQUIPMENT:

- A. The directional drilling equipment shall consist of a directional drilling rig of sufficient capacity to perform the bore and pullback the pipe; a drilling fluid mixing, delivery and recovery system of sufficient capacity to successfully complete the crossing; a drilling fluid recycling system to remove solids from the drilling fluid so that the fluid can be re-used; a magnetic guidance system to accurately guide boring operations; a vacuum truck of sufficient capacity to handle the drilling fluid volume; and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.

PART 3 - EXECUTION

3.01 ALIGNMENT AND PROFILE OPTIONS:

- A. Alignment and profile shown on the drawings.
- B. An alternate alignment and profile developed by the CONTRACTOR with the following requirements:
 1. Alignment must be within easement(s) and right-of-way.
 2. Clearance between utilities is maintained.
 3. 15 foot minimum vertical distance between the drill path and the bottom of a river to prevent drilling fluid breakout.
 4. ENGINEER approved.

3.02 PIPE FUSION

- A. All pipe shall be joined with the "butt fusion" method in accordance with the pipe manufacturers recommendations. Socket fusion, extrusion welding, hot gas welding and mechanical connections are not acceptable.
- B. Butt fusion joining shall produce a joint of equal or greater tensile strength than the strength of the pipe.

3.03 DRILL ENTRANCE AND EXIT PITS

- A. The CONTRACTOR is responsible for the design and construction of the drill entrance and exit pits. Supports may be required to maintain safe working conditions. Ensure stability of the pit, minimize loosening, and minimize soil deterioration and disturbance of the surrounding ground.
- B. Entrance and exit pits must be contained in the easement(s) and right-of way.

- C. Drill entrance and exit pits must be maintained at minimum size to allow only the minimum amount of drilling fluid storage prior to transfer to mud recycling or processing system or for removal from the site.
- D. Drilling fluid will not be allowed to freely flow on the site or around the entrance or exit pits. Fluid spilled must be removed as soon as possible and the ground restored to original condition.
- E. Pits must be shored to OSHA standard if workers are required to enter the pits for any reason.

3.04 DRILL ENTRANCE AND EXIT ANGLES

- A. Entrance and exit angles of the drill can be whatever the CONTRACTOR desires such that the elevation profile maintains adequate ground cover to ensure no drilling fluid breakout occurs and that ground exit occurs within the designated easement(s) or right-of-way. The CONTRACTOR is responsible for ensuring that entrance and exit angles ensure pullback forces do not exceed 5% strain on the polyethylene pipe.

3.05 GUIDANCE SYSTEM

- A. The guidance system must have the capability of measuring inclination, roll and azimuth. The guidance system must have an independent means to ensure the accuracy of the installation. The CONTRACTOR will demonstrate a viable method to eliminate accumulated error due to the inclinometer (pitch or accelerometer). The guidance system will be capable of generating a plot of the borehole survey for the purpose of an as-built drawing. The guidance system must meet the following specifications:

Inclination:	Range	-90° to +90°
	Accuracy	0.2°
Azimuth:	Range	0° to 360°
	Accuracy	0.5°
Roll:	Range	0° to 360°
	Accuracy	0.2°

3.06 PILOT HOLE TOLERANCES

- A. The pilot hole shall be drilled along the agreed-to alignment and profile with the following tolerances:
 1. Vertical
 - a. Plus 4 feet (deeper or additional ground cover).
 - b. Minus 1 foot (shallower or reduced ground cover), except that the resulting pipe cover shall not be less than specified or indicated on the plans.
 2. Horizontal
 - a. Plus or minus 2.5 feet.
 3. Curve radius
 - a. Curve radius shall not exceed the pipe manufacturer's recommendations and that of the drilling equipment.

3.07 DRILL PATH DOCUMENTATION

- A. The CONTRACTOR is responsible for maintaining drilling logs that provide drill path data every 25 feet along the drill path. Information logged every 25 feet will, at a minimum, include the following:
 - 1. Pilot hole
 - a. Distance out or station
 - b. Depth below a known ground surface elevation
 - c. Plus or minus (left or right) of alignment
 - d. Torque
 - e. Drill fluid flow rate
 - f. Time
 - 2. Back ream
 - a. Distance out or station
 - b. Pull back force
 - c. Torque
 - d. Drill fluid flow rate
 - e. Time

3.08 PIPE GOUGING

- A. The CONTRACTOR shall take every precaution to prevent gouging of the pipe prior to and during pipeline installation.
- B. It is expected some pipe gouging will occur during pullback. However, the constructed pipeline shall not have any gouges that are deeper than 10% of the pipe wall thickness. Pipe that has gouges greater than 10% of the pipe wall thickness will not be accepted.

3.09 INSTALLING PRODUCT PIPE

- A. After the pilot hole is completed, install a swivel to the reamer and commence pullback operations. Pre-reaming of the tunnel may be necessary and is at the option of the CONTRACTOR.
- B. Reaming diameter will not exceed 1.4 times the diameter of the product pipe being installed.
- C. Allow sufficient length of product pipe to extend past the termination point to allow connections to adjacent pipe sections or gate valves. Pulled pipes will be allowed 24 hours of stabilization prior to making tie-ins. The length of extra product pipe will be at the CONTRACTOR'S discretion.
- D. Install an AWWA C153 Mechanical Joint Adaptor, per the manufacturer's requirements, when connecting the pipe to a valve or hydrant.

3.10 YIELD STRESS

- A. The yield stress shall be calculated from the HDPE material submitted and the cross-sectional area of the pipe. The result will be the force at which the HDPE pipe will yield.
- B. The pullback force will be monitored throughout the pullback. At no time shall the equipment be operated to produce a pullback force that exceeds 75% of the yield force.

3.11 CLEANUP

- A. All excavated soil, soil cuttings and drilling fluid shall be the property of the CONTRACTOR. All material shall be disposed of in accordance with all laws, regulations, codes, ordinance and these specifications.
- B. Immediately upon completion of the work in this section, all rubbish and debris shall be removed from the job site. All construction equipment and implements of service shall be removed and the entire area involved shall be left in a neat, clean and acceptable condition.
- C. If a drilling fluid breakout should occur, the area shall be cleaned immediately and the surface washed and returned to original condition.
- D. Every precaution shall be implemented to prevent a drilling fluid breakout in the river. It is the CONTRACTOR's responsibility to conduct construction activities to prevent this occurrence. However, if a drilling fluid breakout occurs in the river, it is the CONTRACTOR's responsibility to clean up any resultant contamination. The CONTRACTOR is also responsible for any damage to property or the environment due to such a breakout.

3.12 HYDROSTATIC TESTING

- A. The pipe shall be hydrostatically tested before being connected to other piping systems. The pipe shall be tested independently of other hydrostatic tests.
- B. Hydrostatic testing will consist of filling the constructed pipeline with water taking care to bleed off trapped air. The CONTRACTOR shall pressurize the pipe to 150 psi for a minimum of 4 hours to give the pipe time to expand. During this initial 4 hours, make-up water shall be added as-needed to maintain the pressure within 5 psi of the specified pressure. At the end of the first 4 hours, the pipe shall be pressurized to the specified pressure and the test commences. The pipeline shall be maintained under the test pressure for a continuous period of between 1 and 3 hours, as determined by the ENGINEER, by pumping water into the line at frequent intervals. The volume of water so added to maintain pressure within 5 psi of the specified pressure shall be measured and considered to represent the "leakage" from the line during the interval.

The allowable "leakage" for the pipeline shall not exceed the allowances given in the following table.

Nominal Pipe Size (In)	Allowable "Leakage" (Gal/100' of Pipe)		
	1-Hour Test	2-Hour Test	3-Hour Test
3	0.10	0.15	0.25
4	0.13	0.25	0.40
6	0.30	0.60	0.90
8	0.50	1.0	1.5
10	0.75	1.3	2.1
11	1.0	2.0	3.0
12	1.1	2.3	3.4
14	1.4	2.8	4.2
16	1.7	3.3	5.0
18	2.2	4.3	6.5
20	2.8	5.5	8.0

22	3.5	7.0	10.5
24	4.5	8.9	13.3
28	5.5	11.1	16.8
32	7.0	14.3	21.5
36	9.0	18.0	27.0
40	11.0	22.0	33.0
48	15.0	27.0	43.0

It is understood that the pipe will continue to expand after the initial 4 hours under pressure and throughout the 1 to 3-hour test period. The allowable "leakage" presented in the table above accounts for this expansion and no additional allowable "leakage" will be considered.

- C. Under no circumstances shall the total time under the specified test pressure exceed 8 hours. If the test is not completed due to leakage, equipment failure, etc., the test shall be terminated and the pipeline shall be de-pressurized and permitted to "relax" for a minimum of 8 hours prior to the next testing sequences.
- D. If there are no visual leaks or significant pressure drops during the final test period, and the measured "leakage" is less than allowable, the pipeline passes the hydrostatic test.
- E. In the event that the "leakage", as determined by the ENGINEER, exceeds the specified allowable, the CONTRACTOR shall be responsible to repair or replace the pipeline until the pipeline passes the hydrostatic test, as determined by the ENGINEER.

3.13 TRACER WIRE

- A. The Contractor shall install, with the directionally drilled pipe, a 12 gauge copper clad steel locator wire with insulation suitable for direct burial. In rural areas, a test station shall be installed at approximately 1,000 foot intervals, near a fire hydrant or other structure that would fall closest to that interval. In built up urban areas, a station shall be provided at each intersection. Tracer wire shall be installed with the directionally drilled pipe.

3.14 MEASUREMENT AND PAYMENT

- A. The following is in addition to Measurement and Payment shown in SECTION 01 22 00 – MEASUREMENT AND PAYMENT.
 - 1. The pipeline must be a complete and usable system as specified. If for any reason including, but not limited to, broken drill, stuck pipe, etc., a complete pipeline is not constructed, the CONTRACTOR shall re-drill the pipeline per the Contract Documents at no additional cost to the OWNER. The CONTRACTOR is completely responsible to construct a usable crossing pipe.
 - 2. The length of pipe measured for payment shall be the actual length of pipe directionally drilled in place. No additional payment will be made if the CONTRACTOR installs additional pipe not shown on the drawings.
 - 3. Payment in full for directional drilling shall be per linear foot of pipe placed including, but not limited to, mobilization, containment pits, settlement pits and disposal of excavated soils and drilling fluid.
 - 4. Final quantity of directional drilled pipe will be determined by the ENGINEER. It shall be measured horizontally along the centerline of the pipe from the point where minimum cover is attained on one side of the bore to the point where minimum cover is attained on the other side of the bore.

5. The “tag” ends of the drilled pipe that are not below minimum depth of cover may be buried to below minimum cover by excavating from the surface. If the “tag” ends are buried, the length of pipe buried to below minimum cover will not be paid as directional drilling. It will be paid as the pipe specified. Alternatively, the “tag” ends may be cut off and the pipe specified connected.

3.15 SCHEDULES:

- A. Horizontal Directional Drilling Plan for Preventing and Controlling the Loss of Drilling Mud (5 sheets).

END OF SECTION

HORIZONTAL DIRECTIONAL DRILL PLAN
FOR
PREVENTING AND CONTROLLING THE LOSS OF DRILLING MUD

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6.0 – ABANDONMENT

HORIZONTAL DIRECTIONAL DRILL PLAN

1.0 INTRODUCTION:

- A. This directional drill contingency plan provides specific procedures and steps to prevent and/or to contain inadvertent releases of drilling mud (also referred to as frac-outs) for waterbodies that are crossed using horizontal directional drilling (HDD) techniques.

2.0 HORIZONTAL DIRECTIONAL DRILLING PROCESS:

- A. Installation of a pipeline by HDD is generally accomplished in three stages. The first stage consists of directionally drilling a small-diameter pilot hole along a pre-determined path. The second stage enlarges this pilot hole to a diameter that will accommodate the pipeline. Numerous "reaming" passes will be necessary with each pass enlarging the diameter of the pilot hole incrementally. The third stage involves pulling the pipeline through the enlarged hole.

During the drilling of the pilot hole, directional control is achieved by using a non-rotating drill string with an asymmetrical leading edge. The asymmetry of the leading edge creates a steering bias, which allows the operator to control the direction of the drill bit. The actual path of the pilot hole is monitored during drilling by taking periodic readings of the inclination and azimuth. These readings are used to calculate the horizontal and vertical coordinates along the pilot holes relative to the initial entry point on the surface.

Once the pilot hole is complete, it is enlarged using reaming tools that are often custom-made for a particular diameter pipe or type of soil. The reamers are typically attached to the drill string at the exit point and are rotated and drawn to the drilling rig, thus enlarging the pilot hole with each pass. Pipe installation is accomplished by attaching a prefabricated pull section behind a reaming assembly at the exit point and pulling the entire assembly back to the drilling rig.

Ideally, horizontal directional drilling involves no disturbance to the bed or banks of a stream or wetland. However, it is possible that geologic irregularities could be encountered during drilling, and drilling could fail. This plan describes the potential for failure of horizontal directional drilling, the contingency methods that would be implemented in the event of inadvertent release of drilling fluids to water or land, and drill hole abandonment procedures.

The feasibility of the horizontal directional drill method primarily depends on the local geologic setting, as well as site topography and other surface features. For example, horizontal directional drilling may not be feasible in areas of glacial till or outwash interspersed with boulders and cobbles, highly fractured bedrock, or non-cohesive coarse sands and gravels. These formations increase the likelihood that drilling could fail due to refusal of the drill bit, continuous loss of drilling fluid through fractures or weak areas in the ground, or collapse of the bore hole in non-cohesive, unstable substrate.

Fortunately, surface characteristics at the proposed Project drill sites are generally favorable for HDD.

Also, subsurface geotechnical investigations indicate that conditions are favorable for horizontal directional drilling.

3.0 MONITORING PROCEDURES:

- A. The Project Engineer and construction personnel will continuously monitor operations during drilling activities. Monitoring activities will include:
- Visual inspection along the drill path, including monitoring the water body for evidence of a release.
 - Continuous examination of drilling fluid pressures and returns flows.

4.0 NOTIFICATION PROCEDURES

- A. If in the course of an inspection an inadvertent release is discovered, steps will be taken by construction personnel to contain the release as described in Section 5.0, Corrective Action and Cleanup.

If monitoring indicates an in-stream release, the Project Engineer will immediately notify the appropriate Federal and State agencies as soon as possible by telephone and/or facsimile of an in-stream release event, detailing the nature of the release and corrective actions being taken. The notified agencies will determine whether additional measures need to be implemented.

If a release occurs that may migrate downstream and affect water quality, downstream water users will be contacted.

5.0 CORRECTIVE ACTION AND CLEANUP

- A. By monitoring drilling operations continuously, it is intended to correct problems before they occur. In addition, containment equipment including earth-moving equipment, portable pumps, hand tools, sand, hay bales, silt fence, lumber, and a suction dredge will be readily available at the drill site. If a release does occur, the following measures will be implemented to stop or minimize the release and to clean it up:
- The drilling contractor will decide what modifications to make to the drilling technique or composition of drilling fluid (e.g., thickening of fluid by increasing bentonite content) to reduce or stop minor losses of drilling fluid.
 - If a minor bore path void is encountered during drilling, making a slight change in the direction of the bore path may avoid loss of circulation.
 - If the bore head becomes lodged resulting in loss of drilling pressure, the borehole may be sized by moving the bore head back and forth to dislodge the stuck materials.
 - If necessary, drilling operations will be reduced to assess the extent of the release and to implement other possible corrective actions.
 - If public health and safety are threatened, drilling fluid circulation pumps will be turned off. This measure will be taken as a last resort because it increases the potential for drill hole collapse resulting from loss of down-hole pressure.
 - If a land release is detected, the drilling crew will take immediate corrective action to contain the release and to prevent migration off site.
 - The contractor will construct pits and berms around the borehole entry point to contain inadvertent releases onto the ground.
 - Any drilling mud released into the pits will be pumped by contractor personnel into a mud-processing unit for recycling of drilling fluid and separation of cuttings.
 - Additional berms will be constructed around the bore pit as directed by the Project Engineer to prevent release materials from flowing into the water body.
 - If the amount of an on-land release does not allow practical collection, the affected area will be diluted with fresh water and allowed to dry. Steps will be taken (such as berm, silt fence, and/or hay bale installation) to prevent silt-laden water from flowing into the water body.

- If hand tools cannot contain a small on-land release, small collection sumps (less than 5 cubic yards) may be constructed to pump the released material into the mud processing system.
- Contractor HDD crews will immediately implement non-mechanized measures to contain the spread of drilling fluids, including the installation of hay bales or silt fence.
- Sump pumps or vacuum trucks will be used to remove and dispose of any drilling fluids.

6.0 ABANDONMENT

- A. If corrective actions do not prevent or control releases from occurring into the water body, the HDD Contractor may opt to re-drill the hole along a different alignment or suspend the Project altogether. In either case, the following procedures will be implemented to abandon the drill hole.
- The method for sealing the abandoned drill hole is to pump thickened drilling fluid into the hole as the drill assembly is extracted, and using cement grout to make a cap.
 - Closer to the surface of the hole(s) (within approximately 10 feet of the surface), a soil cap will be installed by filling with soil extracted during construction of the pit and berms.
 - The bore hole entry location will be graded by the contractor to its original grade and condition after the drill hole has been abandoned.

**SPECIAL PROVISION
FOR
HMA BASE CRUSHING AND SHAPING, MODIFIED**

CITY OF OWOSSO/RC

1 OF 1

June, 2017

DESCRIPTION:

All work shall consist of crushing and shaping the existing pavement section and gravel base to the depth and width as shown on the plans, or as directed by the Engineer, in accordance with Sections 305 and 501 of the MDOT 2012 Standard Specifications for Construction and as modified herein.

CONSTRUCTION:

Crush and shape HMA and gravel base at a depth of 6 inches. Use a water sprinkling system as approved by the Engineer. After crushing, 100 percent (100%) of the crushed material shall have a maximum particle size of 1-½ inches (1.5"). Particles exceeding 1-½ inches shall be removed by the Contractor at the Contractors expense. The crushed material shall be initially shaped immediately after the crushing operation to established grade and cross section within a tolerance of ¾ inches and be opened to local traffic at end of same workday. Sufficient material shall be graded along edges (wind rowed) for final grading and blending shoulder after HMA placement. The crushed surface shall be left to cure in place for a period of time not exceeding two weeks.

Rolling equipment shall be furnished in accordance with Section 501.03, except that combination of pneumatic tired (1 minimum) and steel vibratory (2 minimum) rollers will be used to properly compact the crushed material to achieve density requirements of Section 305.

MEASUREMENT AND PAYMENT:

The completed work as measured for the following Pay Items will be paid for at the Contract Unit Price for the following Contract Item (Pay Item):

Contract Item (Pay Item)	Pay Unit
HMA Base Crushing and Shaping, Modified	Square Yard

HMA Base Crushing and Shaping, Modified will be measured in area by square yard; and will be paid for at the contract unit price per square yard, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work. Shaping includes initial, intermediate, and final shaping of the prepared crushed material.

**SPECIAL PROVISION
FOR
SAWCUTTING**

City of Owosso/RC

1 OF 1

Feb, 2017

DESCRIPTION

This work shall be accomplished in accordance with Section 501 of Michigan Department of Transportation 2012 Standard Specifications for Construction except as modified herein.

METHOD OF CONSTRUCTION

This item shall be for sawing HMA pavement, driveway approaches, sidewalks, and curb and gutter; wherever a joint of any does not exist; as shown on the plans and/or as directed by the Engineer. Sawcutting depths shall be full depth.

MEASUREMENT AND PAYMENT

The completed work as measured for Sawcutting will be paid for at the contract unit price for the following contact item (Pay Item).

<u>Pay Item</u>	<u>Pay Unit</u>
Sawcutting	Linear Foot

Sawcutting will be measured by length in feet; and will be paid for at the contract unit price per foot, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.

**SPECIAL PROVISION
FOR
TECHNICAL SPECIFICATIONS**

RC/City of Owosso

1 OF 1

Feb, 2017

GENERAL REQUIREMENT

The MDOT 2012 TANDARD SPECIFICATIONS FOR CONSTRUCTION shall govern all technical specifications for this project. The following parts of the Contract will prevail over all other parts in the following order:

1. Special Provisions.
2. Supplemental Specifications.
3. Project Plans and Drawings.
4. MDOT Standard Plans.
5. 2012 Standard Specifications
6. City of Owosso Standard Specifications.

The Contractor shall not take advantage of any apparent error or omission in the contract documents. If any uncertainty, inconsistency, omission, or conflict is discovered within the contract documents, the Engineer will solely decide as to the true intent of the language.

**SPECIAL ROVISION
FOR
TURF ESTABLISHMENT, PERFORMANCE**

City of Owosso/RC

1 of 5

Feb, 2017

a. Description. For the work identified in this special provision paid for by the pay item Turf Establishment, Performance only, delete section 816 of the Standard Specifications for Construction and replace it with this special provision. The Contractor is responsible for the performance and quality of turf growth in the areas indicated on the plans and as identified by the Engineer. Comply with all local, state and federal laws when completing this work.

Establish a durable, permanent, weed-free, mature, perennial turf. The work consists of fundamental turf work, including but not limited to top soiling, seeding, mulching, erosion control, maintenance, watering and repair of turf as described herein during the life of the contract and during the life of any supplemental performance bond which may ensue.

Choose and implement proven turf establishment industry practices; provide all necessary labor and equipment; select and provide all turf establishment materials; and control erosion and any subsequent sedimentation at all times.

Perform a site analysis, interpret the results and implement a turf establishment program to ensure compliance with this specification. The site analysis must take into consideration topsoil needs, fertilizer and pH requirements, seed mix, existing and future soil moisture levels, slopes and grades, required erosion control items and devices, maintenance requirements, local highway snow removal and deicing practices, and any other characteristics that influence and affect turf establishment.

Subsection 107.11 of the Standard Specifications for Construction is revised relative to the Contractor's responsibility for the repair of turf establishment work as follows. The Contractor is responsible, at no additional cost to the contract, for the repair of turf establishment work occasioned by storm events up to 3 inches of rain in a 24 hour period as documented by local meteorological data submitted to the Engineer for review and approval. All other portions of subsection 107.11 remain unchanged.

1. Contractor Turf Establishment Experience Requirements. Ensure weed control is done by a commercial herbicide applicator, licensed by the State of Michigan and certified by the Michigan Department of Agriculture (MDA) in the appropriate category to apply herbicides. Use application procedures and materials according to federal, state and local regulations. Use of restricted use chemicals is prohibited. Provide appropriate documentation and secure approval from the Engineer before application of herbicides.

At least 10 work days prior to start of turf establishment, provide documentation to the Engineer, from the Contractor performing the turf establishment work, that they meet one or both of the following requirements.

A. At least one person employed by the Contractor performing the turf establishment work and assigned to the job site has a degree or certificate in Turf

Management, Horticulture or related field.

B. At least one person employed by the Contractor performing the turf establishment work and assigned to the job site has at least 5 years of experience in roadside turf establishment.

b. Materials. Provide topsoil, seed, mulch, pesticide, herbicide, mulch blankets and any other unique erosion control materials as necessary to fulfill this specification, as detailed on the plans. Use additional materials, as necessary, to meet the standards set forth for turf establishment in this special provision. The use of sod on the project requires the prior approval of the Engineer and if approved, may be used at limited site locations only.

Selection of all materials is the responsibility of the Contractor with the following minimum conditions.

1. Soil. Provide furnished or salvaged topsoil, which may be blended compost, that will support vigorous growth. Ensure topsoil is humus bearing and placed at least 4 inches deep. Ensure it is free of stones larger than 1/2 inch (2 inches on freeway projects) in diameter and other debris. Trim and grade the finished slope in accordance with subsection 205.03.N of the Standard Specifications for Construction.

2. Seed. Use a seeding mixture that is composed of four or more species of perennial grass. Use only species and their cultivars or varieties which are guaranteed hardy for Michigan.

Recommended species of perennial grasses include: Kentucky Bluegrass, Perennial Ryegrass, Hard Fescue, Creeping Red Fescue, Chewings Fescue, Turf-type Tall Fescue, Buffalo grass, and Alkaligrass-Fults Puccinellia distans. Select cultivars or varieties of grasses that are disease and insect resistant and of good color. Ensure that no one species in the mix is less than 5 percent, or more than 25 percent, of the mixture by weight. Do not select grass species considered noxious or objectionable, such as Quack Grass, Smooth Brome, Orchard Grass, Reed Canary Grass and others.

A. Ensure the seed is legally saleable in Michigan. Ensure the seed product does not contain more than 10 percent inert materials. Ensure the seed source is an MDOT approved certified vender.

B. Adapt the species and varieties of seed to the site conditions, to the site use, and to the soils, moisture and local climate. Site use may include, but is not limited to, detention pond, wildlife habitat, playground, wetlands, forested wetland, rural roadside, urban roadside and highly maintained front yard.

C. Ensure at least two of the species in the mixture proposed to be planted within 15 feet behind the curb or the shoulder are salt tolerant.

3. Mulch. Mulch seeded areas with the appropriate materials for the site conditions to promote germination and growth of seed and to mitigate soil erosion and sedimentation.

4. Herbicides. Comply with all federal, state and local laws. As part of the MDA weed control application, the Contractor is required to make proper notifications and/or postings as per label and MDA requirements for all locations that will be sprayed. Notify the Engineer at least 48 hours prior to any applications being made. Furnish and apply herbicide(s) as

needed. It is the Contractor's responsibility to select the herbicide(s) and the rate at which it is used. Obtain the Engineer's approval of work methods and herbicide(s) selected prior to the application of the herbicide(s). Complete a spray log and submit to the Engineer each day an application is made.

Do not draw water from any waterway (i.e. river, ditch, creek, lake etc.) located on state, county or municipal right-of-way, for mixing with herbicides.

5. Fertilizers. Furnish and apply fertilizer(s) as needed. It is the Contractor's responsibility to select the fertilizer(s) and the rate at which it is used. Phosphorus is allowed for use only at the time of planting and when required by soil conditions. Obtain the Engineer's approval of work methods and fertilizer(s) prior to the application of the fertilizer(s).

6. Water. Furnish and apply water from an approved source at a rate to promote healthy growth.

c. Construction. The Contractor is responsible for all work and all construction methods used in completing this work. Implementation of any part of the standard specifications or standard plans by the Contractor does not relieve the Contractor of responsibility for acceptability of the construction methods or for the quality of the work.

1. Inspection of the Work. The Contractor is responsible for all inspection of turf establishment work.

Use a Contractor's Daily Report, approved by the Engineer, to report inspections made and to document turf establishment work performed on this project. Complete and submit a Contractor's Daily Report to the Engineer when any work performed under this special provision is in progress.

Include all necessary materials documentation including tests slips, certifications, etc. with the associated Contractor's Daily Report.

The Engineer will determine the acceptability of the Contractor's Daily Report in terms of their completeness and accuracy. The Engineer reserves the right to verify all submitted measurements and computations. Failure by the Contractor to submit acceptable and timely reports to the Engineer may result in withholding of progress pay estimates on turf-related items until such time as reports are submitted and deemed acceptable.

The Engineer reserves the right to inspect the project for any reason in accordance with subsection 104.01 of the Standard Specifications for Construction, including the fulfillment of other inspection requirements such as Soil Erosion and Sedimentation Control, NPDES, etc. Inspections made by the Engineer do not relieve the Contractor of the responsibility for inspections required by this special provision or the Contractor's responsibilities for erosion control and turf establishment.

2. Erosion Control. Control erosion at all times according to section 208 of the Standard Specifications for Construction. Control of soil erosion is the responsibility of the Contractor. However, sedimentation controls must be placed as indicated on the plans or as directed by the Engineer. Continuously monitor the site for needed erosion repair from any cause as addressed in the contract. Return all eroded areas to original grade as detailed in the contract.

Take immediate corrective action if sedimentation occurs in drainage structures or any watercourse or water containment area and stabilize all disturbed areas contributing to this sedimentation within 24 hours after the erosion occurrence. Remove sediment deposited as a result of the Contractor's inability to control the soil erosion at the Contractor's expense.

Reimburse the Department for any costs levied against the Department, such as fines, environmental costs, costs for remedies required, or any other costs as a result of the Contractor's failure to comply with this special provision and with federal, state and local laws.

3. Erosion Repair. The Contractor is responsible for all repairs and liable for all consequences (legal, monetary or other) associated with erosion or sedimentation damage to finished or unfinished work.

Report all erosion occurrences and the repairs made by the Contractor to the Engineer in the format and at the frequency required by the Engineer. Repair any erosion, displacement or disturbance to ongoing or completed work by any cause at no additional cost to the contract unless otherwise noted herein.

The Contractor is responsible and liable for all traffic control and safety measures required to repair and protect damaged turf areas. Repair any eroded area that may affect the support of the roadbed or safety of the public within 24 hours of the erosion occurrence.

Place protective devices such as barriers, directional signs/signals, temporary fence, or any other safety measures immediately after any erosion damage occurs that has the potential of endangering the public. In these instances, provide the Engineer with a written summary of the immediate action taken describing the repairs made and the safety measures taken, within 24 hours of the occurrence of the damage.

4. Mowing and Weeding. Maintain turf to a visually appealing level, and not more than 8 inches in height at any time, prior to acceptance. Weeds must be controlled to less than 10 percent of the turf establishment area at all times during construction.

5. Final Acceptance and Supplemental Performance Bond.

A. Final Acceptance Parameters. Ensure before final acceptance of the turf establishment work, all of the following minimum parameters are met throughout all exposed areas of the project designated on the plans or identified by the Engineer as turf establishment areas: there must be no exposed bare soil and the turf must be fully germinated, erosion free, weed free, disease free, dark green in color and in a vigorous growing condition.

The Engineer will notify the Contractor of the dates and times of all acceptance inspections. The Contractor may accompany the Engineer during these inspections. If the Contractor does not agree with the decision made by the Engineer, the Contractor may request an inspection by a mutually agreed upon third party (Michigan State University Extension service or other). A joint inspection, to include the Engineer, the Contractor, and the third party, will be scheduled by the Engineer. Pay all expert fees and expenses charged by the third party.

B. Supplemental Performance Bond. In the event that all contract items of work are

completed, including the placement of all turf establishment items of work, and the final acceptance of the project is delayed because the final acceptance parameters for the turf establishment work have not been fully met; the Contractor may propose to the Engineer the use of a supplemental performance bond.

The bond serves to secure the successful completion of turf establishment work and fulfillment of all final acceptance parameters for the turf establishment work. Ensure the supplemental performance bond, in all respects, is satisfactory and acceptable to the Department and executed by a surety company authorized to do business with the State of Michigan.

Ensure the bond is in an amount equal to 50 percent of the turf establishment work items covered by this special provision. Ensure the bond remains in place for two growing seasons. At the discretion of the Engineer, the bond may be reduced on a prorated basis as portions of the areas designated for turf establishment on the project meet the final acceptance parameters.

Prior to commencement of any work necessary to meet the acceptance parameters during the bonded period, the Contractor must apply for a permit to work within MDOT right-of-way using Form 2205. The permit fee and an individual permit performance bond will not be required. The permit insurance requirements, however, will be required.

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

Pay Item	Pay Unit
Turf Establishment, Performance.....	Square Yard

Turf Establishment, Performance will include all labor, equipment and materials required or selected by the Contractor to install, maintain, inspect, repair and meet the acceptance parameters for turf establishment specified in this special provision, including preparation, updating and submittal of the Contractor’s Daily Reports.

Repairs made to damaged turf establishment areas as a result of a documented storm by local meteorological data resulting in rainfall amounts of more than 3 inches in a 24 hour period will be paid for as an increase to original quantities in accordance with subsection 109.05 of the Standard Specifications for Construction.

The following schedule of payment applies to work performed according to this special provision. Upon completion of topsoil surfacing stage, 50 percent of the authorized amount for **Turf Establishment, Performance** will be paid to the Contractor. The remaining 50 percent of the authorized amount will be paid upon completion of all other work necessary to comply with this special provision and to meet all final acceptance parameters for **Turf Establishment, Performance** or at such time as the supplemental performance bond is accepted by the Department.

The supplemental performance bond and all costs associated with turf establishment work performed during the duration of the performance bond will not be paid for separately. These costs which may include, but are not limited to, mobilization, traffic control devices, and the required permit insurance are included in the unit price bid for **Turf Establishment, Performance**.

**SPECIAL PROVISION
FOR
VALVE BOX, ADJUST**

City of Owosso/RC

1 OF 1

Feb, 2017

DESCRIPTION

Tie work of Valve Box, Adjust shall be done in accordance with Section 403 of the MDOT 2012 Standard Specifications for Construction, and as modified herein. This work shall include the proper setting and support of valve boxes within the proposed pavement area.

METHOD OF CONSTRUCTION

This work item shall include adjustment of water valve boxes and covers to final grade in advance of the final course of HMA. The Contractor shall sawcut, remove adjacent pavement, center box over the water valve, set and support cover to the required elevation, and replace pavement with HMA of same type and mix as top course material.

MEASUREMENT AND PAYMENT

The completed work as measured for Valve Box, Adjust will be paid for at the contract unit price for the following contract pay item (Pay Item):

Contract Item (Pay Item)	Pay Unit
Valve Box, Adjust	Each

Valve Box, Adjust will be measured in in place by the unit Each and will be paid for at the contract unit price per Each, which price shall be payment in full for all labor, material, and equipment needed to accomplish this work.

The unit price for Valve Box, Adjust includes the following:

1. Sawcutting existing pavement.
2. Adjusting and supporting the valve box.
3. Removing and replacing pavement adjacent to the adjusted cover.