

**BID DOCUMENTS  
FOR  
HEATING SYSTEM FOR THE  
WASTEWATER TREATMENT FACILITY**



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

**October 12, 2016**

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## NOTICE TO BIDDERS

### HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY FOR THE CITY OF OWOSSO, MICHIGAN

Sealed proposals will be received by the city of Owosso for the HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY bid and should be addressed to:

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

Major items include: The purchase and installation of (2) direct fired roof mounted natural gas air make-up units and (3) infrared natural gas tube heaters at the Wastewater Treatment facility. Alternative installation submittals will be considered.

Bids will be accepted until **3:00 p.m. Tuesday, October 25, 2016** for the **HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY** 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 shall clearly contain on the outside of the **sealed** envelope in which they are submitted:

#### **HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY 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](http://www.ci.owosso.mi.us) or on the MITN website at [www.mitn.info](http://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.

There will be a pre-bid meeting on site at the Wastewater Treatment Facility, 1410 Chippewa Trail, Owosso, Michigan, 48867, on October 18, 2016 at 10:00 AM. Attendance at this meeting is not mandatory if you attended the initial pre-bid meeting on October 3, 2016.

#### **INQUIRIES/ADDENDUMS**

Addendums will be available on the city's website at [www.ci.owosso.mi.us](http://www.ci.owosso.mi.us) and on the MITN website at [www.mitn.info](http://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, by e-mail to [glenn.chinavare@ci.owosso.mi.us](mailto:glenn.chinavare@ci.owosso.mi.us),

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## INSTRUCTIONS TO BIDDERS

1. 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.**
  2. Proposals, to receive consideration, must be received prior to the specified time of opening and reading as designated in the invitation.
  3. 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.
  4. Proposals having and erasures or corrections thereon may be rejected unless explained or noted over the signature of the bidder.
  5. 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).
  6. Proposals should be mailed or delivered to: Bid Coordinator's Office, City Hall, 301 W. Main Street, Owosso, MI 48867.
  7. Special conditions included in this inquiry shall take precedence over any conditions listed under General Conditions or Instructions to Bidders.
  8. 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.
  9. 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.*
  10. **The following items must be included with the bid response:**
    - a. **Vendor Proposal**
    - b. **Local Preference Affidavit**
    - c. **W-9 Request for Taxpayer ID No. and Certification**
    - d. **Signature Page & Legal Status/ Acknowledgement of Addendum(s)**
    - e. **Insurance Endorsement**
    - f. **Bid Bond if required**
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## BID Proposal

### HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY

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, they are to be listed under "other services/items offered."

The undersigned, having examined the bid proposal forms and specifications, does hereby offer to **HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY** bid listed below at the following prices to wit:

Item	Description	Quantity	Unit	Unit Price	Total Price
1	Make-up Air Unit Make & Model:	2	EA		
2	Make-up Air Unit Installation	2	EA		
3	Tube Heater Make & Model:	3	EA		
4	Tube Heater Installation	3	EA		
5	Mobilization	1	LT		
				TOTAL BID	

Bidder's Initial \_\_\_\_\_

**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. Alternative installation submittals to the roof top specifications are welcome, with owner discretion to accept or deny.

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.

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The undersigned agrees that if the city accepts this proposal, Contractor will substantially complete the entire work under this contract by December 31, 2016. This schedule may be extended only as approved by the city of Owosso.

Other services/items offered:

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On behalf of \_\_\_\_\_, I hereby submit this proposal for the HEATING SYSTEM FOR THE WASTEWATER TREATMENT FACILITY 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

\_\_\_\_\_

## GENERAL CONDITIONS

### 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 Shiawassee County. 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.

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#### 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's 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 GUARANTEE

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 which 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.

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- 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.

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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.

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#### 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.

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## 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.
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**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.

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# 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		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; padding: 5px;">                     3 Check appropriate box for federal tax classification; check only <b>one</b> of the following seven boxes:                      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) ▶  <input type="checkbox"/> <b>Note.</b> 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) ▶ _____                 </td> <td style="width: 30%; padding: 5px;">                     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> </td> </tr> </table>	3 Check appropriate box for federal tax classification; check only <b>one</b> of the following seven boxes: 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) ▶ <input type="checkbox"/> <b>Note.</b> 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>
3 Check appropriate box for federal tax classification; check only <b>one</b> of the following seven boxes: 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) ▶ <input type="checkbox"/> <b>Note.</b> 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.) <input type="checkbox"/>		
6 City, state, and ZIP code		
7 List account number(s) here (optional)		

Requester's name and address (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									

**or**

Employer identification number									

## 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 ▶

## 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](http://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 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> 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](http://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](http://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](http://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 <sup>1</sup>
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
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 <sup>1</sup> The actual owner <sup>1</sup>
5. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
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 <sup>4</sup>
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.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> 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.

<sup>4</sup> 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](mailto: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](mailto:spam@uce.gov) or contact them at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 1-877-IDTHEFT (1-877-438-4338).

Visit [IRS.gov](http://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:

**HEATING SYSTEM FOR THE  
WASTEWATER TREATMENT FACILITY**

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 \_\_\_\_\_

\_\_\_\_\_

## SPECIFICATIONS

The City of Owosso is seeking bids on the following:

- A. Purchase and installation of two (2) each direct fired roof mounted natural gas make-up air units using existing duct work, and
- B. Purchase and installation of three (3) infrared natural gas tube heaters.

### SCOPE OF SERVICES

#### I. Make-Up Air Units

Contractor to provide all labor material to install direct fired units in Main Building (Carbon Column area) of the Wastewater Treatment Facility.

Contractor required to remove roof top concrete panel to make access to existing duct work. Facility roof drawings as well as design engineer recommendations will be provided to assist installation requirements.

New Make-up Air Units preferred are Cambridge Engineering model # S1200 (or equivalent brand in performance) blow thru space heater, providing 5,691 cfm each @ 0.33" WC 1200 MBH natural gas.

Each Make-up Air Unit shall include:

- rain-hood w/ bird screen,
- two position motorized discharge damper,
- 38" insulated discharge duct,
- insulated downturn with turning vanes,
- three (3) directional elbows,
- 24" mounting curb w/counterflashing,
- 12" mounting rail,
- 12" adjustable mounting stands,
- 460V 3 phase,
- integral disconnect,
- starter w/overloads,
- remote control station w/electronic thermostat.

Both Make-up Air Units will have documented air balance on the air delivery system.

#### II. Natural Gas Infrared Heaters

Contractor to provide all material and labor to install three (3) new natural gas tube heaters, to be located in the rear of the Main Building within the solid waste material truck loading area. Type units required or comparable in efficiency and performance are:

1. Unit #1: 125,000/85,000 BTU/Hour, 30' tube length, to be installed on side wall in main plant building jetter bay.
2. Unit #2: 125,000/85,000 BTU/hour, 40' total tube length in "U" configuration, to be installed in main plant building suspended from ceiling over centrifuge mezzanine.
3. Unit #3: 175,000/120,000 BTU/hour, 60' total tube length in "U" configuration, installed in main plant building suspended from ceiling over west end of sludge processing room.

Recommend each Unit include:

- Air intake utilizing outside air for combustion through building sidewalls,
- Venting to the outside of the building through building sidewalls,
- All aluminum tubing,
- Aluminum reflectors, adjustable from horizontal to 45 degrees,
- 2 stage electronic thermostat with locking cover,
- Appropriate gas regulators for 5 psig supply,
- High-pressure shutoff.

#### III. Other Requirements

---

- Contractor to install all equipment in accordance with manufacturer's instructions, and installation shall comply with all applicable building codes.
  - Contractor shall provide all appropriate sealing and weather-proofing for all building penetrations associated with the unit/equipment installation.
  - Contractor shall provide start-up, test and adjustment of heaters in accordance with manufacturer's instructions, and shall provide instruction to owner personnel in the operation and maintenance of all units/equipment installed in accordance with manufacturer's instructions.
  - Contractor shall provide information on any Consumer's Energy rebates available, and shall assist the owner in the submission of application for same.
  - Warranty desired two (2) years on manufacturer's parts and five (5) year burner warranty.
  - Owner will dispose of scrap construction material.
  - Contractor to provide all electrical and gas piping material.
  - Contractor to pull all required permits.
  - Mandatory On-Site Pre-Bid Meeting.
-

OWOSO WWTP  
CAM 8/8/16  
ROOF LOADING  
p. 1

## Snow Load (Flat Roof)

$$\begin{aligned} p_f &= 0.7 C_e C_z I_s p_g \\ &= 0.7 (1.0) (1.0) (1.1) (30 \text{ psf}) \\ &= \underline{23.1 \text{ psf}} \end{aligned}$$

$$\begin{aligned} C_e &= 1.0 \text{ (ASCE 7-10 Table 7-2)} \\ C_z &= 1.0 \text{ (ASCE 7-10 Table 7-3)} \\ I_s &= 1.1 \text{ (ASCE 7-10 Table 1.5-2)} \\ p_g &= 30 \text{ psf (ASCE 7-10 Fig. 7-1)} \end{aligned}$$

## Dead Load

Concrete roof tiles: 21 psf (self weight 14 psf) (per specification)

Existing AC unit: 1000 lb

Prop. AC unit: 1000 lb

P1 weight: 17 lb/ft (W10x17)

P3 weight: 15 lb/ft (W10x15)

## Live Load

30 psf (from conc. spec) (> 20 psf required by ASCE 7-10 → OK)

## Assumptions

1. Entire weight of new AC unit transferred to single truss / 2 purlins.
2. Existing unit is supported adequately (0.5 kip additional load shown on truss diagram)
3. Roofing material on top of conc. is additional 3 psf.
4. No holes in tension members per structural steel spec.
5. Existing steel is all A36.

## Questions

1. Can concrete tiles carry load of new AC?
2. How to transfer load from AC to 2 purlins?

## Conclusion

Strength OK if load can be transferred equally to 2 purlins or 2 trusses.



## EXISTING LOADS:

p.2

### Tributary Area

$$17'-9'' (28'-4'' + 13'-8\frac{1}{2}'') = 746.2 \text{ ft}^2$$

### Total Distributed Loads

$$\text{Snow} = 746.2 \text{ ft}^2 (23.1 \text{ psf}) = 17.2 \text{ kips}$$

Dead load:

$$\text{Conc.} = 14 \text{ psf} (746.2) = 10.4 \text{ kips}$$

$$\text{Purlin} = 15 \text{ lb/ft} (17'-9'') (7 \text{ purlins}) = 1.9 \text{ kips}$$

$$\text{Truss: } (12.5 + 8.0)(42-0\frac{1}{2}'') = 0.9 \text{ kips (upper+lower chord)}$$

$$7 \times (2.44 \text{ lb/ft} \times 4.5 \text{ ft}) = 0.1 \text{ kips (verticals)}$$

$$6 \times (2.44 \text{ lb/ft} \times 10 \text{ ft}) = 0.1 \text{ kips (diagonals)}$$

$$\text{Total} = 18.7 \text{ kips}$$

### Live Load

No reduction (flat roof)

$$\text{Live} = 20 \text{ psf} (746.2 \text{ ft}^2) = 14.9 \text{ kips}$$

### Purlin Loads

$$S = 17.2 \text{ kips} / 7 = 2.5 \text{ kips}$$

$$D = 13.4 \text{ kips} / 7 = 1.9 \text{ kips}$$

$$L = 14.9 \text{ kips} / 7 = 2.1 \text{ kips}$$

6.5 kips

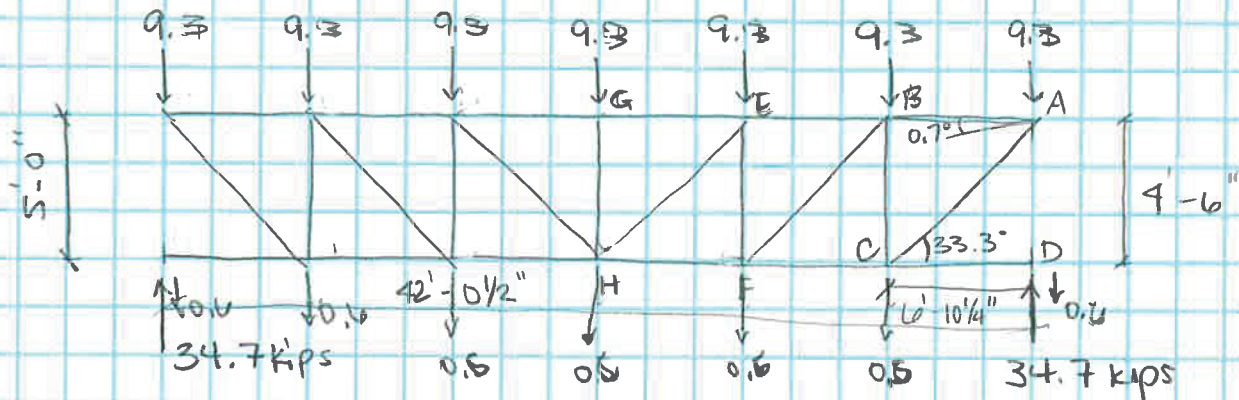
Plus 0.5 kips to account for  $\frac{1}{2}$  AC load since loads distributed to two trusses (verified by photos)

New loads

Roofing: 3 psf (746.2) = 2.2 kips

AC: Add 0.5 kips at all purlins for simplicity

$2.2 \text{ kips} / 7 = 0.3 \text{ kips}$



Use LRFD:

$$2. = 1.2D + 1.6L + 0.5S = 1.2(1.9 + 0.3 + 0.5 + 0.5) + 1.6(2.1) + 0.5(2.5)$$

$$= 3.84 + 3.36 + 1.25$$

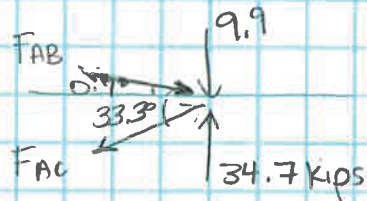
$$= 8.5 \text{ kips}$$

$$3. 1.2D + 1.6S + L = 1.2(3.2) + 1.6(2.5) + 2.1$$

$$= 9.9 \text{ kips}$$

Check loads in members of bay closest to wall:

Joint A



$$\sum F_x = 0 : F_{AB} \cos 0.7 = F_{AC} \cos 33.3 \Rightarrow F_{AB} = \frac{F_{AC} \cos 33.3}{\cos 0.7}$$

$$= 0.836 F_{AC}$$

$$\sum F_y = 0 : 9.9 + F_{AB} \sin 0.7 + F_{AC} \sin 33.3 = 34.7$$

$$9.9 + 0.836 F_{AC} (\sin 0.7) + F_{AC} \sin 33.3 = 34.7$$

$$0.56 F_{AC} = 24.8 \rightarrow F_{AC} = 44.3 \text{ k} \rightarrow F_{AB} = 37.0 \text{ k (C)}$$

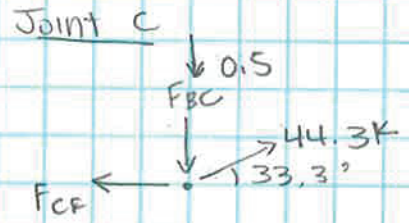
(T)

can existing members hold loads?

$$F_{AC} = 44.3 \text{ k} \quad (2L \ 2\frac{1}{2} \times 2 \times 3/16)$$

$$A_g = 1.636 \text{ in}^2$$

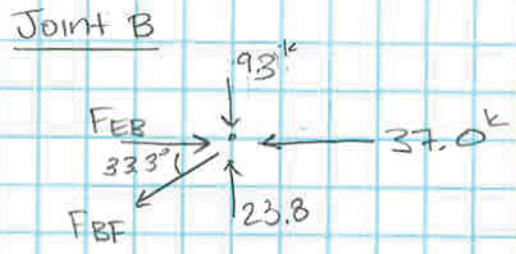
$$\text{required } A_g = \frac{F_{AC}}{0.9F_y} = \frac{44.3}{0.9(36)} = 1.37 \text{ in}^2 \rightarrow \text{OK}$$



$$\sum F_y: 0.5 + F_{BC} = 44.3 (\sin 33.3) \Rightarrow F_{BC} = 23.8 \text{ kips (C)}$$

$$\sum F_x: F_{CF} = 44.3 \cos 33.3 \Rightarrow F_{CF} = 37.0 \text{ kips (T)}$$

compression member check  
 2L 2x2x3/16  
 $\phi_c P_n = 28.1 \text{ kips}$   
 $\phi_c P_n > F_{BC} \rightarrow \text{OK}$

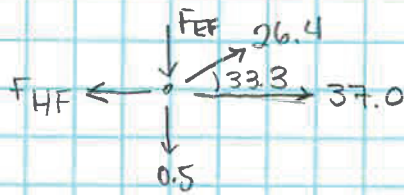


$$\sum F_y: F_{BF} \sin 33.3 + 9.3 = 23.8$$

$$F_{BF} = 26.4 \text{ kips (T)}$$

$$\sum F_x: F_{EB} = 37 + F_{BF} \cos 33.3$$

$$F_{EB} = 59.1 \text{ kips (C)}$$

Joint F

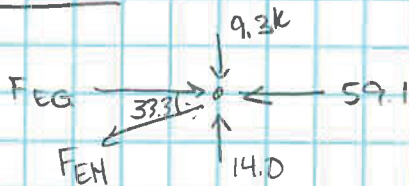
$$\begin{aligned}\sum F_y: F_{EF} + 0.5 &= 26.4 \sin 33.3 \\ F_{EF} &= 14.0 \text{ (C)}\end{aligned}$$

$$\begin{aligned}\sum F_x: F_{HF} &= 37 + 26.4 \cos 33.3 \\ F_{HF} &= 59.1 \text{ kips (T)}\end{aligned}$$

check member size:

$$\begin{aligned}\text{WT } 4 \times 6.5 &\rightarrow A_g = 1.92 \text{ in}^2 \\ F_{HF} &= 59.1 \text{ kips}\end{aligned}$$

$$\begin{aligned}\text{required } A_g &= \frac{F_{HF}}{0.9 F_y} = \frac{59.1 \text{ kips}}{0.9 (36 \text{ ksi})} = 1.82 \text{ in}^2 \\ A_g &> \text{required } A_g \rightarrow \text{OK}\end{aligned}$$

Joint E

$$\begin{aligned}\sum F_y: 9.3 + F_{EH} \sin 33.3 &= 14.0 \\ F_{EH} &= 8.6 \text{ kips (T)}\end{aligned}$$

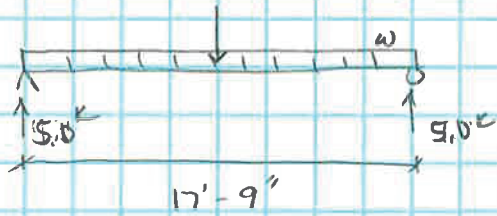
$$\begin{aligned}\sum F_x: F_{EG} &= 59.1 + 8.6 \cos 33.3 \\ F_{EG} &= 66.3 \text{ kips (C)}\end{aligned}$$

check member size

$$\begin{aligned}\text{WT } 5 \times 10.5 \\ \phi P_n = \frac{\pi^2 EI}{L^2} = \frac{\pi^2 (29 \times 10^3 \text{ ksi}) (6.82 \text{ in}^4)}{(85 \text{ in})^2} \times 0.9 = 243 \text{ kips} \\ \phi P_n > F_{EG} \rightarrow \text{OK}\end{aligned}$$

Check purlin deflection:

W10x15 ( $I = 68.9 \text{ in}^4$ )  
 $500 \text{ lb} = P$



Tributary width =  $\frac{13'-8\frac{1}{2}''}{2} = 6.85'$

$I_x = 68.9 \text{ in}^4$      $A_w = 4.41 \text{ in}^2$   
 $S_x = 13.8 \text{ in}^3$

$$v_p = \frac{PL^3}{48EI} = \frac{500 \text{ lb} (17.75 \text{ ft} \times 12 \text{ in/ft})^3}{48 (29 \times 10^6 \text{ psi}) (68.9 \text{ in}^4)} = 0.05 \text{ in} \approx \frac{L}{4000}$$

Deflection OK b/c increased deflection is minimal

Check purlin strength:

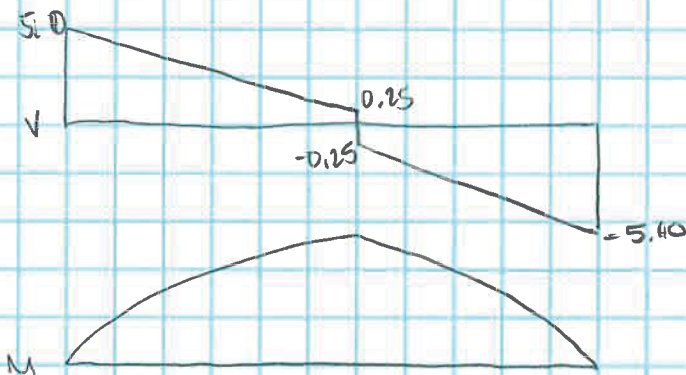
snow:  $23.1 \text{ psf} (6.85 \text{ ft}) = 158 \text{ lb/ft}$

dead:  $(14 + 3 \text{ psf}) (6.85 \text{ ft}) = 117 \text{ lb/ft}$

live:  $20 \text{ psf} (6.85 \text{ ft}) = 137 \text{ lb/ft}$

$w = 1.2 (117) + 1.6 (158) + 137 = 530 \text{ lb/ft}$

$P = 1.2 (500) = 600 \text{ lb}$



$V_{max} = \underline{5.0 \text{ kips}}$

$M_{max} = 0.25^k (17.75/2 \text{ ft}) + \frac{1}{2} (4.75) (17.75/2) = \underline{23.3 \text{ k-ft}}$

$\phi M_n = 0.9 (36 \text{ ksi}) (13.8 \text{ in}^3) = 37.26 \text{ k-ft}$

$M_{max} < \phi M_n \rightarrow \text{OK}$

$\phi V_n = 0.6 (36 \text{ ksi}) (4.41 \text{ in}^2) = 95 \text{ kips}$

$\phi V_n > V_{max} \rightarrow \text{OK}$

September 9, 2016  
File: 207585044

**Attention: Mr. Glenn M. Chinavare, Utilities Department Director**  
City of Owosso  
301 West Main Street  
Owosso, MI 48867

Dear Mr. Chinavare,

**Reference: Load Analysis for New Roof Top Unit- WWTP Main Building**

Stantec Consulting Michigan Inc. (Stantec) is pleased to submit this letter report on a load capacity analysis of the existing roof structure for installation of new rooftop Blow-Thru Space Heaters on the main building of the Waste Water Treatment Plant (WWTP) for the city of Owosso (City).

**BACKGROUND**

The WWTP was built in 1978-79 and the main building is a steel frame structure with a truss supported flat roof. The heating of this building is provided by a central boiler. The city is considering changing the heat source from the boiler to the rooftop space heaters. The City intends to use the existing duct work to distribute the heat in the building.

Stantec Consulting Michigan Inc. (Stantec) was retained by the city to perform load analysis and determine if the existing roof structure can handle the additional load imposed by the proposed rooftop heaters.

**CONCLUSIONS**

Based on our analysis we have determined that the existing structure can safely handle the additional weight of the proposed unit with the following conditions:

- The weight of the unit is transferred to at least two roof trusses and the total weight is divided in four equal point loads.
- The heating unit must be supported by a well-designed steel platform so that the load is distributed evenly to all four supports.
- Roof Penetrations must be reinforced by structural members such that the existing concrete roof tiles are adequately supported and do not take additional load from the heaters.



September 9, 2016  
Mr. Glenn M. Chinavare, Utilities Department Director  
Page 2 of 3

**Reference: Load Analysis for New Roof Top Unit- WWTP Main Building**

**ANALYSIS**

In order to evaluate the load bearing capacity of the existing system in view of added weight from the proposed heaters, we performed the following tasks:

- Reviewed existing design drawings and determined the existing load transfer scheme
- Reviewed available specifications to determine the composition of the pre-cast planks, roof composition and other architectural elements.
- Calculated dead loads.
- Determined live loads.
- Determined snow loads.
- Determined additional loads imposed by new heaters.
- Distributed loads to purlins, trusses and columns.
- Determined the load capacity of the structure using LRFD method.

The calculations for determining the load capacity are attached herewith.

**RECOMMENDATIONS**

Based on the review of the documents, the existing site conditions and our analysis we make the following recommendations:

- Obtain quotes from reputable contractors to furnish and install two adequately sized roof mounted units. The quote should include the following:
  - ✓ A steel platform to support the unit and distribute weights to at least two trusses,
  - ✓ Roof Penetrations for the duct work and gas supply,
  - ✓ Reinforcement and supports for the concrete tiles affected by roof penetration,
  - ✓ Flashing and other details for water proofing the building, and
  - ✓ Connections to the existing duct work.
- Obtain quotes from reputable contractors to furnish and install two adequately sized heating units in location of the existing units. The quotes should include:
  - ✓ Demolition and disposal of the existing unit,
  - ✓ Connecting new units to the existing duct work,
  - ✓ Supporting new units with the existing beams which bridge two trusses in each location or a new support system if the existing beams do not work with new heater.

Based on the received quotes the city should make a decision as to how to proceed.

We are attaching the following information for your files:



September 9, 2016  
Mr. Glenn M. Chinavare, Utilities Department Director  
Page 3 of 3

**Reference: Load Analysis for New Roof Top Unit- WWTP Main Building**

- Hand calculations to evaluate load carrying capacity,
- Typical reinforcement details around roof penetration,
- Typical detail for mechanical equipment support.

We thank you again for the opportunity to provide you with these services. Please do not hesitate to contact us if you have any questions, or require more information. We stand ready for any other assignments where we can assist the City of Owosso.

Regards,

**STANTEC CONSULTING MICHIGAN INC.**

---

Ish Naik  
Principal  
Phone: (734) 214-2515  
Fax: (734) 761-1200  
ish.naik@stantec.com

Attachement : Professional Services Terms and Conditions

c. R. Brian Simons, Stantec

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Stantec

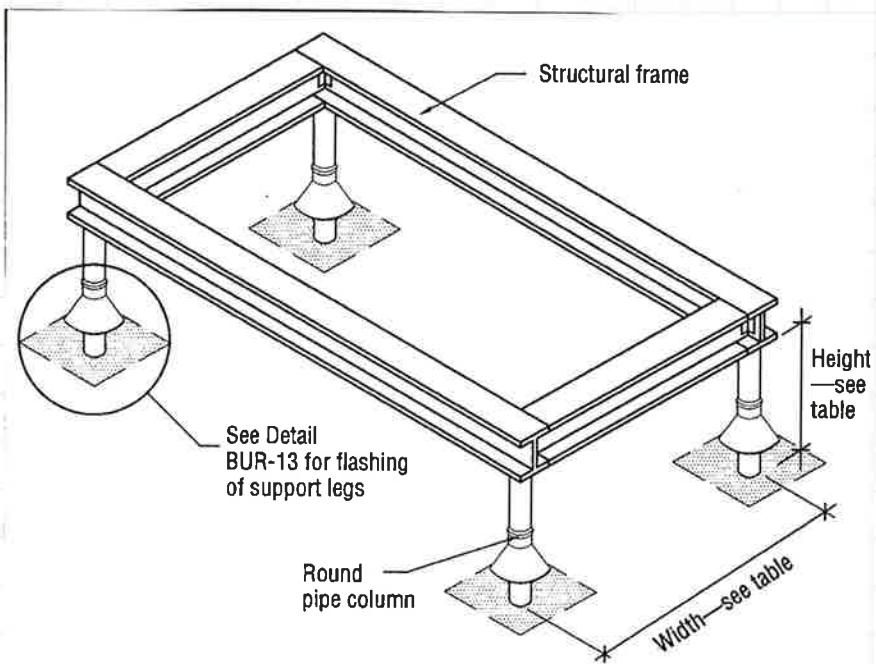
OWASSO WWTP

9/9/16

CONCEPTUAL DESIGN

# 2075138400

ROOF TOP EQUIPMENT SUPPORT

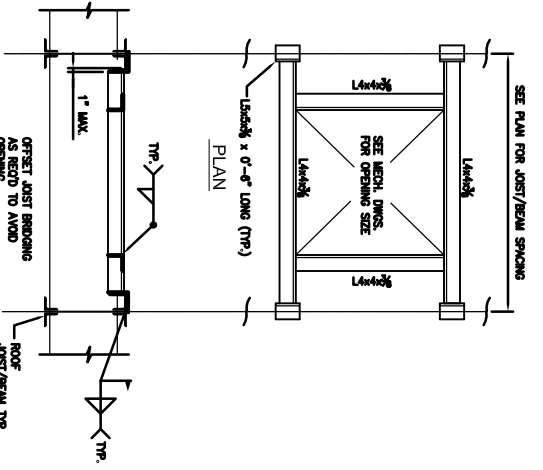


Width of equipment	Height of legs
Up to 24 inches (up to 610 mm)	24 inches (610 mm)
25 to 48 inches (635 mm to 1.2 m)	36 inches (914 mm)
48 inches and wider (1.2 m and wider)	48 inches (1.2 m)

NOTE: TABLE FOR GUIDANCE ONLY

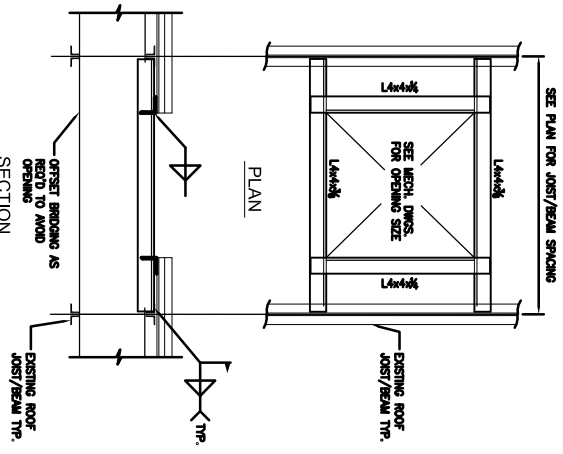
Designed by: *Ishvkar Naik*

Checked by:



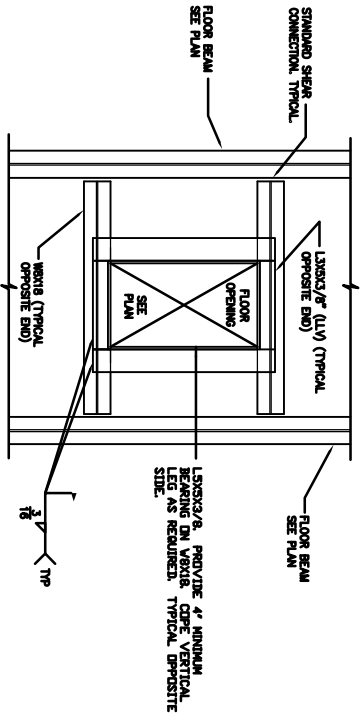
NOTE: THIS DETAIL APPLIES TO ALL ROOF OPENINGS GREATER THAN 12" X 12" IN PLAN DIMENSION. LOCATIONS AND DIMENSIONS TO BE COORDINATED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.

**TYPICAL ROOF OPENING DETAIL**  
SCALE: N.T.S.



NOTE:  
1. COORDINATE OPENING SIZE AND LOCATIONS WITH MECHANICAL DRAWINGS.  
2. INSTALL OPENING FRAME THAT UNDER EXISTING ROOF DECK.  
3. CUT OPENING IN EXISTING ROOF.

**TYPICAL OPENING IN EXISTING ROOF DETAIL**  
SCALE: N.T.S.



NOTE: DETAIL APPLIES AT ALL FLOOR OPENINGS UNLESS OTHERWISE SPECIFIED ON PLANS OR DETAILS.

**TYPICAL FLOOR SLAB OPENING DETAIL**  
SCALE: N.T.S.