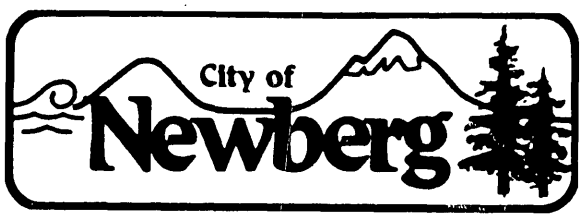
CONTRACT DOCUMENTS
FOR THE CONSTRUCTION OF

CITY OF NEWBERG
CITY RECORDER INDEX NO. 1681

INSTALLATION OF OWNER FURNISHED SLUICE GATES



JULY 1999

For information regarding this project, contact:

Jadene Torrent
UTILITY ENGINEER
VOICE : (503) 554-8881

CITY OF NEWBERG

CONTRACT DOCUMENTS

for the construction of the

INSTALLATION OF OWNER FURNISHED SLUICE GATES

****

CONSISTING OF:

BIDDING REQUIREMENTS

CONTRACT FORMS

STANDARD SPECIFICATIONS

SPECIAL SPECIFICATIONS

DRAWINGS

****

Exp. 6/30/00

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SOUTHWOOD ENGINEERING

Philomath, Oregon
July 1999

CONTENTS

PART 1

BIDDING REQUIREMENTS

City of Newberg
ADVERTISEMENT FOR BID
Installation of Owner Furnished Sluice Gates

Sealed bids for the construction of the **Installation of Owner Furnished Sluice Gates** for the City of Newberg, Oregon will be received until **2:00 p.m.** prevailing time on **Tuesday the 24th day of August, 1999**, addressed to Jadene Torrent, Utility Engineer, Community Development Office, 719 E. First St., Newberg, Oregon, 97132, at which time and place, all bids will be opened and publicly read aloud by the undersigned or a designated representative.

The project generally consists of removal of two existing 4' x 4' sluice gates and installation of two new 4' x 4' Owner furnished sluice gates in the inlet structure of the Influent Pump Station at the City's Wastewater Treatment Plant.

Plans and Specifications may be obtained at the Community Development Office, 719 E. First St., Newberg, Oregon 97132 at no charge for the set of documents. Plans and specifications may also be examined at the same location.

Bidders must be pre-qualified to perform public contracts in conformance with Oregon Law ORS 279.047. Documentation of State approval must be submitted to the Owner with the bid.

Each bid must be submitted on the prescribed form in a sealed envelope, clearly marked on the outside the Bidders name, address, phone number and project name. Each bid must be accompanied by a certified check or bid bond payable to the City of Newberg, Oregon, in an amount of not less than 10 percent of the total amount of the bid submitted. The successful Bidder will be required to furnish a bond for faithful performance of the Contract in the full amount of the contract price.

A mandatory prebid conference will be held on **Friday, the 13th day of August, 1999 at 1:00 pm,** local time, at the Wastewater Treatment Plant, 2301 Wynooski Road, Newberg and a tour of the construction site will follow.

The City of Newberg reserves the right to reject any or all bids, to waive informalities, and to accept the bid which is in the best interest of the City. No Bidder may withdraw their bid for a period of sixty (60) calendar days after the date set for opening.

For information concerning the proposed work, contact Jadene Torrent, Utility Engineer, Community Development Office, City of Newberg, 503/537-1240.

BID

PLACE: **CITY OF NEWBERG, OREGON**

PROJECT: **INSTALLATION OF OWNER FURNISHED SLUICE GATES**

TO: **MAYOR AND CITY COUNCIL**
CITY OF NEWBERG, OREGON
P.O. BOX 970
719 E. FIRST STREET
NEWBERG, OREGON 97132

BIDDERS DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, in compliance with the Advertisement for Bid offers to enter into a Contract with the City of Newberg, Oregon, hereinafter referred to as the Owner, to furnish all labor, materials, equipment, supplies and machinery to construct the project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below.

The Bidder declares that Bidder has carefully examined the plans and specifications with related documents; and has personally inspected the sites of the proposed work; and is satisfied as to the quantities involved including materials and equipment; and is familiar with all of the conditions surrounding the construction of the proposed project including availability of materials and labor.

The Bidder further declares that the Bid is made according to the provisions and under the terms of the Contract Documents, which are hereby made a part of this Bid, and that the prices below are to cover all expenses incurred in performing the work required under the Contract Documents of which this Bid is a part.

The Bidder agrees that if this Bid is accepted, the Bidder will, within fifteen calendar days after notification of acceptance, execute the Contract with the Owner; and will at that time deliver to the Owner the Performance and Payment Bond and insurance documents required herein, and will, to the extent of the Bid, furnish all labor, equipment and materials necessary to complete the work in the manner, in the time, and according to the methods as specified in the Contract Documents and required by the Owner.

The Bidder further agrees to begin work within ten calendar days after receipt of written "Notice to Proceed" from the Owner and to fully complete the project within thirty (30) calendar days thereafter. Bidder further agrees to pay as liquidated damages, the sum of one hundred fifty dollars ($150.00) for each consecutive calendar day thereafter until the work shall have been finished. Sundays and legal holidays shall be excluded in determining days in default.

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following Lump Sum Bid amount. The Bidder agrees that the Lump Sum Bid amount represents a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents. In case of a discrepancy, the amount shown in words shall govern.

The Bidder understands that no proposal will be received or considered unless the bid contains statements by the Bidder as a part of the bid that the provisions required by ORS 279.348 through 279.365 and the Davis-Bacon Act, as may be applicable are to be complied with. Applicable state wage rates are included with the Contract Documents.

The undersigned Bidder hereby agrees that the provisions of ORS 279.348 to 279.365 will be complied with, so that the undersigned Bidder and Bidder's subcontractors will pay to their employees not less than the specified minimum prevailing rate of wage as determined by the Oregon Commissioner of the Bureau of Labor and Industries, and further agrees to pay such wages not less than once per week.

The Bidder understands that, when applicable, all bidding shall comply with Presidents Executive Order No. 11246. All Bidders shall comply with the applicable provisions of the Equal Employment Opportunity Act of 1972 and the Civil Rights Act of 1964.

The Bidder shall pay a fee equal to one-tenth of one percent (0.1 percent) of the price of this Contract. The fee shall be paid on or before the first progress payment or sixty (60) days from the date work first began on the Contract, whichever comes first. The fee is payable to the Bureau of Labor and Industries and shall be mailed or otherwise delivered to the Bureau at: Bureau of Labor and Industries, Wage and Hour Division, Prevailing Wage Unit, 800 NE Oregon Street, #32, Portland, Oregon 97232.

It is agreed that if the Bidder is awarded the Contract for the work herein proposed and shall fail or refuse to execute the Contract and furnish the required Performance- Payment Bond within the time herein proposed, then, in that event, the bid security deposited herewith shall be retained by the Owner as liquidated damages.

The Bidder understands that the Owner may reject any or all bids and waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

The Bidder understands that no bid for construction shall be considered unless the Bidder is registered with the Construction Contractors Board as required by ORS 701.035 to 701.055.

The Bidder understands that Bidders on this project do not need to be licensed to do asbestos abatement work under ORS 468A.720.

The Bidder acknowledges receipt of the following addendum.

NO._____DATE_____ NO._____DATE_____
NO._____DATE_____ NO._____DATE_____

The name of the Bidder submitting this Proposal is
_____ doing business at
_____, _____, _____, _____
Street City State Zip

LUMP SUM BID

The Bidder agrees to accept as full payment for the lump sum work proposed for the construction of the Installation of Owner Furnished Sluice Gates, as defined in these Contract Documents, based upon the undersigned's own estimate of quantities and costs, the following lump sum of:

Item No. 1 – Lump Sum Base Bid for All Work Excluding Additive Item No. 2

_____Dollars

and _____Cents $_____

The Bidder understands that the Owner may reject any or all bids and waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

The Bidder understands that no bid for construction shall be considered unless the Bidder is registered with the Construction Contractors Board as required by ORS 701.035 to 701.055.

The Bidder understands that Bidders on this project do not need to be licensed to do asbestos abatement work under ORS 468A.720.

The Bidder acknowledges receipt of the following addendum.

NO. N/A DATE _____ NO. N/A DATE _____
NO. N/A DATE _____ NO. N/A DATE _____

The name of the Bidder submitting this Proposal is
Total Industrial Inc. doing business at
19521 River Rd, St Paul, OR, 97137
Street City State Zip

LUMP SUM BID

The Bidder agrees to accept as full payment for the lump sum work proposed for the construction of the Installation of Owner Furnished Sluice Gates, as defined in these Contract Documents, based upon the undersigned's own estimate of quantities and costs, the following lump sum of:

Item No. 1 – Lump Sum Base Bid for All Work Excluding Additive Item No. 2

Nine Thousand Nine hundred Eighty-Seven Dollars

and no Cents $ 9987.00

Item No. 2 – Additive Lump Sum Bid for Additional Work to Install Adhesive Anchors and Concrete Sills

Six Thousand Nine Hundred Eighty-Three Dollars

and NO Cents $ 6983.00

TOTAL LUMP SUM BID FOR ITEMS NO. 1 AND NO. 2

Sixteen Thousand Nine hundred Seventy Dollars

and NO Cents $ 16,970.00

RESIDENT/NONRESIDENT BIDDER STATUS

Oregon law requires that the Owner, in determining the lowest responsible Bidder, must add a percent increase on the Bid of a nonresident Bidder equal to the percent, if any, of the preference given to that Bidder in the state in which that Bidder resides. Consequently, each Bidder must indicate whether it is a resident or nonresident Bidder, as defined in ORS 279.029. A resident Bidder is a Bidder that has paid unemployment taxes or income taxes in the state of Oregon during the 12 calendar months immediately preceding submission of this Bid, has a business address in Oregon, and has stated in its Bid whether the Bidder is a "resident Bidder". A "nonresident Bidder" is a Bidder who is not a resident Bidder.

The undersigned states that it is: (check one)

1. A resident Bidder X 2. A nonresident Bidder _____

Indicate state in which Bidder resides: Oregon

Item No. 2 – Additive Lump Sum Bid for Additional Work to Install Adhesive Anchors and Concrete Sills

_____Dollars

and _____Cents $_____

TOTAL LUMP SUM BID FOR ITEMS NO. 1 AND NO. 2

_____Dollars

and _____Cents $_____

RESIDENT/NONRESIDENT BIDDER STATUS

Oregon law requires that the Owner, in determining the lowest responsible Bidder, must add a percent increase on the Bid of a nonresident Bidder equal to the percent, if any, of the preference given to that Bidder in the state in which that Bidder resides. Consequently, each Bidder must indicate whether it is a resident or nonresident Bidder, as defined in ORS 279.029. A resident Bidder is a Bidder that has paid unemployment taxes or income taxes in the state of Oregon during the 12 calendar months immediately preceding submission of this Bid, has a business address in Oregon, and has stated in its Bid whether the Bidder is a "resident Bidder". A "nonresident Bidder" is a Bidder who is not a resident Bidder.

The undersigned states that it is: (check one)

1. A resident Bidder _____ 2. A nonresident Bidder _____

Indicate state in which Bidder resides: _____

BIDDER'S PERFORMANCE BOND STATEMENT

_____, hereinafter referred to as Bidder is submitting
(Name of Bidder)
a Bid to the City of Newberg pursuant to the latter's Advertisement for Bids, dated July, 1999, for the **Installation of Owner Furnished Sluice Gates.**

Bidder certifies that if awarded the Contract, Bidder has the financial ability to obtain a good and sufficient bond issued by a surety to Owner in a sum equal to the amount of the Bid providing for the faithful performance of the Contract.

Bidder understands and agrees that if Bidder fails to provide the performance bond, the Owner will reject such Bid and the Bid Bond or security submitted with the subject Bid will be forfeited. The Surety requested to issue the Performance Bond will be
(Surety Company)
Bidder hereby authorizes _____ to disclose any information to the Owner
(Surety Company)
to the Owner concerning Bidder's ability to supply a performance bond in the amount of the Contract.

In witness thereto the undersigned has set their hand this ___ day of _____, 1999.

BIDDER

The name of the Bidder submitting this Bid is

doing business at _____, _____, _____, _____
(Street) *(City)* *(State)* *(Zip)*
which is the address to which all communications shall be sent.

BIDDER'S PERFORMANCE BOND STATEMENT

Total Industrial Inc, hereinafter referred to as Bidder is submitting
(Name of Bidder)
a Bid to the City of Newberg pursuant to the latter's Advertisement for Bids, dated July, 1999, for the **Installation of Owner Furnished Sluice Gates.**

Bidder certifies that if awarded the Contract, Bidder has the financial ability to obtain a good and sufficient bond issued by a surety to Owner in a sum equal to the amount of the Bid providing for the faithful performance of the Contract.

Bidder understands and agrees that if Bidder fails to provide the performance bond, the Owner will reject such Bid and the Bid Bond or security submitted with the subject Bid will be forfeited. The Surety requested to issue the Performance Bond will be

Bidder hereby authorizes Western Surety Co. *(Surety Company)* to disclose any information to the Owner *(Surety Company)* to the Owner concerning Bidder's ability to supply a performance bond in the amount of the Contract.

In witness thereto the undersigned has set their hand this 24 day of August, 1999.

BIDDER

The name of the Bidder submitting this Bid is Total Industrial Inc

doing business at 19521 River Rd *(Street)*, St Paul *(City)*, OR *(State)*, 97137 *(Zip)*
which is the address to which all communications shall be sent.

BID BOND

BOND NO. 22454040

AMOUNT: $

KNOW ALL MEN BY THESE PRESENTS, that

Total Industrial, Inc

hereinafter called the PRINCIPAL, and Western Surety Company

a corporation duly organized under the laws of the State of Oregon,

having its principal place of business at 19521 River Rd St Paul, Oregon in the State of Oregon and authorized to do business in the State of Oregon, as SURETY, are held and firmly bound unto The City of Newberg

hereinafter called the OBLIGEE, in the sum of Ten Percent of Amount of Bid DOLLARS ($ 1,670 00/100), for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL is herewith submitting his or its Bid Proposal for

Installation of Owner Furnished Sluice Gates.

said Bid Proposal, by reference thereto, being hereby made a part hereof.

(If Sole Proprietor or Partnership)

In witness thereto the undersigned has set his hand this ___ day of _____ 1999.

_____
Signature of Bidder

_____
Print Name

_____
Title

(If Corporation)

In witness whereof the undersigned corporation has caused this instrument to be executed and the seal affixed by its duly authorized officers this 24 day of August 1999.

Total Industrial Inc.
Name of Corporation

By Debbie Schaffeld

Print Name Debbie Schaffeld

President/Secretary
Title

Attest Debbie Schaffeld
Secretary

BID BOND

Bond No. 22454040

KNOW ALL MEN BY THESE PRESENTS,

That we, Total Industrial, Inc

as Principal, and Western Surety Company a corporation

authorized to transact a general surety business in the State of Oregon as Surety, are held and firmly

bound unto The City of Newberg

(hereinafter called the Obligee)

in the full and just sum of Ten Percent of Amount Bid

Dollars ($ 10% of Bid) for the payment where of in lawful money of the United Stated, we bind ourselves, our

heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said PRINCIPAL has submitted the accompanying bid for

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, or in the event of the failure of the Principal to enter such Contract, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect

Signed and Sealed this 19th day of August 19 99

Total Industrial, Inc.

Debbie Schaffeld

Principal

Western Surety Company

Surety

By: Leah J. St. John

Attorney-in-Fact

POWER OF ATTORNEY

(Irrevocable)

BOND No. SP- 22454040

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired. That Western Surety Company, a corporation, does hereby make, constitute and appoint the following

THREE (3) authorized individuals:

AUTHORIZED INDIVIDUALS	AUTHORIZED INDIVIDUALS
JAMES KENNETH GUNDERSON ANGIE THETA THOMAS	LEAH J ST JOHN

in the City of PORTLAND, State of OREGON, with limited authority, its true and lawful Attorney(s) in fact with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, the following described bond:

ONE BID, PERFORMANCE, AND/OR PAYMENT BOND PROVIDING THE BOND PENALTY DOES NOT EXCEED FIVE HUNDRED THOUSAND AND NO/100 DOLLARS (**500,000.00).
****
****
****

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon this Company as if such bond had been executed and acknowledged by the regularly elected officers of this Company.

All authority hereby conferred shall expire and terminate, without notice, unless used before midnight of JULY 31, 2003, but until such time shall be irrevocable and in full force and effect.

WESTERN SURETY COMPANY further certifies that the following is a true and exact copy of Section 7 of the By-Laws of Western Surety Company, duly adopted and now in force, to-wit: "Section 7. All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

The penal amount of the bond herein described may be increased if there is attached to this Power, written authority so authorizing in the form of an endorsement, letter or telegram signed by the Senior Underwriting Officer, Underwriting Officer, President, Vice President, Assistant Vice President, Treasurer, Secretary or Assistant Secretary of Western Surety Company specifically authorizing said increase.

IN WITNESS WHEREOF, Western Surety Company has caused these presents to be executed by its President with its corporate seal affixed this 8th day of April, 1997.

WESTERN SURETY COMPANY

By Stephen T. Pate
President

STATE OF SOUTH DAKOTA }
COUNTY OF MINNEHAHA } ss.

On this 8th day of April, in the year 1997, before me, a Notary Public, personally appeared Stephen T. Pate, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of WESTERN SURETY COMPANY and acknowledged said instrument to be the voluntary act and deed of said corporation.

B. THOMAS
NOTARY PUBLIC
SOUTH DAKOTA
(SEAL) (SEAL)
My Commission Expires 6-2-2003

B. Thomas
Notary Public, South Dakota

I, the undersigned officer of Western Surety Company, a stock corporation of the State of South Dakota, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that Section 7 of the By-Laws of the company as set forth in the Power of Attorney, is now in force.

In testimony whereof, I have hereunto set my hand and the seal of Western Surety Company this* _____ day of _____, _____.

*IMPORTANT: This date must be filled in before it is attached to the bond and it must be the same date as the bond.

WESTERN SURETY COMPANY

By Stephen T. Pate
President

Form 749-4-97

NOTICE: This border must be BLUE. If it is not BLUE, this is not a certified copy. ⟶

NOW, THEREFORE, if the Bid Proposal submitted by the PRINCIPAL is accepted, and the Contract awarded to the PRINCIPAL, and if the PRINCIPAL shall execute the proposed Contract and shall furnish such Performance and Payment Bond as required by the Contract Documents within the time fixed by the Documents, then this obligation shall be void; if the PRINCIPAL shall fail to execute the proposed Contract and furnish the bond, the SURETY hereby agrees to pay to the OBLIGEE the said sum as liquidated damages, within 10 days of such failure.

Signed and sealed this 24 day of August, 1999.

Totni Industrial Inc
PRINCIPAL

By Debbie Schaffner

SURETY

By _____
Attorney-In-Fact

NOW, THEREFORE, if the Bid Proposal submitted by the PRINCIPAL is accepted, and the Contract awarded to the PRINCIPAL, and if the PRINCIPAL shall execute the proposed Contract and shall furnish such Performance and Payment Bond as required by the Contract Documents within the time fixed by the Documents, then this obligation shall be void; if the PRINCIPAL shall fail to execute the proposed Contract and furnish the bond, the SURETY hereby agrees to pay to the OBLIGEE the said sum as liquidated damages, within 10 days of such failure.

Signed and sealed this_____ day of _____, 19 ____.

_____
PRINCIPAL

By _____

_____
SURETY

By _____
Attorney-In-Fact

PREVAILING WAGE RATES

The provisions of ORS 279.334, 187.010 to 187.020 and 279.356 are applicable to work under this CONTRACT. In accordance with ORS 279.352, the prevailing minimum hourly rates of wage as determined by the Bureau of Labor shall be paid to workers in each trade or occupation employed in the performance of the work under this CONTRACT.

A copy of the PREVAILING WAGE RATES is included herein.

Contractors and subcontractors on public works projects with a total price of less than $25,000 are not required to pay employees the prevailing wage rate.

END OF SECTION

PREVAILING WAGE RATES

for

Public Works Contracts in Oregon

BOLI

OREGON BUREAU OF LABOR AND INDUSTRIES

Jack Roberts
Commissioner
Bureau of Labor and Industries

Effective July 1, 1999

JACK ROBERTS
COMMISSIONER

SUITE 1045
800 NE OREGON, # 32
PORTLAND, OREGON 97232

BUREAU OF LABOR AND INDUSTRIES

July 1, 1999

Under Oregon law, the Commissioner of the Bureau of Labor and Industries publishes the state's prevailing wage rates twice annually, in January and July, with quarterly updates in April and October. The rates are determined using a statewide construction industry wage survey of occupations and crafts performing commercial, heavy and highway construction in 14 specific geographic regions of the state. The 1998 survey collected 1.2 million hours of construction employment wage information for over 100 craft occupations, reported by contractors for a peak week of employment between June 21 and August 15, 1998. The 1999 survey will soon be underway.

Prevailing wage rates are the minimum wages that must be paid to all workers employed in the construction, reconstruction, major renovation or painting of all public works, unless specifically exempted by state law. Copies of these rates must be incorporated into all bid specifications when the advertisement for such public works contracts is issued. A provision that prevailing wage rates must be paid must also appear in the contract. The rates in effect at the time the bid specifications are first advertised are those that apply for the duration of the project, with one exception: If, during the bidding process, the prevailing wage rates change, the public contracting agency has the option of amending the bid specifications to reflect such changes.

If you identify any errors in the rates published, please bring them to the attention of the Prevailing Wage Rate Coordinator in Portland (503-731-4074). If you have any questions about the manner in which the prevailing wage rates are enforced, contact the Wage and Hour Division in Portland (503-731-4074), or any of the bureau's field offices.

JACK ROBERTS
Commissioner
Bureau of Labor & Industries

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July 1, 1999

The Appendix section is to be used only for regions/trades specified in pages 15 through 55. Refer to pages 15 through 55 before using rates in the Appendix section.

A list of debarred contractors and all forms necessary to comply with ORS 279.348 through ORS 279.375 may be found in the back of this booklet.

Contractors are encouraged to use and keep on file the forms provided as master copies for use on future prevailing wage rate projects.

THIS INFORMATION IS AVAILABLE IN AN ALTERNATE FORMAT

Pursuant to ORS 279.348 to ORS 279.380, the prevailing wage rates contained in this booklet have been adopted for use on public works contracts in Oregon. Additional copies of this booklet are available for $2.00 each.

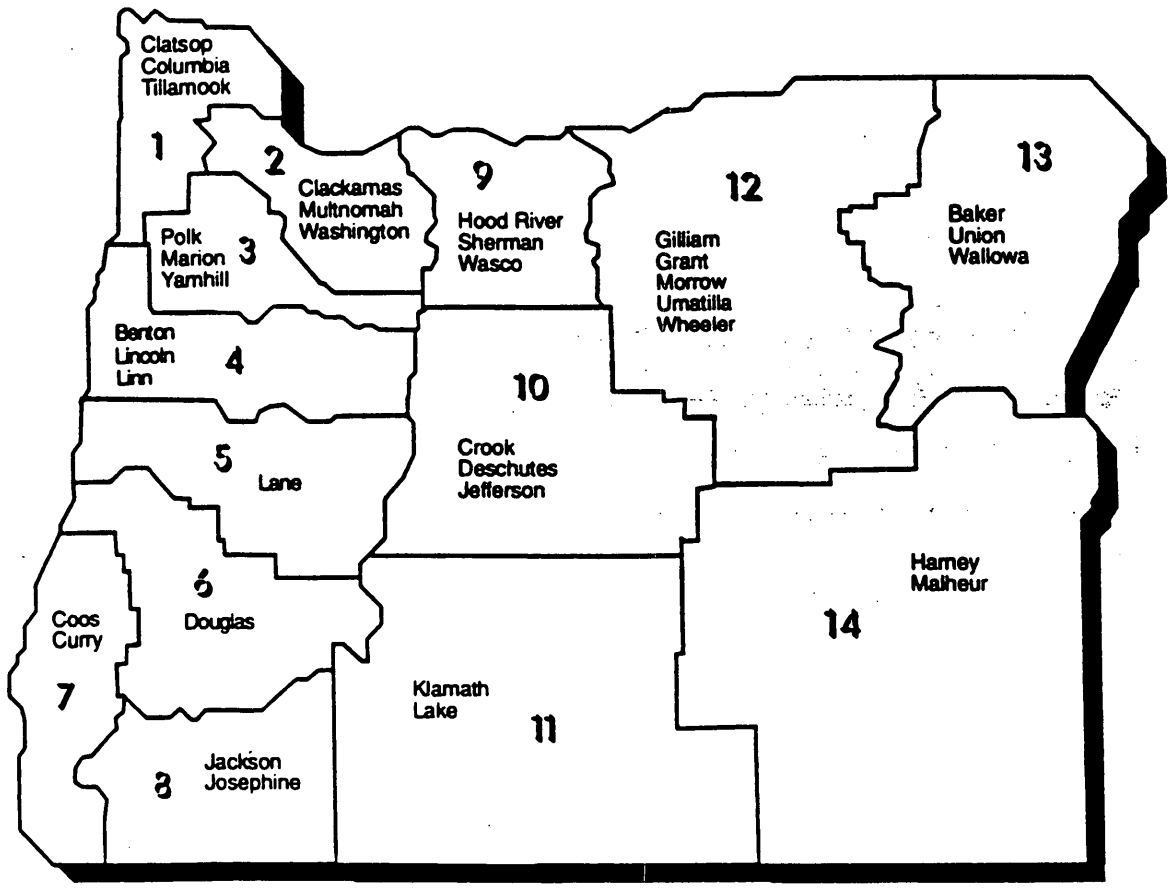
For specific information or questions regarding prevailing wage law, you may obtain a "Prevailing Wage Rate Law" handbook by contacting the nearest Oregon Bureau of Labor and Industries office.

All of the information in this booklet can be accessed and printed from the Internet at:
www.boli.state.or.us

Bureau Offices

Bend	1250 NE 3rd, #B-105, Bend, OR 97232	(541) 388-6330
Eugene	165 E. 7th, Room 220, Eugene, OR 97401	(541) 686-7623
Medford	700 E. Main, Suite 105, Medford, OR 97504	(541) 776-6270
Portland	800 NE Oregon St, # 32, Portland, OR 97232	(503) 731-4074
Salem	3865 Wolverine St. NE, Bldg. E-1, Salem, OR 97305	(503) 378-3292

PREVAILING WAGE RATE REGIONS



DEFINITIONS OF COVERED OCCUPATIONS

1. **Asbestos Workers/Insulators**

Installation of insulation on mechanical systems for thermal and acoustical purposes. Also the installation of fire stop penetrations on electrical and mechanical systems.

Mechanical systems include pipes, boilers, ducts, flues, breaching, grease ducts and acid ducts. This also includes all labor connected with the handling and distribution of materials for these systems.

Hazardous Materials Handler/Mechanic

The removal of all regulated materials from mechanical systems is exclusively the work of Hazardous Materials Handlers, unless the mechanical systems are going to be scrapped. Laborers do all removal of regulated materials on mechanical systems to be scrapped and any non-mechanical (walls, ceiling floors, beams, etc.) insulation. Laborers also do loading of any regulated material after it has been removed, bagged, and tagged, as well as cleanup at the removal site and all work done at the disposal site. Persons performing the removal of contained regulated materials are classified as Laborers (#18).

NOTE: Regulated materials are those materials that are regulated for the purpose of protecting the environment or for personal protection by EPA, OSHA, DEQ, or Federal OSHA.

2. **Boilermakers**

Construct, assemble, maintain and renovate stationary steam boilers and boiler house auxiliaries. Align structures or plate sections to assemble boiler frame tanks or vats, following blueprints. Work involves use of hand and power tools, plumb bobs, levels, wedges, dogs or turnbuckles. Assist in testing assembled vessels. Direct cleaning of boilers and boiler furnaces. Inspect and reconstruct boiler fittings, such as safety valves, regulators, automatic-control mechanisms, water columns, and auxiliary machines.

3. **Bricklayers/Stonemasons**

Bricklayers

Lay building materials, such as brick, structural tile, concrete, cinder, glass, gypsum and terra cotta block (except stone), to construct or renovate walls, partitions, arches, sewers, and other structures. Include Refractory Brickmasons, when working on site of construction.

Stonemasons

Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks and floors.

4. **Carpenters**

Construct, erect, install and renovate structures, fixtures and equipment of wood, plywood and wallboard using carpentry tools and woodworking machines.

Carpenter 1

Auto nailing machine, Form Stripper, Floor Layers, Stationary Power Saw Operator.

Carpenter 2

Cabinet and Shelving Installers, Floor Finishers, Wall & Ceiling Insulators, Irritating insulation.

Drywall/Acoustical Carpenters

Ceiling Tile Installers and Acoustical Carpenters (exclude carpet, wood or hard tile installers); Drywall Installer (apply plasterboard or other wallboard to ceilings and interior walls)

Marine Carpenters

Bridge, Dock and Wharf Builders; Piledrivermen; Boom Men; Marine Piledrivers

5. **Millwrights/Machine Erectors**

Mechanics specializing in installing new heavy machinery.

6. **Cement Masons**

Apply cement, sand, pigment or marble chips to floors, stairways and cabinet fixtures to finish and attain durable and decorative surfaces, according to specifications and drawings. Finish surfaces to remove imperfections from freshly poured concrete walls, roads, walkways and ornamental stone facings of concrete structural products. Include Concrete Rubbers.

Cement Masons, finishing, hand chipping, patching, grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, planks, stakes, lines and grades. Grinding of concrete done as preparatory to patching or when done to produce a finished concrete product.

Composition workers (includes installation of epoxy and other resinous toppings), and power machine operators.

Cement Masons working on suspended, swinging and/or hanging scaffold.

(***NOTE:*** Tenders to Cement Masons are found in Concrete/Cement Laborers. See #18)

7. **Divers & Divers' Tenders**

Diver

An underwater worker supplied with air, usually by a pipeline from the surface, who lays foundations for bridge piers, reconstructs underwater walls, uses underwater cutting and welding tools and the cement gun; also may do underwater carpentry, steel plating and shipwright's work.

Divers' Tenders

Work on the surface to monitor gauges for divers.

8. **Dredging Operations**

Assistant Engineer (including Machinist, Mechanic, Oiler, Watch Engineer, Welder), Assistant Mate ("Deckhand"), Boatman, Fill Equipment Operator, and Leverman. Operate power-driven dredge to mine sand, gravel or other materials from bays, lakes, ponds, rivers or streams, and to excavate and maintain navigable channels in waterways (excludes Floating Construction Equipment - see Power Equipment Operators #23).

9. **Painters & Drywall Tapers**

Painters: Brush, Roller, Machine (Spray and Sandblasting)

Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers and spray guns. May mix colors or oils to obtain desired color or consistency. Also applies wall coverings.

Drywall Tapers

Seals joints between plasterboard and other wallboards to prepare wall surface for painting or papering.

10. **Lathers**

Fasten wooden, metal or rockboard lath to walls, ceilings and partitions of buildings to provide supporting base for plaster, fireproofing or acoustical material.

11. **Electricians**

Install, in new construction or reconstruction, electrical wiring, equipment and fixtures. Insure that work is in accordance with relevant codes. Includes all inside wiring or cable splicing. May read blueprints.

Electrical Material Handler

Handles and maintains order of all electrical material, tools and equipment on job site, delivering materials to licensed electricians. Must not install electrical material or utilize equipment (i.e. switch gear, motor control centers, transformers, motors, light fixtures, etc.). Note: This classification applies exclusively to electrical materials. If worker deploys and handles other types of materials, in addition to electrical materials, or performs general site cleanup see Laborer. **(#18)**

12. **Limited Energy Electrician**

May only be used for electrical work not exceeding 100 va in class II and III installations (as defined in Article 725 of the National Electrical Code). Includes computer cabling.

13. **Line Construction**

Install and reconstruct cable or wires used in electrical power or distribution systems. Install insulators; erect wood poles and light or heavy-duty transmission towers. Includes cable splicers and troubleshooters. Excludes repairers of transformers and substation equipment and telephone and telegraph communications workers.

Cable Splicer, Leadman, Pole Sprayer

Splices and/or terminates power cables which are designed to be used for voltages above 2,000. Splices and/or terminates gas or liquid filled power cables, when part of a distribution system outside of buildings.

Certified Lineman Welder, Heavy Line Equipment Man, Lineman, Pole Sprayer
Tree Trimmer
Head Groundman, Jackhammer Man, Powderman
Line Equipment Man
Groundman

14. **Elevator Construction**

Installers and Mechanics
Assemble, install and renovate electric and hydraulic freight and passenger elevators, escalators and dumbwaiters.

Assistant to Mechanics
Works at direction of elevator mechanic.

15. **Glaziers**

Install glass in windows, skylights, storefronts or on surfaces such as building fronts, interior walls, or ceilings at construction sites.

16. **Highway and Parking Stripers**

Paint highway and parking structural surfaces of streets, highways, parking lots, airports, curbs, etc., using manually or mechanically propelled machines, brushes, rollers, and/or spray guns. Installation of any device or application of any material used in lieu of paint for traffic delineation, such as buttons, tapes, plastics, rumble bars, etc.

17. **Ironworkers**

Structural & Reinforcing Metal Workers

Raise, place and unite girders, columns and other structural steel members including prefabricated or precast concrete beams or structural steel member, to form completed structures and structural frameworks. Perform layout work for rods within project area. Fasten rods in place with wire or fasteners; bend or adjust as required, using cutting, welding or rod bending machine. Perform layout work and proper placing of steel in concrete forms, including prefabricated assembly for placement complete in forms. May spin suspension bridge cables or perform other related ironwork duties.

Fence Erectors

Erect and renovate ***metal*** fences, fence gates and ornamental metal fencing around highways, industrial and commercial establishments, using hand and power tools. (NOTE: Wooden fence erectors are classified as Laborers. (see #18)

18. **Laborers, Material Movers (Hand), Flaggers**

All general laborers and material movers, Flaggers, not classified separately. (**NOTE**: Use Laborer classifications for moving materials and incidental assistance. Use Tender classifications when the primary duty is to assist a particular occupational class. See #30 and #31 for Tender classifications.)

Group 1 Laborer

Asphalt Spreaders
Batch Weighman
Broomers
Brush Burners/Cutters
Carpenter Tender
Car and Truck Loaders
Change-House Man
Chipper Operator
Choke Setter
Clean-Up Laborers
Concrete Curing
Demolition Wrecking, Industrial
Driller Assistant
Dry-Shack Man
Road Oiling Crew Dumpers
Dumpmen for Grading Crew
Elevator Feeders
Fine Graders
Fire Watch
Form Strippers
Material Yard Man
Powderman Assistant
Railroad Track Laborers
Ribbon Setters
Rip Rap Man (hand placed)
Road Pump Tender and Moving
Sewer Laborer
Signalman
Skipman
Slopers
Spraymen
Stake Chaser
Stockpiler
Tie Back Shoring
Timber Faller/Bucker (hand labor)
Toolroom Man (job site)
Weight Man-Crusher
Wood Fence Builder
NOTE: Landscape Laborer – see #19

Group 2 Laborer

Applicators
Brush Cutters
Burners
Cement/Concrete Laborers (hand)
Choker Splicer
Clary Power Spreader
Clean Up Nozzleman- Green Cutter
Concrete Power Buggyman
Crusher Feeder
Demolition/Wrecking
Doping and Wrapping Pipe
Gunite Nozzleman Tender
Gunite or Sandblasting Pot Tender
Handlers/Mixers
Post Hole Digger (air, gas or electric
Power Tool Operators
Sandblasting (wet)
Stake Setter
Tampers
Vibrating Screed

Laborers (Continued)

Group 3 Laborer

Scrapped and Contained Asbestos Removal
Bit Grinder
Concrete Saw Operator
Drill Doctor
Drill Operators
Gunite Nozzleman
Laser Beam
Manhole Builder
Nippers and Timbermen
Nuclear Plant Worker (lead shield)
Power Saw Operators
Sandblasting (dry)
Sewer Timberman
Strippers
Track Liners
Tugger Operator
Vibrators
Water Blaster
Welder

Group 4 Laborer

Asphalt Rakers
Concrete Nozzleman
Grade Checker
High Scalers
Laser Beam (tunnel), applicable when employee assigned to move, set up, align laser beam.
Motorman - Dinky Locomotive
Loop Installation
Pipe Layer
Powder Men
Pumpcrete Nozzleman
Shield Operator
Tunnel Miners
Tunnel Powderman
Tunnel Bull Gang (above ground)
Tunnel Muckers
Brakemen/Concrete Crew Bull Gang (underground)
Tunnel – Chuck Tenders

Cleanup Laborers (building only), demolition, wrecking & moving

Flagger (certified)

A Laborer who controls vehicular traffic by means of brightly colored flags and/or signs.

19. **Landscape Construction**

Beautification of a plot of land by changing its natural features through the addition or modification of lawns, trees and bushes.

Landscape Laborer/Technician

Performs seeding, planting, mulching, land clearing and top soil spreading by the use of hand tools. With hand tools and power equipment less than 90 horsepower: Clear land, trench to maximum depth of three feet below finish grade, hydroseed, apply chemicals and fertilizers; till, spread and grade topsoil; Establish lawns and plant trees, shrubs and plants; Install, service or replace above ground and underground lawn or landscape irrigation systems; Install French drains or other subsurface water collection systems to a maximum depth of three feet below finish grade. Install, service or repair low voltage outdoor landscape lighting and irrigation valves; Assemble or place pre-manufactured and custom fabrication trellis work, play equipment, benches and picnic tables.

20. **Marble Setter**

Cuts, tools and sets marble slabs in floors and walls of buildings and renovates and polishes slab previously set in buildings. Trims, faces and cuts marble to specified size using power sawing, cutting and facing equipment and hand tools. Drills holes in slab and attaches bracket. Spreads mortar on bottom of slab and on sides of adjacent slabs. Sets block in position, tamps it into place, and anchors bracket attachment with wire. Fills joints with grout. Removes excess grout from marble with sponge. Cleans and bevels cracks or chips on slabs, using hand tools and power tools. Heats cracked or chipped area with blowtorch and fills defect with composition mastic that matches grain of marble. Polishes marble and other ornamental stone to high luster, using power tools or by hand.

21. **Plasterers and Stucco Masons**

Apply coats of plaster onto interior or exterior walls, ceilings, or partitions or buildings to produce finished surface according to blueprints, architect's drawings or oral instructions.

Nozzleman
Swinging Scaffold
All Other Work

22. **Plumbers and Steamfitters/Pipefitters**

Assemble, install, alter, and replace pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air or other liquids or gases. Fabricates on site and installs piping and tubing systems, which are to conduct water, steam, air, and other fluids or gases in and around buildings. Also installs vacuum piping systems. Installs drainage and sewage lines (laterals) from buildings to the point of attachment to mains. Installs plumbing fixtures such as sinks, faucets, drinking fountains, commodes, etc. Installs refrigeration equipment. Performs cutting, welding and burning which is incidental to the work of plumbing or pipefitting, except as is described under lead burner. May do other work in connection with the installation and testing of heating and cooling apparatus and control devices. **(Note: See also #29 – Sprinkler Fitters.)**

23. **Power Equipment Operators (equipment used on construction site)**

Asphalt Paving Equipment: Asphalt Paver Operator, Asphalt Plant Operator, Roller Operator, Screed Operator (any asphalt mix)
Operate equipment used for applying asphalt or other material compositions to roadbeds, airport runways, taxiways and street paving. Includes asphalt paving machine operators, asphalt plant operators, screed operators and roller operator (any asphalt mix, breakdown or finish). Excludes any residential work.

Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator
Operate equipment used for the removal of excess surface material (concrete, asphalt) during paving, texturing or other work on road surfaces (either concrete or asphalt). Includes removal and recycling of asphalt road surface material.

Power Equipment Operators (Continued)

Auxiliary Equipment: Compressors, Generators, Pumps
Control, maintain or operate various auxiliary equipment, such as compressors, condensers, electricity generators, feedwater heaters, filters and pumps that transfer or supply water, fuel, lubricants, gasses, air, liquids, slurries and auxiliary power for turbines, generators, boilers, power equipment at the construction site. Other auxiliary equipment not otherwise classified (tool grinders, conveyor tender).

Blade: Blade/Grader Operator
Operator Blade/Grader machine or vehicle equipped with blades to remove, distribute, grade and level earth, aggregate or other material to a specific grade, slope or elevation.

Bulldozers, Rubber-Tired Scrapers, Material Haulers: Bulldozer Operator, Rubber-Tired Scraper Operator and Material Haulers (including "Cat Wagons", DJB's, Volvos and other similar models)
Operate machines or off road vehicles that push, remove, pick up, distribute or haul rock, earth debris and other material on construction sites.

Compactors/Roller Operator: (not asphalt)
Operate Compactor, Roller or similar equipment used for compacting crushed rock, dirt or other fill material on construction site. (includes airport runways, taxiways and roadbeds.)

Concrete: Batch Plant and or Wet Mix Operator, Concrete Finishing Machine, Brooming, Tining or Wire Mat Machine Operator, Concrete Spreader/Placer Operator, Pump Operators (concrete or grout), Concrete Slip Form Paving Machine (for installing curbs/gutters, guardrails and/or street paving), Concrete Curing Equipment, Concrete Saw.
Operate equipment used for: applying, curing, finishing, mixing, pumping, sawing or spreading of concrete; installing concrete curbs/gutters, sidewalks or guardrails; and concrete street or highway paving.

Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men
Operate boom and cable equipment to lift and move materials, machines or other items in a variety of directions on a construction site. Operations, remote or otherwise such as hoisting, piledriver, clamshell, dragline, skip box or bucket to place material.

Crushing: Crusher Plant Operator or Oiler
Operation of machinery used to crush rock or recycled materials into aggregates for use in asphalt, concrete, base and fill materials for use in highways, streets, airports and construction sites.

Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling, (excludes exploratory drilling for water, minerals, oil & gas)
Operate equipment used to drill or bore for any construction purpose, including preparation for the installation of foundations, pipe, utilities and soil stabilization.

Floating Construction Equipment: Floating Crane (or "Derrick Barge"), Clamshell or Pile Driver used in conjunction with a construction project, Underwater Equipment Operator (excluding Dredging Operations, which is a separate classification. **See #8).**

Power Equipment Operators (Continued)

Fork Lifts: Industrial Lift Truck Operator and Material Handler
Operate industrial lift trucks or loaders equipped with forks used to unload, load, place, stack and distribute materials on a construction site.

Front End Loaders, Hydraulic Hoes, Excavators
Operate machinery equipped with scoops, shovels or buckets to excavate, load or move dirt, aggregate and other materials.

Guardrail Equipment: Guardrail Punch Operator (all types), Guardrail Punch Oiler, Combination Guardrail Machines (Punch, Auger, etc.)
Operation of any power equipment used to install guardrails.

Repairmen, Heavy Duty (Mechanics, Welders) and Oilers
Duties include repairing heavy equipment at the construction site (such as cranes, bulldozers, loaders, excavators, etc.). This classification includes any mobile heavy equipment mechanics employed by the contractor who is filling out the survey form. This also includes maintenance workers who change parts, lubricate machinery, and perform other routine maintenance functions at the construction site.

Sweepers
Broom Operator, self-propelled; Sweeper Operator (Wayne type) self-propelled.

24. **Riggers**
Classify riggers in the craft performing the work for which rigging is incidental. For example, a carpenter doing rigging is classified as a carpenter; an ironworker doing rigging is classified as an ironworker.

25. **Roofers**

Roofers, general roofing materials and irritable bituminous materials

Cover roofs of commercial structures with slate, asphalt, wood and related materials using brushes, knives, punches, hammers and other tools. May spray roofs, sidings and walls with material to bind, seal, insulate or soundproof sections of structures.

26. **Sheet Metal Workers and Sheet Metal Duct Installers**

On a construction site, fabricate, assemble, install and replace sheet metal products and equipment, such as control boxes, drainpipes and furnace casings. Work may involve any of the following: set up and operate fabricating machines to cut, bend and straighten sheet metal; shape metal over anvils, blocks or forms using hammer; operate soldering and welding equipment to join sheet metal parts; inspect; assemble and smooth seams and joints of burred surfaces. Install prefabricated sheet metal ducts used for heating, air conditioning or other purposes in commercial buildings and similar structures.

27. **Sign Erectors**

Erects preassembled illuminated sign on buildings or other structures, according to sketches, drawings, or blueprints; measures location for sign and marks points where holes for expansion shields are to be drilled, using measuring tape and chalk. Drills holes, using star drill. Drives expansion shield into hole with hammer, and secures lag bolts in shield, using wrench. Attaches hanging pole for sign to building front with lag bolts, and secures pole with guy wires attached from pole to lag bolts. Secures cornice hook on roof, rigs block and tackle, and hoists sign into positions. Or operates hydraulic boom to position sign. Secures sign to hanging pole with hooks. Makes electrical connections to power source and test sign for correct operation. May pre-wire sign before installing. May use welding equipment when installing sign. May mount plastic signs with adhesives.

Erects, assembles and renovates roadside signs and billboards at designated locations, using hand tools and power tools. Digs hole with posthole digger or shovel. Places wood or metal post in hole, backfills excavated areas for sign supports, and compacts material to hold support in position. Operates air hammer to drive channel-metal post into ground. Bolts, screws or nails plywood or metal sign panels to sign post or frame, using hand tools. Replaces worn and damaged signs. Repaints rusted signs. Excavates, forms and pours concrete footers for metal sign supports. May erect metal sign support structure over highways. May operate banding machine to band signs on utility poles.

28. **Soft Floor Layers**

Floor Covering Layers (soft tile, linoleum and carpet)
Apply blocks, strips or sheets of shock-absorbing, sound-deadening or decorative coverings to floors and cabinets. Includes laying soft tile and linoleum. Lay carpets or rugs in buildings.

29. **Sprinkler Fitters**

Installs all piping and auxiliary devices, which are necessary for the complete installation of sprinkling systems for fire protection in buildings. Excludes systems operated with steam. **(Note: See also #22 – Plumbers and Steamfitters/Pipefitters.)**

30. **Tenders to Mason Trades: Brick and Stonemasons, Mortar Mixers, Hod Carriers**

Directly assist brickmasons and stonemasons by performing duties of lesser skill. Duties include mixing, supplying and holding materials or tools, and cleaning work area and equipment. Performed on block walls and may include scaffolding work.

Note: Excludes cement and concrete flat work and cement pumping which is performed by concrete/cement laborers. (See #18 for Laborer classifications.)

31. **Tenders to Plasterers: Assistants to Plasterers and Stucco Masons**

Assist plasterers or stucco masons by performing duties of lesser skill. Duties include supplying or holding materials or tools and cleaning work area and equipment. Exclude construction or maintenance laborers who do not primarily assists plasterers or stucco masons.

32. **Tile Setter/Terrazzo Worker: Hard Tile Setters**
Apply tile to walls, floors, ceilings and promenade roof decks following design specifications. Applies glazed, unglazed, mosaic and other ceramic tiles, which are used as a surface on floors, walls, ceilings and other surfaces and which must be set to a specified grade. Applies and floats all settings beds into which these tiles are set. Levels and plumbs these tiles to the specified grade.

Note: Tenders for tile setters and terrazzo workers are classified in Tile, Terrazzo and Marble Finishers (#33)

33. **Tile, Terrazzo and Marble Finishers**

Supplies and mixes construction materials for Marble setter, Terrazzo Worker and Tile Setter. Applies grout and finishes surface of installed marble, terrazzo and tile. Mixes mortar and grout, moves mortar and grout manually or using wheelbarrow. Cleans installed marble, terrazzo and tile surfaces, work and storage areas. May renovate and fill chipped, cracked or broken pieces. May assist Marble Setter, Terrazzo Worker, and Tile Setter. Grinds and polishes surfaces.

34. **Truck Drivers, Heavy or Tractor-Trailer**

Drive a tractor-trailer combination or a truck with a capacity of at least 3 tons, to transport goods or materials.

Group 1

A-frame or Hydra-Lift Truck w/load bearing surface
Battery Rebuilder
Bus or Man-Haul Driver
Concrete Buggies (power operated)
Driver
Dump Trucks, side, end and bottom dumps up to and including 10 cu. yards, including semi-trucks and trains or combinations thereof
Fork Lifts used in loading, unloading and transporting material on job site.
Fuel Truck Driver
Lift Jitneys
Loader and/or Leverman on concrete dry batch plant manually operated
Lubrication Man
Pilot Car
Slurry Truck Driver or Leverman
Solo Flat Bed and miscellaneous body trucks
Steam Cleaner or combination
Tireman
Transit Mix & wet or dry mix trucks, 5 cu. yds. and under
Truck and Truck Mechanic Assistant
Wash Rack
Water Wagon up to 3,000 gallons

Group 2

Dumpsters or similar equipment
Flaherty Spreader Driver or Leverman
Low Bed Equipment, Flat Bed Semi-Truck & Trailer or doubles transporting equipment or wet or dry materials
Lumber Carrier, Driver-Straddle Carrier used in loading, unloading and transportation of material on job site
Oil Distributor Driver or Leverman
Transit Mix and Wet or Dry Mix Trucks, over 5 cu. yds. and including 7 cu. yds.
Water Wagons, 3,000 to 5,000 gallons

Truck Drivers, Heavy or Tractor-Trailer (Continued)

Group 3

Body Repairman
Dump Trucks, side, end and bottom dumps over 10 cu. yds. and including 30 cu. yds., including semi-trucks and trains or combinations thereof.
Transit Mix and wet or dry Mix Trucks over 7 cu. yds. and inc. 11 cu. yds.
Truck Mechanic – Welder – Body Repairman
Water Wagons, 5,000 to 10,000 gallons

Group 4

Dump Trucks, side, end and bottom dumps over 30 cu. yds. and including 50 cu. yds., including semi- trucks and trains or combinations thereof.
Transit Mix and wet or dry Mix Trucks, over 11 cu. yds. and including 15 cu. yds.
Water Wagons, 10,000 to 15,000 gallons

Group 5

Dump Trucks, side, end and bottom dumps over 50 cu. yds. and including 60 cu. yds., including semi-trucks and trains or combinations thereof.

Group 6

Dump Trucks, side, end and bottom dumps over 60 cu. yds. and including 80 cu. yds., including semi- trucks and trains or combinations thereof.

Group 7

Dump Trucks, side, end and bottom dumps over 80 cu. yds. and including 100 cu. yds., including semi-trucks and trains or combinations thereof.

35. **Welders**

Classify welders in the craft performing the work for which welding is incidental. For example, a carpenter doing hand welding is classified as a carpenter; an ironworker doing welding is classified as an ironworker.

PREVAILING WAGE RATES

OCCUPATIONS
BY
REGIONS

REGION #3
Polk, Marion and Yamhill Counties

OCCUPATION	PREVAILING WAGE RATE	FRINGE RATE
Asbestos Workers/Insulators	See Appendix	See Appendix
Boilermakers	See Appendix	See Appendix
Bricklayers/Stonemasons	$22.75	$6.42
Carpenters	See Appendix	See Appendix
Cement Masons	See Appendix	See Appendix
Diver / Divers' Tender	See Appendix	See Appendix
Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman)	See Appendix	See Appendix
Drywall (Acoustical & Drywall Applicator)	See Appendix	See Appendix
Drywall Taper/Lather	$18.77	$5.92
Electrician	See Appendix	See Appendix
Elevator Constructors, Installers and Mechanics	See Appendix	See Appendix
Fence Constructor (not metal) (Laborers)	$16.23	$5.36
Fence Erector (metal) (Ironworkers)	$13.89	$2.71
Floor Covering Layers (Soft Floor Layers)	See Appendix	See Appendix
Glaziers	See Appendix	See Appendix
Hazardous Materials Handler/Mechanic (Asbestos Workers)	See Appendix	See Appendix
Highway and Parking Stripers	See Appendix	See Appendix
Ironworkers (Structural & Reinforcing Metal Workers)	See Appendix	See Appendix
Laborers and Material Movers (Hand); Flaggers	$16.23	$5.36
Landscape Laborer/Technician	$12.32	$1.84
Limited Energy Electrician	See Appendix	See Appendix
Line Construction (Excludes Tree Trimmers)	See Appendix	See Appendix
Marble Setters	See Appendix	See Appendix
Millwrights; Machine Erectors; Machinists; Millwright/Welders (Carpenters)	$15.46	$3.28
Painter: Brush, Roller, Machine (spray and sandblasting)	$14.93	$3.04
Plasterers and Stucco Masons, (Swinging Scaffold, Nozzlemen and All Other Work) (Plasterers)	See Appendix	See Appendix
Plumbers and Steamfitters/Pipefitters (Plumbers)	See Appendix	See Appendix
Power Equipment Operators		
Asphalt Paving Equipment: Asphalt Paver Operator, Asphalt Plant Operator, Roller Operator, Screed Operator (any asphalt mix)	See Appendix	See Appendix
Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator	See Appendix	See Appendix
Auxiliary Equipment: Compressors, Generators, Pumps	$20.05	$5.11
Blade: Blade/Grader Operator	$20.83	$6.09
Bulldozers, Rubber-Tired Scrapers, Material Haulers: Bulldozer Operator, Rubber-Tired Scraper Operator, and Material Haulers (including "Cat wagons", DJB's, Volvos and other similar models)	$20.15	$4.83

REGION #3
Polk, Marion and Yamhill Counties

OCCUPATION	PREVAILING WAGE RATE	FRINGE RATE
Power Equipment Operators (Continued)		
Compactors/Roller Operator: (not asphalt)	$16.81	$5.55
Concrete: Batch Plant and or Wet Mix Operator, Concrete Finishing Machine, Brooming, Tining or Wire Mat Machine Operator, Concrete Spreader/Placer Operator, Pump Operators (concrete or grout), Concrete Slip Form Paving Machine (for installing curbs/gutters, guardrails, and/or street paving), Concrete Curing Equipment, Concrete Saw	See Appendix	See Appendix
Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men	See Appendix	See Appendix
Crushing: Crusher Plant Operator or Oiler	$16.92	$4.18
Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling, (Exclude exploratory drilling for water, minerals, oil & gas)	$15.02	$2.96
Floating Construction Equipment: Floating Crane (or "Derrick Barge"), Clamshell or Pile Driver used in conjunction with a construction project, Underwater Equipment Operator. (Excluding Dredging Operations, which is a separate classification - see "Dredging")	See Appendix	See Appendix
Fork Lifts: Industrial Lift Truck Operator and Material Handler	See Appendix	See Appendix
Front End Loaders, Hydraulic Hoes, Excavators	$19.69	$4.42
Guardrail Equipment: Guardrail Punch Operator (all types), Guardrail Punch Oiler, Combination Guardrail Machines, Punch, Auger, etc)	See Appendix	See Appendix
Repairmen, Heavy Duty (Mechanics, Welders) & Oilers	$17.41	$4.80
Sweepers	$17.24	$4.70
Riggers	**Receive rate for craft performing operation to which rigging is incidental.**	**Receive rate for craft performing operation to which rigging is incidental.**
Roofers: General Roofing Materials; Irritable Bituminous Materials	See Appendix	See Appendix
Sheet Metal Duct Installers; Sheet Metal Workers	$16.10	$5.86
Sign Erectors	$16.55	$1.52
Sprinkler Fitters	See Appendix	See Appendix
Telephone and Data Cabling (Limited Energy Electricians)	See Appendix	See Appendix
Tenders to Mason Trades: Brick and Stonemasons	See Appendix	See Appendix
Tenders to Plasterers and Stucco Masons	See Appendix	See Appendix
Tile, Terrazzo, Brick and Marble Finisher	See Appendix	See Appendix
Tile Setter/Terrazzo Worker: Hard Tile Setter	$20.17	$4.24
Tree Trimmers (Line Constructors)	See Appendix	See Appendix
Truck Drivers, Heavy or Tractor-Trailer	$15.95	$3.92
Welders (Incidental).	**Receive rate for craft performing operation to which welding is incidental.**	**Receive rate for craft performing operation to which welding is incidental.**

APPENDIX

JULY 1, 1999

THE APPENDIX SECTION IS TO BE USED ONLY FOR REGIONS/TRADES SPECIFIED IN PAGES 15 THROUGH 55. REFER TO PAGES 15 THROUGH 55 BEFORE USING RATES IN THIS SECTION

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

ASBESTOS WORKERS

Installation of insulation on mechanical systems for Thermal and Acoustical purposes, also the installation of fire stop penetrations on electrical and mechanical systems.

Journeyman Asbestos Worker	**26.79**	**7.31**

Removal of regulated material on mechanical systems * which are not going to be scrapped. **

Hazardous Materials Handler Mechanic	13.75	3.50

*Mechanical systems include pipes, boilers, ducts, flues, breaching, grease ducts and acid ducts. This also includes all labor connected with the handling and distribution of materials for these systems.

**The removal of all regulated materials from mechanical systems is exclusively the work of Hazardous Materials Handlers, unless the mechanical systems are going to be scrapped. Laborers do all removal of regulated materials on mechanical systems to be scrapped and any non-mechanical (walls, ceilings, floors, beams etc.) insulation. They also do loading of any regulated materials after it has been removed, bagged and tagged, as well as cleanup at the removal site and all work done at the disposal site. Persons performing the removal of regulated materials are classified as Group 3 Laborers.

NOTE: Regulated materials are those materials that are regulated for the purpose of protecting the environment or for personal protection by EPA, OSHA, DEQ or Federal OSHA.

BOILERMAKERS	24.07	9.56
Pressure Welder	**25.57**	9.56

BRICKLAYERS/STONEMASONS

(This trade is tended by "Tenders to Masons")

Area 1	**24.94**	**8.03**
(Add $.75 per hour to Fringe for Refractory repair work.)		
Area 2	22.95	7.20
(Add $.75 per hour to Fringe for Refractory repair work.)		

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

BRICKLAYERS/STONEMASONS (Continued)

Area 1

Baker	Lincoln (a)	Sherman
Benton (a)	Linn (a)	Tillamook
Clackamas	Malheur (a)	Umatilla
Clatsop	Marion	Union
Columbia	Morrow	Wallowa
Gilliam	Multnomah	Wasco (a)
Hood River	Polk	Washington
		Yamhill

Area 2

Benton (b)	Grant	Lake
Crook	Harney	Lane
Coos	Jackson	Lincoln (b)
Curry	Jefferson	Linn (b)
Deschutes	Josephine	Malheur (b)
Douglas	Klamath	Wasco (b)
		Wheeler

a) North half
b) South half

CARPENTERS

Zone 1 (Base Rate)

Group 1	**23.94**	**7.92**
Group 2	**24.09**	**7.92**
Group 3	**24.44**	**7.92**
Group 4	**24.59**	**7.92**
Group 5	**24.44**	**7.92**
Group 6	**24.59**	**7.92**
Group 7	**24.94**	**7.92**

Zone Differential for Carpenters
(Add to Zone 1 Rate)

Zone 2	.85
Zone 3	1.25
Zone 4	1.70
Zone 5	2.00
Zone 6	3.00
Zone 7	5.00

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

CARPENTERS (Continued)

Zone 1: Projects within 30 miles of City Hall in the Cities listed below.
Zone 2: More than 30 miles but less than 40 miles.
Zone 3: More than 40 miles but less than 50 miles.
Zone 4: More than 50 miles but less than 60 miles.
Zone 5: More than 60 miles but less than 70 miles.
Zone 6: More than 70 miles but less than 100 miles.
Zone 7: More than 100 miles from the city hall of the employee's home local.

Reference Cities for Group 1 and 2 Carpenters

Albany	Eugene	Longview	Portland
Astoria	Goldendale	Madras	Port Orford
Baker	Grants Pass	Medford	Reedsport
Bend	Hermiston	McMinnville	Roseburg
Brookings	Hood River	Newport	Salem
Burns	Klamath Falls	Oregon City	The Dalles
Coos Bay	LaGrande	Ontario	Tillamook
Corvallis	Lakeview	Pendleton	Vancouver

Zones for Groups 3 and 4 Carpenters are determined by the distance between the project site and **either**
1) the worker's residence; *or*
2) City Hall of a reference city
for the appropriate group shown, whichever is closer.

Reference Cities for Group 3 and 4 Carpenters

Eugene	Medford	Portland	Vancouver
Longview	North bend	The Dalles	

Zones for Groups 5, 6 and 7 Carpenters are determined as follows:

1. For those workers who reside within zone 1 of a reference city below, their zone pay differential shall be computed based upon the distance from the City Hall of that city to the project site.

2. For those workers who reside nearer to the project than is the City Hall of any reference city below, the mileage from their residence to the project may be used in computing their zone pay differential.

3. The zone pay differential for all other projects shall be computed from the City Hall of Longview, North Bend, or Portland, whichever is closer to the project.

CARPENTERS (Continued)

Reference Cities for Groups 5, 6 and 7

Astoria	Klamath Falls	Newport	Roseburg
Bend	Longview	North Bend	Salem
Eugene	Medford	Portland	The Dalles

Group 1

Auto. Nailing Machine
Carpenters
Form Stripper
Manhole Builders
Non-irritating Insulation
Cabinet & Shelving Installers (wood or steel)

Group 2

Floor Layers & Finishers
Stationary Power Saw Operators
Wall & Ceiling Insulators
Irritating Insulation

Group 3

Millwrights
Machine Erectors
Machinists

Group 4

Millwright/Welders
(Certified Welders receive $0.25/hour over Group 3)

Group 5

Bridge, Dock & Wharf Builders
Piledrivermen

Group 6

Boom Men

Group 7

Marine Piledriver

CEMENT MASONS
(This trade is tended by "Concrete Laborers")

Zone 1 (Base Rate)

Group 1	22.81	**8.15**
Group 2	23.22	**8.15**
Group 3	23.22	**8.15**
Group 4	23.64	**8.15**

Group 1 Cement Masons, finishing, hand chipping, patching, grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, planks, stakes, lines and grades. Grinding of concrete done as preparatory to patching or when done to produce a finished concrete product.

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

CEMENT MASONS (Continued)

Group 2 Composition Workers (includes installation of epoxy and other resinous toppings), and Power Machine Operators.

Group 3 Cement Masons working on suspended, swinging and/or hanging scaffold.

Group 4 Cement Masons performing work of both Group 2 and Group 3 at the same time.

Zone Differential for Cement Masons
(Add to Zone 1 Rate)

Zone 2	.65
Zone 3	1.15
Zone 4	1.70
Zone 5	2.75

Zone 1 – Projects within 30 miles of City Hall in the cities listed below.
Zone 2 – More than 30 miles but less than 40 miles.
Zone 3 – More than 40 miles but less than 50 miles.
Zone 4 – More than 50 miles but less than 80 miles.
Zone 5 – More than 80 miles.

Reference Cities

Bend	Eugene	Medford	Salem
Corvallis	Longview	Portland	The Dalles
			Vancouver

DIVERS & DIVERS' TENDERS

Divers	**56.65**	**7.92**
Divers' Tenders	**26.32**	**7.92**

Depth Pay and Enclosure Pay are added to the Divers' Basic Hourly Rate to obtain the Total Hourly Rate for the Diver.

Basic Hourly Rate	+	Hourly Depth Pay	+	Hourly Enclosure Pay	=	Divers' Total Hourly Pay

DIVERS & DIVERS' TENDERS (Continued)

Divers' Depth Pay

Depth of Dive	Hourly Depth Pay
50 – 100 ft	([Total ft- 50] X $1.00)/hr.
100 – 150 ft $ 50 +	([Total ft-100] X $1.50)/hr.
150 – 200 ft $125 +	([Total ft-150] X $2.00)/hr.

Divers' Enclosure Pay (working without vertical escape)

Distance Traveled In the Enclosure	Hourly Enclosure Pay
5 - 50 ft.	$ .50/hr.
50 – 100 ft.	$ .63/hr.
100 – 150 ft.	$ 2.13/hr.
150 – 200 ft.	$ 4.63/hr.
200 – 300 ft.	$ 4.63 + ([total ft-200] X $.05/hr.
300 - 450 ft.	$ 9.63 + ([total ft-300] X $.10/hr.
450 – 600 ft.	$24.63 + ([total ft-450] X $.20)/hr.

DREDGERS

Zone 1 (Base Rate)

Leverman (Hydraulic, Dipper, Floating Clamshell)	**29.70**	**7.50**
Asst. Engineer (including Watch Engineer, Welder, Mechanic, Machinist)	**27.72**	**7.50**
Tenderman (Boatman, Attending Dredge Plant); Fireman	**26.81**	**7.50**
Fill Equipment Operator	**26.07**	**7.50**
Assistant Mate (Deckhand); Oiler	**24.38**	**7.50**

Zone Differential for Dredging
(Add to Zone 1 Rate)

Zone 2	2.00
Zone 3	3.00

Zone 1	Center of job site not more than 30 miles from the City Hall of Portland
Zone 2	More than 30 miles but not more than 50
Zone 3	Over 50 miles

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
DRYWALL/WETWALL		
Drywall (Acoustical and Drywall Applicator)	**22.76**	**8.84**
Wetwall (Lather)	**21.74**	**9.86**
ELECTRICIANS		
Area 1		
Electricians	**21.63**	**6.62**
Cable Splicers	**23.79**	**6.71**
Area 2		
Electricians	26.20	7.72
Cable Splicers	27.51	7.76
Area 3		
Electricians	**25.00**	**8.85**
Area 4		
Electricians	27.01	**8.51**
Cable Splicers	29.71	**8.59**
Electrical Material Handler	11.24	3.72
Area 5		
Electricians	27.30	9.47
Cable Splicers	27.55	9.48
Electrical Material Handler	15.42	6.56
Area 6		
Electricians	24.54	7.74
Cable Splicers	24.54	7.74

Area 1	Area 2	Area 3
Malheur	Baker	Coos
	Gilliam	Curry
	Grant	Lincoln
	Morrow	Douglas (a)
	Umatilla	Lane (a)
	Union	
	Wallowa	
	Wheeler	

ELECTRICIANS (Continued)

Area 4	Area 5	Area 6
Benton	Clackamas	Harney
Crook	Clatsop	Jackson
Deschutes	Columbia	Josephine
Jefferson	Hood river	Klamath
Lane (b)	Multnomah	Lake
Linn	Sherman	Douglas (b)
Marion	Tillamook	
Polk	Wasco	
Yamhill (c)	Washington	
	Yamhill (d)	

a) Those portions lying **west** of a line running North and South from the NE corner of Coos County to the SE corner of Lincoln County
b) Those portions lying **east** of a line running North and South from the NE corner of Coos County to the SE Corner of Lincoln County.

c) South half
d) North half

ELEVATOR CONSTRUCTORS

Area 1		
Mechanic	29.02	7.19 + a
Helper	20.31	6.96 + a
Probationary Helper	14.51	.39
Area 2		
Mechanic	**30.07**	**7.58 + a**
Helper	**21.05**	**7.34 + a**
Probationary Helper	**15.03**	**.40**

a) Plus 8% of basic hourly rate for employees with more than 5 years of service; 6% of basic hourly rate for 6 months to 5 years of service.

Area 1	Area 2
Umatilla	All
Wallowa	Remaining
Union	Counties
Baker	

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
GLAZIERS	24.62	5.95

(Add $1.00 to base rate if safety belt is required by State safety regulations)

(Add $4.00 to base rate for work done from a non-motorized single-man bosun chair)

Benton	Lane	Multnomah
Clackamas	Lincoln	Polk
Clatsop	Linn	Tillamook
Columbia	Marion	Washington
		Yamhill

HIGHWAY / PARKING STRIPERS	**20.83**	4.76
IRONWORKERS	**24.22**	**10.35**

Structural, Reinforcing, Ornamental, Riggers, Signal Men

LABORERS

Group 1	**20.09**	**7.50**
Group 2	**20.58**	**7.50**
Group 3	**20.94**	**7.50**
Group 4	**21.24**	**7.50**
Group 5	**17.70**	**7.50**

NOTE: A Hazardous Waste Removal Differential must be added to the base rate if work is performed inside the boundary of a Federally Designated Hazardous Waste Site. A Group 1 base rate is used for General Laborer on such a site. For further information on this, call the Prevailing Wage Rate Coordinator at (503) 731-4074.

Zone Differential for Laborers
(Add to Zone 1 Rate)

Zone 2	.65
Zone 3	1.15
Zone 4	1.70
Zone 5	2.75

Zone 1 – Projects within 30 miles of City Hall in the cities listed below.
Zone 2 – More than 30 miles but less than 40 miles
Zone 3 – More than 40 miles but less than 50 miles
Zone 4 – More than 50 miles but less than 80 miles.
Zone 5 – More than 80 miles

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
LABORERS (Continued)		

Reference Cities

Albany	Eugene	Portland
Astoria	Grants Pass	Roseburg
Baker City	Hermiston	Salem
Bend	Klamath Falls	The Dalles
Burns	Medford	
Coos Bay	Pendleton	

Group 1

Asphalt Plant Laborers	Guardrail, Median Rail (c)
Asphalt Spreaders	Landscape or Planting Laborer
Batch Weighman	Leverman or Aggregate Spreader (d)
Broomers	Loading Spotter
Brush Burners/Cutters	Material Yard Man (e)
Carpenter Tender	Powderman Assistant
Car & Truck Loaders	Railroad Track Laborers
Change-House Man	Ribbon Setters (f)
Chipper Operator (a)	Rip Rap Man (Hand Placed)
Choke Setter	Road Pump Tender and Sewer Laborer
Clean up Laborers ***	Signalman
Curing, concrete	Skipman
Demolition, wrecking moving (industrial)***	Slopers
Driller Assistant	Sprayman
Dry-shack Man	Stake Chaser
Dumpers, road oiling crew	Stockpiler
Dumpmen for grading crew	Tie Back Shoring
Elevator Builder	Timber Faller/Bucker (Hand Labor)
Fine Graders	Toolroom Man (Job Site)
Fire Watch	Weight-Man-Crusher (g)
Form Strippers (b)	
General Laborer ***	

a) Pittsburg or similar types
b) Not swinging stages
c) Reference Post, Guide Post, or Right-of Way Marker
d) Flaherty, and similar types
e) Including electrical
f) Including steel forms
g) Aggregate when used

*** Laborers can tear off roofs, clean up or handle roofing materials only when at least one new story is added or in demolition work, where no reroofing will occur.

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

LABORERS (Continued)

Group 2

Applicators (a)
Brush Cutters (b)
Burners
Choker Splicer
Clary Power Spreader ©
Clean up Nozzleman - Green Cutter (d)
Concrete Laborers
Concrete Power Buggyman
Crusher Feeder
Demolition/Wrecking (e)
Gunite Nozzleman Tender
Gunite or Sandblasting Pot Tender
Handlers/Mixers (f)
Pipe Doping & Wrapping
Post Hole Digger, Air, Gas or Electric
Power Tool Operators (g)
Sand Blasting (wet)
Stake Setter
Tampers
Vibrating Screed

a) Including Pot Tender for same, applying protective material by hand or nozzle on utility lines or storage tanks on project.
b) Power saw
c) And similar types of spreaders
d) Concrete, rock, etc.
e) Charred Materials
f) Of all materials of an irritating nature including cement and lime
g) Includes, but not limited to: Dry Pack Machine, Jackhammer, Chipping Guns, Paving Breakers

Group 3

Asbestos Removal
Bit Grinder
Concrete Saw Operator
Drill Doctor
Gunite Nozzleman
Laser Beam (b)
Manhole Builder
Nippers & Timbermen
Nuclear Plant Worker-Lead Shield
Power Saw Operators ©
Sand Blasting (dry)
Sewer Timberman
Drill Operators (a)
Track Liners (d)
Tugger Operator
Vibrators (all)
Water Blaster
Welder

a) Air Tracks, Cat Drills, Wagon Drills, Rubber-mounted Drills, and other similar types.
b) Pipe laying, applicable when employee assigned to move, set up, align Laser Beam.
c) Bucking and falling
d) Anchor Machines, Ballast Regulators, Multiple Tampers, Power Jacks

LABORERS (Continued)

Group 4

Asphalt Rakers
Concrete Nozzlemen
Grade Checker
High Scalers, Strippers, Drillers (a)
Laser Beam (Tunnel), applicable when employee assigned to move, set up, align laser beam
Tunnel Powderman
Loop Installation
Motorman – Dinky Locomotive
Pipe Layers (all)
Powdermen
Shield Operator
Tunnel Bull Gang (above ground)
Tunnel Chuck Tenders
Tunnel Miners
Tunnel Muckers/Brakeman/Concrete Crew/Bull Gang (underground)

a) Covers work in swinging stages, chairs or belts, under extreme conditions unusual to normal drilling, blasting, barring-down, or sloping and stripping.

Group 5

Clean-up Laborers (building only)***
Demolition, Wrecking & Moving (building only)***
Flagger

***Laborers can tear off roofs, clean up or handle roofing material only when at least one new story is added or in demolition work, where no reroofing will occur.

LIMITED ENERGY ELECTRICIANS

May only be used for electrical work not exceeding 100 va in Class II and III installations (as defined in Article 725 of the National Electrical Code):

Area 1	21.95	6.71
Area 2	21.95	6.71
Area 3	18.51	4.81
Area 4	18.51	4.81
Area 5	18.51	4.81
Area 6	18.51	4.81
Area 7	18.51	4.81
Area 8	18.51	4.81
Area 9	21.95	6.71
Area 10	18.51	4.81
Area 11	18.51	4.81
Area 12	21.95	6.71
Area 13	21.95	6.71
Area 14	21.95	6.71

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

LIMITED ENERGY ELECTRICIANS (Continued)

Area 1	Clatsop, Columbia, Tillamook
Area 2	Clackamas, Multnomah, Washington, Yamhill (North Half)
Area 3	Marion, Polk, Yamhill (South Half)
Area 4	Benton, Lincoln, Linn
Area 5	Lane
Area 6	Douglas
Area 7	Coos, Curry
Area 8	Jackson, Josephine
Area 9	Hood River, Sherman, Wasco
Area 10	Crook, Deschutes, Jefferson
Area 11	Klamath, Lake, Harney
Area 12	Gilliam, Grant, Morrow, Umatilla, Wheeler
Area 13	Baker, Union, Wallowa
Area 14	Malheur

LINE CONSTRUCTION

Area 1

Group 1	28.55	7.51
Group 2	25.75	7.40
Group 3	19.97	5.70
Group 4	22.19	5.78
Group 5	19.37	5.68
Group 6	18.19	5.64

Area 2

Cable Splicers	**27.59**	**6.36**
Journeyman Lineman	**25.00**	**6.26**
Line Equip. Oper.	**21.17**	**6.10**
Groundman	**15.45**	**4.82**

Area 1 All counties except Malheur County
Area 2 Malheur County

Group 1	Group 2
Cable Splicers	Certified Lineman Welder
Leadman Pole Sprayer	Heavy Line Equipment Man
Lineman	
Pole Sprayer	

LINE CONSTRUCTION (Continued)

Group 3	Group 4
Tree Trimmer	Line Equipment Man

Group 5	Group 6
Head Groundman	Groundman
Jackhammer Man	
Powderman	

MARBLE SETTERS (Includes Granite)
(This trade is tended by "Tile, Terrazzo, Brick & Marble Finishers")

Area 1	**25.94**	**8.03**
Area 2	**24.70**	**7.70**

Area 1

Baker	Malheur (a)	Wallowa
Benton (a)	Marion	Wasco (a)
Clackamas	Morrow	Washington
Clatsop	Multnomah	Yamhill
Columbia	Polk	
Gilliam	Sherman	
Hood River	Tillamook	
Lincoln (a)	Umatilla	
Linn (a)	Union	

Area 2

Benton (b)	Harney	Lincoln (b)
Crook	Jackson	Linn (b)
Coos	Jefferson	Malheur (b)
Curry	Josephine	Wasco (b)
Deschutes	Klamath	Wheeler
Douglas	Lake	
Grant	Lane	

a) North Half
b) South Half

PAINTERS & DRYWALL TAPERS

Brush Painting	19.60	3.48

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

PAINTERS & DRYWALL TAPERS (Continued)

(Add $0.60 to base rate for spray, sandblasting, other pressure blasting over 3000 PSI, and steam cleaning.)

(Add $0.50 to base rate for work over 60 ft. high on swing stage, mechanical climber, spider or bucket truck.)

Drywall Tapers	**24.65**	**6.95**

PLASTERERS

Nozzleman	**25.91**	**6.36**
Swinging Scaffold	**24.91**	**6.36**
All Other Work	**23.91**	**6.36**

PLUMBERS & STEAMFITTERS/PIPEFITTERS

Area 1 (Both)	**22.54**	**7.02**

Zone Differential for Area 1 Plumbers & Steamfitters/Pipefitters (Add to Zone 1 Rate)

Zone 2	$ 1.20 per hour
Zone 3	$ 1.70 per hour
Zone 4	$ 2.50 per hour
Zone 5	$ 3.55 per hour
Zone 6	$30.32 per day

Zone 1: Projects within 15 miles of City Hall in the cities listed below.
Zone 2: More than 15 but less than 30.
Zone 3: More than 30 but less than 40.
Zone 4: More than 40 but less than 50.
Zone 5: More than 50 but less than 100.
Zone 6: More than 100 miles.

PLUMBERS & STEAMFITTERS/PIPEFITTERS (Cont'd)

Reference Cities for Area 1

Boise, Idaho
Twin Falls, Idaho

With distances in Zone 6, 100 miles and beyond, there shall be a minimum of one hundred fifty-one dollars and sixty cents ($151.60) per week or thirty dollars and thirty-two cents ($30.32) per day worked.

Note: The above information applies only to Area 1.

Area 2 (Both)	27.80	9.60
Area 3 (Both)	**28.31**	**9.20**

Area 1	Area 2	Area 3
Baker	Grant (b)	All
Harney (a)	Morrow	Remaining
Malheur	Umatilla	Counties
	Wallowa	
	Union	

a) Except Northwest Portion
b) Except Southwest Corner

POWER EQUIPMENT OPERATORS

	Zone 1 (Base Rate)	
Group 1	25.91	8.20
Group 2	25.00	8.20
Group 3	24.30	8.20
Group 4	23.83	8.20
Group 5	23.27	8.20
Group 6	21.10	8.20

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

POWER EQUIPMENT OPERATORS (Continued)

Note: A Hazardous Waste Removal Differential

must b e added to the base rate if work is performed Inside the boundary of a Federally Designated Waste Site. For information on this differential, call the Prevailing Wage Rate Coordinator at (503) 731-4074.

Zone Rates

Zone 2	2.00
Zone 3	3.00

FOR THE FOLLOWING METROPOLITAN COUNTIES:

Multnomah; Clackamas; Marion; Yamhill; Washington and Columbia:

- **Zone map for this classification on page 72**

(A) All jobs or projects located in Multnomah, Clackamas and Marion counties, west of the western boundary of Mt Hood National Forest and west of mile post 30 on Interstate 84 and west of mile post 30 on State Hwy 26 and west of mile post 30 on Hwy 22 and all jobs located in Yamhill County, Washington County and Columbia County shall receive Zone 1 pay for all classifications.

(B) All jobs or projects located in the area outside the identified boundary above, but less than 50 miles from the Portland City Hall shall receive Zone 2 pay for all classifications.

© All jobs or projects located more than 50 miles from the Portland City Hall, but outside the identified border above, shall receive Zone 3 pay for all classifications.

FOR THE FOLLOWING CITIES:

Albany; Bend; Coos Bay; Eugene; Grants Pass; Klamath Falls, Medford and Roseburg

(A) All jobs or projects located within 30 miles of the respective City Hall of the above mentioned cities shall receive Zone 1 pay for all classifications.

POWER EQUIPMENT OPERATORS (Continued)

(B) All jobs or projects located more than 30 miles and less than 50 miles from the respective City Hall of the above mentioned cities shall receive Zone 2 pay for all classifications.

© All jobs or projects located more than 50 miles from the respective City Hall of the above mentioned cities shall receive Zone 3 pay for all classifications.

ASPHALT

Group	
6	Plant Oiler
6	Plant Fireman
6	Pugmill Operator (any type)
6	Truck mounted asphalt spreader, w/screed
4	Screed Operator
5	Extrusion Machine Operator
2	Asphalt Plant Operator (any type)
4	Asphalt Paver Operator
5	Roller Operator (any asphalt mix)
4	Diesel-Electric Engineer, Plant
5	Asphalt Burner and Reconditioner Operator (any type), 84
4	Roto-Mill, pavement profiler, under 6 ft lateral cut
5	Roto-Mill, pavement profiler, ground man
2	Roto-Mill, pavement profiler operator, 6 ft lateral cut and over

BLADE

Group	
6	Blade Operator, pulled type
4	Blade Operator
4	Blade Operator, Finish
4	Blade Operator, externally controlled by electronic, mechanical hydraulic means
4	Blade Operator, multi-engine
2	Auto Grader or "Trimmer" Operator

POWER EQUIPMENT OPERATORS (Continued)

BULLDOZERS

Group	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
4	Bulldozer Operator		
4	Drill Cat Operator		
4	Side-Boom Operator		
2	Tandem bulldozer operator (quadnine & similar type, D-11)		
4	Bulldozer Operator, twin engine (TC12 and similar type, D-10)		
4	Cable-Plow Operator (any type)		

CLEARING

Group	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
4	Log Skidder Operator		
4	Chipper Operator		
4	Incinerator Operator		
4	Stump Splitter Operator		
4	Faller/Buncher Operator		

COMPRESSORS

Group	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
6	Compressor Operator (any power), **under** 1,250 cu. ft. total capacity.		
5	Compressor Operator (any power), **over** 1,250 cu. ft. total capacity.		

COMPACTORS – Self-Propelled

Group	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
5	Compactor Operator, including vibratory		
5	Wagner Patco Operator or similar type (without blade)		
4	Compactor Operator, with blade		
4	Compactor Operator, multi-engine		

CONCRETE

Group	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
6	Plant Oiler		
6	Assistant Conveyor Operator		
6	Conveyor Operator		

POWER EQUIPMENT OPERATORS (Continued)

CONCRETE (Continued)

Group	TRADE	BASIC HOURLY RATE	FRINGE BENEFIT
6	Mixer Box Operator (C.T.B., dry batch, etc.)		
6	Cement Hog Operator		
6	Concrete Saw Operator		
6	Wire Mat or Brooming Machine Operator		
5	Combination Mixer and Compressor Operator, Gunite work		
5	Beltcrete Operator		
5	Pumpcrete Operator (any type)		
5	Pavement Grinder and/or Grooving Machine Operator (riding type)		
4	Mixer Mobile Operator		
5	Cement Pump Operator, Fuller-Kenyon and similar		
5	Concrete Pump Operator		
5	Grouting Machine Operator		
4	Screed Operator		
4	Concrete Cooling Machine Operator		
5	Concrete Mixer Operator, single drum, any capacity		
2	Batch Plant and/or Wet Mix Operator 1 and 2 drum		
1	Batch Plant and/or Wet Mix Operator, 3 units or more		
5	Cast in place pipe laying machine		
5	Maginnis Internal Full Slab Vibrator Operator		
5	Concrete Finishing Machine Operator, Clary, Johnson, Bidwell, Burgess bridge deck or similar type		
5	Curb Machine Operator, Mechanical Berm, Curb and/or Curb and Gutter		
5	Concrete Joint Machine Operator		
5	Concrete Planer Operator		
5	Tower Mobile Operator		
5	Power Jumbo Operator setting slip forms etc., in tunnels		
5	Slip Form Pumps, power driven hydraulic lifting device for concrete forms		
5	Concrete Paving Machine Operator		
5	Concrete Finishing Machine Operator		
5	Concrete Spreader Operator		
4	Concrete Paving Road Mixer		
4	Reinforced Tank Banding Machine (K-17 or similar types)		
2	Concrete Profiler, Diamond Head		

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

POWER EQUIPMENT OPERATORS (Continued)

CONCRETE (Continued)

Group	
2	Automatic Concrete Slip Form Paver Oper.
2	Concrete Canal Line Operator
4	Concrete Breaker

CRANE

Group	
6	Oiler
6	Truck Crane Oiler-Driver, 25 ton capacity or over
6	Fireman, all equipment
6	A-Frame Truck Operator, single drum
6	Tugger or Coffin Type Hoist Operator
5	Helicopter Hoist Operator
5	Hoist Operator, single drum
5	Elevator Operator
5	A-Frame Truck Operator, double drum
5	Boom Truck Operator
4	Chicago Boom and similar types
4	Lift Slab Machine Operator
4	Boom Type lifting device, 5 ton capacity or less
4	Cherry Picker or similar type crane-hoist, 5 ton capacity or less
4	Hoist Operator, two drum
4	Hoist Operator, three or more drums
4	Derrick Operator, under 100 tons
4	Hoist Operator, stiff leg, guy derrick or similar type, 50 ton and over
4	Cableway Operator, up to 25 tons
4	Bridge Crane Operator, Locomotive, Gantry, Overhead
2	Cableway Operator, 25 tons and over
1	Helicopter Operators, when used in erecting work

HYDRAULIC CRANE OPERATOR

Group	
5	Hydraulic Boom Truck Operator, Pittman
4	Hydro Crane Operator, under 50 tons

POWER EQUIPMENT OPERATORS (Continued)

HYDRAULIC CRANE OPERATOR (Continued)

Group	
3	Hydro Crane Operator, 50 tons – 89 tons
2	Hydro Crane Operator, 90 tons – 199 tons
1	Hydro Crane Operator, 200 tons and over

TOWER/WHIRLEY OPERATOR

Group	
2	Tower Crane Operator
2	Whirley Operator, under 90 tons
1	Whirley Operator, 90 tons and over

LATTICE BOOM CRANE OPERATOR

Group	
4	Lattice Boom Crane Operator, under 50 tons
3	Lattice Boom Crane Operator, 50 tons through 89 tons, & less than 250 ft boom
2	Lattice Boom Crane Operator, 90 tons through 199 tons, and/or 150 ft-200 ft boom
1	Lattice Boom Crane (Operator, 200 tons and over, and/or over 200 ft boom

CRUSHER

Group	
6	Crusher Oiler
6	Crusher Feederman
4	Generator Operator
4	Diesel-Electric Engineer
4	Grizzley Operator
2	Crusher Plant Operator

DRILLING

Group	
6	Drill Assistant
6	Auger Oiler
5	Churn Drill and Earth Boring Machine Operator

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

POWER EQUIPMENT OPERATORS (Continued)

DRILLING (Continued)

4	Drill Doctor
4	Boring Machine Operator
4	Driller – Percussion, Diamond, Core, Cable, Rotary and similar type
4	Cat Drill (John Henry)

FLOATING EQUIPMENT

Group

6	Deckhand
6	Boatman
5	Fireman
4	Diesel-Electric Engineer
4	Jack Operator – Elevating Barges
4	Barge Operator, self-unloading
4	Piledriver Operator (not crane type)
4	Floating Clamshell, etc. Operator, under 3 cu. yd. (only for construction projects - otherwise see "Dredging")
4	Floating Crane (derrick barge) Operator, less than 30 tons
2	Floating Clamshell, etc. Operator, 3 cu. yd. and over (only for construction projects - otherwise see "Dredging")
2	Floating Crane (derrick barge) Operator, 30 tons but less than 150 tons
1	Floating Crane, 150 tons and over

FORK LIFT

Group

6	Self-Propelled Scaffolding Operator (excluding working platform)
6	Fork Lift or Lumber Stacker Operator
6	Ross Carrier Operator
5	Lull Hi-Lift Operator or similar type
5	Fork Lift, over 5 tons
3	Rock Hound Operator

GUARDRAIL EQUIPMENT

Group

6	Oiler
6	Auger Oiler

POWER EQUIPMENT OPERATORS (Continued)

GUARDRAIL EQUIPMENT (Continued)

6	Oiler, combination guardrail machines
4	Guardrail Punch Operator (all types)
6	Guardrail Punch Oiler
4	Guardrail Auger Operator (all types)
4	Combination Guardrail machines, i.e. Punch, Auger etc.

HAZARDOUS WASTE REMOVAL

5	Assistant to the Engineer (Oiler)
4	Assistant Incinerator Control Board Oper.
3	Incinerator Control Board Operator

HEATING PLANT

Group

6	Temporary Heating Plant Operator
4	Surface Heater and Planer Operator

HYDRAULIC HOES

Group

5	Hydraulic Backhoe Operator, wheel type 3/8 cu. yd. And under with or without front end attachments 2 ½ cu. yd. and under (Ford, John Deere, Case type)
4	Hydraulic Backhoe Operator, Track Type 3/8 cu. yd. (Note: Over 3/8 cu. yd. takes shovel classification rate)

LOADERS

Group

6	Bobcat, Skid Steer (under 1 cubic yard)
6	Bucket Elevator Loader Operator, Barber-Greene and similar types
5	Loaders, rubber-tired type, 2 ½ cu. yd. and under
5	Elevating Grader Operator, Tractor Towed requiring Operator or Grader
4	Belt Loader Operator, Kolman and Ko Cal types
4	Loader Operator, front end and overhead, 2 ½ cu. yd. and under 4 cu. yd.

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

POWER EQUIPMENT OPERATORS (Continued)

LOADERS (Continued)

Group	
4	Elevating Loader Operator, Athey and similar types
4	Elevating Grader Operator, Sierra, Euclid or similar types
3	Loader Operator, 4 cu. yd. but less than 6 cu. yd.
2	Loader Operator, 6 cu. yd. and over

OILERS

Group	
6	Oiler
6	Guardrail Punch Oiler
6	Truck Crane Oiler-Driver, 25 ton or over
6	Auger Oiler
6	Grade Oiler, required to check grade
5	Service Oiler (Greaser)
6	Grade Checker

PILEDRIVERS
(Use Crane rates when driving or pulling piling)

Group	
4	Hammer Operator
4	Piledriver Operator (not crane type)

PIPE LINE - Sewer Water

Group	
6	Tar Pot Fireman
6	Tar Pot Fireman (power agitated)
6	Hydraulic Pipe Press Operator
5	Hydra Hammer or similar types
5	Pavement Breaker Operator
4	Pipe Cleaning Machine Operator
4	Pipe Doping Machine Operator
4	Pipe Bending Machine Operator
4	Pipe Wrapping Machine Operator
4	Boring Machine Operator
4	Back Filling Machine Operator

POWER EQUIPMENT OPERATORS (Continued)

PUMPS

Group	
6	Pump Operator, any power
6	Hydrostatic Pump Operator
5	Pump Operator, more than 5 (any size)
5	Pot Rammer Operator

RAILROAD EQUIPMENT

Group	
6	Brakeman
6	Oiler
6	Switchman
6	Motorman
6	Ballast Jack Tamper Operator
5	Locomotive Operator
5	Ballast Regulator Operator
4	H.D. Mechanic
5	Ballast Tamper Multi-Purpose Operator
5	Track Liner Operator
5	Tie Spacer Operator
5	Shuttle Car Operator

REMOTE CONTROL

GROUP	
2	Remote controlled earth-moving equipment

REPAIRMEN, Heavy Duty

Group	
6	Parts Man (Tool Room)
6	H.D. Repairman Assistant
6	Welder's Assistant
4	Diesel-Electric Engineer (Plant or Floating)
4	Bolt Threading Machine Operator
4	Drill Doctor (Bit Grinder)
4	H.D. Mechanic
4	H.D. Welder
4	Machine Tool Operator
4	Combination H.D. Mechanic-Welder, when dispatched and/or when required to do both
4	Welder – Certified, when dispatched and/or required

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

POWER EQUIPMENT OPERATORS (Continued)

RUBBER -TIRED SCRAPERS

Group	
4	Rubber-tired Scraper Operator, single engine, single scraper
4	Self-loading, paddle wheel, auger type under 15 cu. yd.
4	Rubber-tired Scraper Operator, twin engine
4	Rubber-tired Scraper Operator, with push-pull attachments.
3	Rubber-tired Scraper Operator, with tandem scraper
2	Rubber-tired Scraper Operator, with tandem scrapers, multi-engine
4	Self-loading, paddle wheel, auger type 15 cu. yd. and over, single engine
3	Self-loading, paddle wheel, auger type, finish and/or 2 or more units

SHOVEL, DRAGLINE, CLAMSHELL, BACKHOE, SKOOPER, ETC., OPERATOR

Group	
6	Oiler
6	Grade Oiler (required to check grade)
6	Grade Checker
6	Fireman
4	Diesel-Electric Engineer
4	Stationary Drag Scraper Operator
4	Shovel, Dragline, Clamshell, Hoe etc., Operator under 3 cu. yd.
4	Grade-all Operator
2	Shovel, Dragline, Clamshell, Hoe etc., Operator 3 cu. yd. and over

SIGNALMAN

Group	
6	Bell Boy, phones, etc., Operator
6	Helicopter Radioman (ground)

POWER EQUIPMENT OPERATORS (Continued)

SURFACING (BASE) MATERIAL

Group	
6	Roller Operator, grading of base rock (not asphalt)
5	Roller Operator, Oiling, C.T.B.
6	Tamping Machine Operator, mechanical, self-propelled
5	Hydrographic Seeder Machine Operator, straw, pulp or seed.
5	Rock Spreaders, self-propelled
5	Pulva-mixer or similar types
4	Blade Mounted Spreaders, Ulrich and similar types
5	Chip Spreading Machine Operator
5	Lime Spreading Operator

SWEEPERS

6	Broom Operator, self-propelled
5	Sweeper Operator (Wayne type) self-propelled

TRACTOR-RUBBER TIRED

5	Tractor Operator, rubber-tired, 50 H.P. Flywheel and under
4	Tractor Operator, rubber-tired, over 50 H.P. Flywheel
4	Tractor Operator, with boom attachment
4	Rubber-tired Dozers and Pushers (Michigan, Cat, Hough type)

TRENCHING MACHINE

6	Oiler
6	Grade Oiler (required to check grade)
5	Trenching Machine Operator, maximum digging capacity 3 ft. depth
4	Trenching Machine Operator, maximum digging capacity over 3 ft. depth
4	Back Filling Machine Operator
2	Wheel Excavator
2	Canal Trimmer
2	Band Wagon (in conjunction with wheel excavator)

TRADE	BASIC HOURLY RATE	FRINGE BENEFIT

POWER EQUIPMENT OPERATORS (Continued)

TUNNEL

Group

4 Mucking Machine Operator
6 Conveyor Operator (any type)
4 Shield Operator
6 Air filtration Equipment Operator
6 Dinkey Operator
6 Oiler
4 Tunnel Boring Machine Operator

UNDERWATER EQUIPMENT

Group

2 Underwater Equipment Operator, remote or otherwise, when used in construction work

WELDING MACHINES

Group

6 Welding Machine Operator

ROOFERS

Area 1

Roofers	**21.30**	**5.85**
Handling coal tar pitch	**23.43**	**5.85**
Remove fiberglass insulation	**23.43**	**5.85**

Area 2

Roofers	17.64	6.25

(Add $2.00 per hour to Fringe for work with Irritable Bituminous material.)

Area 1	Area 2	
Clackamas	Benton	Polk
Clatsop	Douglas	Yamhill
Columbia	Lane	
Multnomah	Lincoln	
Tillamook	Linn	
Washington	Marion	

SHEET METAL WORKERS

Area 1 **24.03** **9.73**

(Add $1.00 to base rate for work performed on any swinging platform, swinging chair or swinging ladder)

(Add $1.00 to base rate for work with lead or installing material in a plant that uses lead in any form to manufacture a product. (excluding soldering)

(Add $1.00 to base rate for work performed in a confined space as defined by OSHA.)

Area 2 20.10 7.17

(Add $1.75 to base rate for work performed whenever it is possible for worker to fall 30 feet or more

(Add $1.75 to base rate for work performed in an area where epoxy resins or other injurious chemicals are being applied)

Area 3 **24.43** **8.09**

(Add $1.00 to base rate for work where it is necessary to wear a chemically activated face mask)

(Add $1.00 to base rate for work where employees required to wear a fresh air mask due to nuclear related work)

(Add $.45 to base rate for work on a swinging stage, swinging scaffold or bosun chair in excess of 30 feet above the ground)

Area 4 **20.82** **8.26**

Area 1

Benton	Gilliam	Linn	Wasco
Clackamas	Grant	Marion	Washington
Clatsop	Harney	Wheeler	Wheeler
Columbia	Hood River	Yamhill	Yamhill
Crook	Jefferson	Sherman	
Deschutes	Lincoln	Tillamook	

BUREAU OF LABOR AND INDUSTRIES
Wage and Hour Division

ZONE 1

LIST OF CONTRACTORS INELIGIBLE TO RECEIVE PUBLIC WORKS CONTRACTS

Publication Date: July 1, 1999

To: All Oregon Contracting Agencies

Pursuant to ORS 279.361, contractors on this list are ineligible to receive public works contracts subject to the Prevailing Wage Rate Law. These contractors and subcontractors, as well as any firm, corporation, partnership or association in which the contractor or subcontractor has a financial interest are ineligible to receive public works contracts until removed from this list.

If you have questions regarding the list or for the most current information regarding persons ineligible to receive prevailing wage contracts, please contact the Prevailing Wage Rate Coordinator, (Portland) 731-4074 Ext. 250.

	CONTRACTOR NAME	DATE PLACED	REMOVAL DATE
1.	**B.A.M. Electric Company, Inc.** 3718 Altamont Drive Klamath Falls, OR 97603	July 22, 1998	July 21, 2001
2.	**CMJ Construction, Inc. and Clifford M. Johnson** 2256 S.Glenmorrie Drive Lake Oswego, OR 97034	October 15, 1998	October 14, 1999
3.	**E. Gene Kasey dba Empire Landscaping** 4714 SE 104th Portland, OR 97266	April 1, 1999	March 31, 2002
4.	**Del Gilman dba Del Gilman Painting** 1766 Henderson Eugene, OR 97403	April 1, 1999	March 31, 2002
5.	**Lisa A. Wiese dba L & G Interiors** P.O. Box 2218 Clackamas, OR 97015	April 20, 1998	April 19, 2001
6.	**Larson Construction Co., Inc. and David M. Larson** 485 SE 5th Warrenton, OR 97146	July 22, 1998	July 21, 2001
7.	**Pro Fit Development, Inc., Karl O. Johnson, and Devin Luzier** 1501 Green Siding Rd. Roseburg, OR 97470	April 20, 1998	April 19, 2001
8.	**Westside Landscape, Inc., an Oregon Corporation, and Tim Barnes** 590 Greenwood Rd. Independence, OR 97351	May 4, 1998	May 3, 2001

OREGON BUREAU OF LABOR AND INDUSTRIES
JACK ROBERTS, COMMISSIONER

BUREAU OF LABOR AND INDUSTRIES - WAGE AND HOUR DIVISION

INSTRUCTIONS FOR COMPLETING PAYROLL/CERTIFIED STATEMENT FORM

General: This form meets needs resulting from the 1983 amendments to the prevailing wage rate law. Under this amended law, the contractor is required to pay not less than fringe benefits as predetermined by the Bureau of Labor and Industries, in addition to payment of not less than the predetermined rates. The contractor's obligation to pay fringe benefits may be met either by payment of the benefits to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringe benefits.

This form provides for the contractor's showing of the payroll and all monies paid to the employees, whether as basic rates or as cash in lieu of fringe benefits, and provides for the contractor's representation in the payroll/certified statement that he/she is paying other benefits required by the contract and not paid as cash in lieu of fringe benefits. Detailed instructions concerning the preparation of the form follow:

Complete the box at the top of the form. Complete the appropriate prime contractor or subcontractor box. Be sure to enter the date the contract was first advertised for bid. If you are not sure of this date, contact the Public Contracting Agency.

Column 1 - Name and Address of Employee: The employee's full name must be shown on each payroll submitted. The employee's address must also be shown on the first payroll submitted. The address need not be shown on subsequent payrolls unless the address changes.

Column 2 - Trade Classifications: List the classification found in the Bureau of Labor and Industries' publication "Prevailing Wage Rates for Public Works Contracts in Oregon," which is most descriptive of the work actually performed by the employee. Give the group number for those worker classifications which include such information. Consult the worker classifications and minimum prevailing wage rate schedule set forth in contract specifications. Refer to the appropriate prevailing wage rates in effect at the time the contract was first advertised for bid for information regarding trade classifications, basic hourly rates, and hourly fringe benefits. Indicate which workers are apprentices, if any, and give their current percentage, trade classification, and group number when applicable. If additional worker classifications are deemed necessary, contact the public contracting agency. If an employee works in more than one worker classification, use the highest rate for all hours worked, or use separate line entries to show hours worked, rate of pay, and fringe benefit for each classification.

Column 3 - DAY AND DATE: Enter the day of the week (M, T, W, Th, F, S, Sn) in the top row of boxes, and the number of the day of the month below.

- HOURS WORKED EACH DAY: Contractors who have adopted a written work schedule of four consecutive ten hour days, Monday through Thursday or Tuesday through Friday may enter hours worked over 10 in a day as overtime hours.

Column 4 - Total Hours: Enter separately the total number of overtime hours and straight time hours worked by each listed classification during this pay period; overtime ("OT") on top, straight time ("S") immediately below.

Column 5 - Basic Hourly Rate of Pay: Enter the basic hourly rate and the overtime hourly rate (if any) paid the employee in the appropriate overtime and straight time boxes. Payment of not less than one and one half times the basic or regular rate paid is required for overtime under ORS 279.334.

Column 6 - Hourly Fringe Benefit Paid as Wages to the Employee: Enter any additional cash paid directly to the employee in lieu of fringe benefits. It is not necessary to pay time and a half for overtime work on those wages which are paid in lieu of fringe benefits.

Column 7 - Gross amount earned: Enter the gross wages earned by the worker in this classification for all listed straight time hours, all listed overtime hours, and including all additional amounts paid directly to the employee.

INSTRUCTIONS FOR COMPLETING PAYROLL/CERTIFIED STATEMENT FORM

Column 8 - Total Deductions, FICA, FED, STATE, ETC: Enter the total amount of deductions withheld from each employee for just those hours reported on this payroll/certified statement for this project. All deductions must be in accordance with the provisions of ORS 652.610.

Column 9 - Net Wages Paid for Week: Enter the amount of wage actually paid to the employee after subtracting the total deductions reported in Column 8 from the gross amount earned shown in Column 7.

Column 10 - Hourly Fringe Benefit Paid to Party, Plan, Fund or Program: Enter the hourly amount of fringe benefits paid to each individually approved party, plan, fund or program for each employee. List these amounts separately on the lines provided. Any contractor who is making payments to approved parties, plans, funds or programs in amounts less than the required hourly fringe benefit is obligated to pay the difference directly to the employee as wages in lieu of fringe benefits, and to show that amount in Column 6 of this form.

Column 11 - Name of Benefit Party, Plan, Fund or Program: Enter the name of the party, plan, fund or program that corresponds to the amount shown as an hourly fringe benefit in Column 10.

Summary - In order to determine if the wages and fringe benefits being certified by this statement are sufficient to meet prevailing wage rate requirements, the following check may be performed:

1. Consider each Trade Classification listed in Column 2.

2. For that Trade Classification, take the sum of:
   a) the Basic Hourly Rate of Pay (Column 5),
   b) the Hourly Fringe Benefit Paid as Wage to Employee (Column 6),
   c) and the Hourly Fringe Benefit Paid To Party, Plan, Fund or Program (Column 10).

3. This sum must equal or exceed the sum of the Basic Hourly Rate (including zone pay and special wage differentials, if any) and the Fringe Benefit as they are listed for that Trade Classification in the appropriately dated issue of the Bureau of Labor and Industries publication Prevailing Wage Rates for Public Works Contracts in Oregon.

◆◆◆

NOTICE TO CONTRACTORS: YOU ARE NO LONGER REQUIRED TO SUBMIT COPIES OF THE PAYROLL/CERTIFIED STATEMENT TO THE BUREAU OF LABOR AND INDUSTRIES. THE STATEMENT MUST BE SUBMITTED TO THE PUBLIC CONTRACTING AGENCY.

BUREAU OF LABOR AND INDUSTRIES
WAGE AND HOUR DIVISION

PAYROLL/CERTIFIED STATEMENT FORM WH-38
FOR USE IN COMPLYING WITH ORS 279-354

PRIME CONTRACTOR ☐ FIRST ☐ 90 DAY ☐ LAST ☐
SUBCONTRACTOR ☐

Business Name (DBA):	CCB Registration Number:	Project Name:	Project Number:
Phone: ( )		Type of Work:	
Street Address:		Project Location:	
Mailing Address:		Project County:	
Date Pay Period Began:	Date Pay Period Ended:		

THIS SECTION FOR PRIME CONTRACTORS ONLY
Public Contracting Agency Name:
Phone: ( )
Date Contract Specifications First Advertised For Bid:
Contract Amount

THIS SECTION FOR SUBCONTRACTORS ONLY
Subcontract Amount:
Prime Contractor Business Name (DBA):
Phone: ( ) CCB Registration Number:
Date You Began Work On The Project:

(1)	(2)		(3) DAY AND DATE							(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NAME AND ADDRESS OF EMPLOYEE	TRADE, CLASSIFICATION (INCLUDE GROUP # IF APPLICABLE)		HOURS WORKED EACH DAY							TOTAL HOURS	BASIC HOURLY RATE OF PAY	HOURLY FRINGE BENEFIT PAID AS WAGE TO EMPLOYEE	GROSS AMOUNT EARNED	TOTAL DEDUCTION FICA, FED, STATE, ETC	NET WAGE PAID FOR WEEK	HOURLY FRINGE BENEFIT PAID TO PARTY, PLAN, FUND OR PROGRAM	NAME OF BENEFIT PARTY, PLAN, FUND, OR PROGRAM
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THIS FORM CONTINUED ON REVERSE
FORM WH-38 (REV. 9/98)

(1)	(2)		(3) DAY AND DATE							(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NAME AND ADDRESS OF EMPLOYEE	TRADE, CLASSIFICATION (INCLUDE GROUP # IF APPLICABLE)		HOURS WORKED EACH DAY							TOTAL HOURS	BASIC HOURLY RATE OF PAY	HOURLY FRINGE BENEFIT PAID AS WAGE TO EMPLOYEE	GROSS AMOUNT EARNED	TOTAL DEDUCTION FICA, FED, STATE, ETC.	NET WAGE PAID FOR WEEK	HOURLY FRINGE BENEFIT PAID TO PARTY, PLAN, FUND OR PROGRAM	NAME OF BENEFIT PARTY, PLAN, FUND, OR PROGRAM
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CERTIFIED STATEMENT

I _____ DO HEREBY STATE:
(NAME OF SIGNATORY PARTY) (TITLE)

(1) THAT I PAY OR SUPERVISE THE PAYMENT OF THE PERSONS EMPLOYED BY; _____ ON THE _____
(CONTRACTOR, SUBCONTRACTOR OR SURETY) (BUILDING OR WORK)
THAT DURING THE PAYROLL PERIOD COMMENCING ON THE _____ DAY OF _____, 19 _____, AND ENDING THE _____ DAY OF _____, 19 _____
ALL PERSONS EMPLOYED ON SAID PROJECT HAVE BEEN PAID THE FULL WEEKLY WAGES EARNED, THAT NO REBATES HAVE BEEN OR WILL BE MADE EITHER DIRECTLY OR INDIRECTLY TO OR ON BEHALF OF SAID _____ FROM THE FULL WEEKLY WAGES EARNED BY ANY PERSON, AND THAT NO DEDUCTIONS HAVE BEEN MADE EITHER DIRECTLY OR INDIRECTLY FROM THE FULL WAGES EARNED BY ANY PERSON, OTHER THAN PERMISSIBLE DEDUCTIONS AS SPECIFIED IN ORS 652.610, AND DESCRIBED AS FOLLOWS:

_____

(2) THAT ANY PAYROLLS OTHERWISE UNDER THIS CONTRACT REQUIRED TO BE SUBMITTED FOR THE ABOVE PERIOD ARE CORRECT AND COMPLETE; THAT THE WAGE RATES FOR WORKERS CONTAINED THEREIN ARE NOT LESS THAN THE APPLICABLE WAGE RATES CONTAINED IN ANY WAGE DETERMINATION INCORPORATED IN THE CONTRACT; THAT THE CLASSIFICATION SET FORTH THEREIN FOR EACH WORKER CONFORMS WITH WORK PERFORMED.
(3) THAT ANY APPRENTICES EMPLOYED IN THE ABOVE PERIOD ARE DULY REGISTERED IN A BONA FIDE APPRENTICESHIP PROGRAM REGISTERED WITH A STATE APPRENTICESHIP AGENCY RECOGNIZED BY THE BUREAU OF APPRENTICESHIP AND TRAINING, UNITED STATES DEPARTMENT OF LABOR, OR IF NO SUCH RECOGNIZED AGENCY EXISTS IN A STATE, ARE REGISTERED WITH THE BUREAU OF APPRENTICESHIP AND TRAINING, UNITED STATES DEPARTMENT OF LABOR.

I HAVE READ THIS CERTIFIED STATEMENT, KNOW THE CONTENTS THEREOF AND IT IS TRUE TO MY KNOWLEDGE.

_____ _____
NAME AND TITLE SIGNATURE

NOTE TO CONTRACTORS: YOU MUST ATTACH COPIES OF THIS FORM TO EACH OF YOUR PAYROLL SUBMISSIONS ON THIS PROJECT. SEE THE BOLI PUBLICATION PREVAILING WAGE RATES FOR PUBLIC WORKS CONTRACTS IN OREGON FOR INSTRUCTIONS ON COMPLETING THIS FORM.

FILE THIS FORM WITH THE CONTRACTING AGENCY
FORM WH-38 (REV. 9/98)

Bureau of Labor and Industries
Prevailing Wage Rate Unit
800 N.E. Oregon St., # 32
Portland, OR 97232
Phone: (503) 731-4074, Fax: (503) 731-4623

PUBLIC WORK CONTRACT FEE INFORMATION FORM

(For use by contractors in complying with ORS 279.357)

THIS FORM TO BE USED FOR PROJECTS AWARDED AFTER SEPTEMBER 9, 1995 ONLY

Contractors: Please complete and mail this form to BOLI at the above address, along with the appropriate fee (1/10th of 1% of the contract price*) payable to BOLI. **Minimum fee is $100.00, maximum fee is $5,000.00.** Without the following completed information, the bureau may be unable to properly credit you for payment received.

BUSINESS NAME (DBA) _____ **CCB #** _____

MAILING ADDRESS: _____ **PHONE:** (___) _____
(STREET OR PO BOX #, CITY, STATE, ZIP)

PROJECT NAME: _____

PROJECT NUMBER: _____ **PROJECT LOCATION:** _____

AGENCY AWARDING CONTRACT: _____

AGENCY CONTACT PERSON: _____ **PHONE:** (___) _____

CONTRACT AMOUNT: _____ **DATE AWARDED:** _____ **DATE WORK BEGAN:** _____

*(Contract amount X .001)

(Please duplicate this form for future use)

Bureau of Labor and Industries
Prevailing Wage Rate Unit
800 N.E. Oregon St., # 32
Portland, OR 97232
phone: (503) 731-4074, ext. 250
FAX: (503) 731-4606

PUBLIC WORKS CONTRACT FEE ADJUSTMENT FORM

THIS FORM TO BE USED FOR RECONCILIATION OF FEES ON COMPLETION OF PUBLIC WORKS PROJECTS

(As required by ORS 279.375 and OAR 839-16-210)

Contractors: Please complete and mail this form to BOLI at the above address, after completion of the public works project and not less than 30 days after the final payment by the contracting agency. Contractors are required to determine the final contract price, including all change orders or other adjustments to the original contract price and to calculate the adjusted prevailing wage rate fee, based on the revised contract price. Documentation must be included to support the final contract price. The prevailing wage rate fee, .001, (1/10th of 1%) shall be applied to the final contract price, with credit taken for fees already submitted. The contractor must submit the additional fee payable to BOLI with the adjustment form or requests for refund if applicable. **NO ADDITIONAL FEE WILL BE CHARGED, NOR A REFUND MADE, ON ANY RECONCILED AMOUNTS UNDER $100.00.**

BUSINESS NAME (DBA) _____ **CCB #** _____

MAILING ADDRESS: _____ **PHONE:** (__) _____
(STREET OR PO BOX #, CITY, STATE, ZIP)

PROJECT NAME: _____

PROJECT NUMBER: _____ **PROJECT LOCATION:** _____

AGENCY AWARDING CONTRACT: _____ **DATE AWARDED:** _____

FINAL CONTRACT AMOUNT: _____ **FINAL FEE DUE*:** _____
(Include all change orders and adjustments to the contract price) *(Final Contract amount X .001)

ORIGINAL CONTRACT AMOUNT: _____ **INITIAL FEE PAID*:** _____
*(Contract amount X .001)

BALANCE DUE: _____ **REFUND DUE:** _____
(Final contract fee less initial fee paid)

Sample Calculation:

Final Contract Amount:	$400,000.00	Final Fee Due:	$400.00
Original Contract Amt:	- 300,000.00	Initial Fee Paid:	- 300.00
Total Adjustment:	$100,000.00	Amount Due or Refund Due:	$100.00

* Documentation may consist of change orders or other contract documents substantiating the amount of the contract.

(Please duplicate this form for future use)

BUREAU OF LABOR AND INDUSTRIES
NOTICE OF AWARD OF PUBLIC WORKS CONTRACT
(For use by Public Agencies in Complying with ORS 279.363)

1. CONTRACTING AGENCY INFORMATION

Name _____ **Agency Number** _____

Address _____

City, State, Zip _____

Agency Representative _____ **Phone** _____

2. CONTRACT INFORMATION

Project Name _____ **Project Number** _____

Project Manager Name _____ **Fax Number** _____

Phone Number _____

Project Location (Street(s), City, State) _____

Project County _____ **Contract Amount** _____

Source of Funds (i.e. 100% Federal Funds, 50/50 Federal/State, 100% Local, etc.) _____

Note: If this project is Federally funded and subject to the Davis Bacon Act, do not submit this form to the Oregon Bureau of Labor and Industries. If Federal funds are involved, but the project is subject to Oregon prevailing wage rate, please specify.

Date Contract Specifications First Advertised for Bid _____

Date Contract Awarded _____ **Date Work Expected to Begin** _____

Date First Progress Payment Due _____ **Expected Date of Completion** _____

3. PRIME CONTRACTOR INFORMATION

Name _____

Address _____

City, State, Zip _____ **Phone** _____

Construction Contractors Board Registration Number _____

Name of Bonding Company: _____

Address: _____

Agent Name/Phone: _____

Bond Number: _____

THIS FORM WILL BE RETURNED TO THE CONTRACTING AGENCY FOR CORRECTION AND RESUBMITTAL IF INCOMPLETE.

RETURN THIS COMPLETED FORM TO:

Bureau of Labor and Industries
Wage and Hour Division Rm 1160
Prevailing Wage Section
800 NE Oregon # 32
Portland, OR 97232
(503) 731-4074, ext. 233 **Fax: (503)731-4606**

PLANNED PUBLIC IMPROVEMENT SUMMARY

FISCAL YEAR _____ - _____ _____ PAGE _____ OF _____

(Name of State or Local Government Agency)

Project Number	Project Name	Project Type	Project Location	Estimated Project Cost	Agency or Contract Work

ORS 279.023 generally states that not less than 30 days prior to adoption of its budget for the subsequent budget period, each public agency shall prepare and file with the Commissioner of the Bureau of Labor and Industries a list of every public improvement known to that agency that the agency plans to fund in the budget period. If the agency decides to use its own equipment and personnel for construction projects estimated to cost more than **$125,000** the agency shall show that the decision conforms to the policy of the State of Oregon that public agencies shall make every effort to construct public improvements at the least cost to the public agency, and the public agency shall cause to be kept and preserved a full, true and accurate account of the costs of performing the work including all engineering and administrative expenses and a reasonable estimate of the cost, including investment cost, of the equipment used. **NOTE:** This Improvement Summary together with the project estimate and least cost determination constitutes a public record available in the usual manner for public review or copying. Mail a copy of this public improvement summary to: Wage and Hour Division, 800 NE Oregon St., # 32, Portland, Oregon 97232.

CAPITAL IMPROVEMENT PROJECT COST COMPARISON ESTIMATE

_____

(Name of State or Local Government Agency)

DEPARTMENT:
PROPOSED YEAR:
PROJECT DESCRIPTION:

PROJECT NAME:

FUND:
PROJECT NUMBER

Rough Quantity Estimates	Units	Work Class Description	Agency Force Estimate		Agency Contract Estimate	
			Unit Cost	Total Cost	Unit Cost	Total Cost
				$		$

Estimated Construction Period _____

_____ determines that (Agency Forces) (Contractor) can perform this work at the least cost.
(Name of Agency) (Cross out one)

_____

(Agency Official)

WH-119 (Rev. 9/98)

PART 2

CONTRACT FORMS

CONTRACT FOR CONSTRUCTION

THIS CONTRACT, made and entered into this 14th day of September, 1999, by and between the CITY OF NEWBERG, OREGON, a municipal corporation, hereinafter called the "OWNER", and Total Industrial, Inc. of St. Paul, Oregon 97137 hereinafter called the "CONTRACTOR".

WITNESS:

Said Contractor, in consideration of the sum to be paid Contractor by the said Owner and of the covenants and agreements herein contained, hereby agrees at Contractors own proper cost and expense to do all the work and furnish all the materials, tools, labor, and all appliances, machinery and appurtenances for the **Installation of Owner Furnished Sluice Gates** to the extent of the Bid made by the Contractor on the 24th day of August, 1999, all in full compliance with the Contract Documents referred to herein.

The Advertisement for Bid, the signed copy of the Bid made by the Contractor, the fully executed Performance and Payment Bond, the Standard Specifications, the Special Specifications, and the Drawings, are hereby referred to and, by reference, made a part of this Contract as fully as if the same were completely set forth herein.

In consideration of the faithful performance of the work herein embraced, as set forth in these Contract Documents, and in accordance with the direction of the Owner and to Owners satisfaction to the extent provided in the Contract Documents, or as otherwise herein provided and based on the said Bid made by the Contractor, the Owner agrees to pay to the Contractor the amount bid as adjusted in accordance with the Contract Documents, and to make such payments in the manner and at the times provided in the Contract Documents.

The Contractor agrees to complete the work within the time specified herein and to accept as full payment hereunder the amounts computed as determined by the Contract Documents and based on the said Bid.

The Contractor agrees to indemnify and save harmless the Owner from any and all defects appearing or developing in the materials furnished and the workmanship performed under this

Contract for a period of one year or such other time as applicable law may allow after the date of acceptance of the work in the Contract by the Owner.

In the event that the Contractor shall fail to complete the work within the time limits or the extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid at the rate of One Hundred Fifty Dollars ($150.00) per consecutive calendar day. Sundays and legal holidays shall be excluded in determining days in default.

The provisions of ORS 279.348 to 279.365 relating to prevailing wage rates are made a part of this Contract as completely as if the same were fully set forth herein.

The Contractor shall pay a fee to the Oregon Bureau of Labor and Industries pursuant to the provisions of ORS 279.352. The fee is equal to one-tenth of one percent (0.1 percent) of the price of the Contract, but not less than $100 nor more than $5000, regardless of the Contract price. The fee shall be paid on or before the first progress payment or 60 days from the date work first began on the Contact, whichever comes first. The fee is payable to the Bureau of Labor and Industries and shall be mailed or otherwise delivered to the Bureau at the following address:

Bureau of Labor and Industries
Wage and Hour Division
Prevailing Wage Unit
800 NE Oregon Street, #32
Portland, Oregon 97232

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed the day and year first herein above written.

CITY OF NEWBERG, OREGON

By Terrence D. Mahr

Print Name TERRENCE D. MAHR

Acting City Attorney

Title

CONTRACTOR

By Debbie Schaffeld

Print Name Debbie Schaffeld

President

Title

APPROVED AS TO FORM:

City Attorney

9/14/99

Date

PERFORMANCE - PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

A _____ hereinafter called "Principal" and _____
(Corp., Partnership, or Individual)

of _____, State of _____, herein after called "Surety", are held firmly bound unto the City of Newberg, Oregon, hereinafter called "Owner" in the penal sum of_____ Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain Contract with the Owner, dated this ____ day of _____, 1999, a copy of which is hereto attached and made a part hereof for the construction of the **Installation of Owner Furnished Sluice Gates.**

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term thereof, and any extension thereof which may be granted by the Owner, with or without notice to the Surety, and if Principal shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contracts and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools consumed or used in connection with the construction of such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition of the terms of the Contract or the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specification.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

Bond # SP22454103

PERFORMANCE BOND - PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we Total Industrial, Inc.

A Corporation hereinafter call "Principal" and Western Surety Company
(Corp., Partnership, or Individual)

of Sioux Falls, State of South Dakota, herein after called "Surety", are Held firmly bound unto the City of Newberg, Oregon, hereinafter called "Owner" in the penal sum of Sixteen Thousand Nine Hundred Seventy Dollars ($16,970.00) in lawful money of the United States, for payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain Contract with the Owner, dated this 10th day of September 1999, a copy of which is hereto attached and made part of hereof for the construction of the **Installation of Owner Furnished Sluice Gates.**

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extension thereof which may be granted by the Owner, with or without notice to the Surety ,and if Principal shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contracts and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools consumed or used in connection with the construction of such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition of the terms of the Contract or the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation of this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specification.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

POWER OF ATTORNEY

(Irrevocable)

BOND No. SP- 22454103

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired. That Western Surety Company, a corporation, does hereby make, constitute and appoint the following

THREE (3) authorized individuals:

AUTHORIZED INDIVIDUALS	AUTHORIZED INDIVIDUALS
JAMES KENNETH GUNDERSON ANGIE THETA THOMAS	LEAH J ST JOHN

in the City of PORTLAND, State of OREGON, with limited authority, its true and lawful Attorney(s) in fact with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, the following described bond:

ONE BID, PERFORMANCE, AND/OR PAYMENT BOND PROVIDING THE BOND PENALTY DOES NOT EXCEED FIVE HUNDRED THOUSAND AND NO/100 DOLLARS (**500,000.00).

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon this Company as if such bond had been executed and acknowledged by the regularly elected officers of this Company.

All authority hereby conferred shall expire and terminate, without notice, unless used before midnight of JULY 31, 2003, but until such time shall be irrevocable and in full force and effect.

WESTERN SURETY COMPANY further certifies that the following is a true and exact copy of Section 7 of the By-Laws of Western Surety Company, duly adopted and now in force, to-wit: Section 7. All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

The penal amount of the bond herein described may be increased if there is attached to this Power, written authority so authorizing in the form of an endorsement, letter or telegram signed by the Senior Underwriting Officer, Underwriting Officer, President, Vice President, Assistant Vice President, Treasurer, Secretary or Assistant Secretary of Western Surety Company specifically authorizing said increase.

IN WITNESS WHEREOF, Western Surety Company has caused these presents to be executed by its President with its corporate seal affixed this 8th day of April, 1997.

WESTERN SURETY COMPANY

By Stephen T. Pate
President

STATE OF SOUTH DAKOTA } ss.
COUNTY OF MINNEHAHA }

On this 8th day of April, in the year 1997, before me, a Notary Public, personally appeared Stephen T. Pate, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of WESTERN SURETY COMPANY and acknowledged said instrument to be the voluntary act and deed of said corporation.

B. THOMAS
NOTARY PUBLIC SOUTH DAKOTA
SEAL SEAL
My Commission Expires 6-2-2003

B. Thomas
Notary Public, South Dakota

I, the undersigned officer of Western Surety Company, a stock corporation of the State of South Dakota, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that Section 7 of the By-Laws of the company as set forth in the Power of Attorney, is now in force.

In testimony whereof, I have hereunto set my hand and the seal of Western Surety Company this* 10th day of September, 1999.

WESTERN SURETY COMPANY

By Stephen T. Pate
President

*IMPORTANT: This date must be filled in before it is attached to the bond and it must be the same date as the bond.

Form 749-4-97

NOTICE: This border must be BLUE. If it is not BLUE, this is not a certified copy. →

IN WITNESS WHEREOF, this instrument is executed this 10th day of September, 1999.

Total Industrial, Inc.
Principal

(Principal) Secretary

PO Box 159
(Address-Zip Code)
St. Paul, OR 97137

(SEAL)

Witness as to Principal
1057 Liberty St SE
Salem OR 97302
(Address-Zip Code)

ATTEST

Western Surety Company
Surety

(Surety) Secretary

By _____
Attorney-in-fact
Leah J. St. John

Witness as to Surety
Tera Wisniewski
5319 SW Westgate Dr. Ste 272
(Address-Zip Code)
Portland, OR 97221

Note: Date of Bond must not be prior to the date of Contract. If contractor is Partnership, all partners should execute bond.

IN WITNESS WHEREOF, this instrument is executed this ____ day of _____ 1999.

_____
Principal

_____
(Principal) Secretary

_____(s)

_____
(Address - Zip Code)

(SEAL)

_____
Witness as to Principal

_____
(Address - Zip Code)

ATTEST

_____
Surety

_____
(Surety) Secretary

By _____
Attorney-in-fact

(SEAL)

_____
Witness as to Surety

_____
(Address - Zip Code)

Note: Date of Bond must not be prior to the date of Contract. If Contractor is Partnership, all partners should execute bond.

PART 3

STANDARD SPECIFICATIONS

STANDARD SPECIFICATIONS

The WORK to be performed under this CONTRACT shall be in accordance with the 1990 AMERICAN PUBLIC WORKS ASSOCIATION OREGON CHAPTER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION and the 1992 Supplement to the Standard Specifications, except as modified by the SPECIAL SPECIFICATIONS and Drawings contained herein.

PART 4

SPECIAL SPECIFICATIONS

SECTION 01001
GENERAL REQUIREMENTS

PART 1 PROJECT DESCRIPTION

1.1 GENERAL

A. A brief description of the work is stated in the Advertisement for Bid. To determine the full scope of the project or any particular part of the project, coordinate the applicable information in the several parts of these Contract Documents.

PART 2 SEQUENCE OF OPERATIONS

2.1 SCHEDULING

A. Plan the work and carry it out with minimum interference to the operation of the existing facilities. Prior to starting the work, confer with the ENGINEER and OWNER's representative to develop a work schedule which will permit the facilities to function normally as practical. It may be necessary to do certain parts of the construction work outside normal working hours in order to avoid undesirable conditions. The CONTRACTOR shall do this work at such times, and at no additional cost to the OWNER.

B. Work shall be performed on a schedule and in a manner that will permit the existing facility to operate continuously.

C. Only one sluice gate shall be taken out of service at a time. The CONTRACTOR shall be responsible for installing the bulkhead and draining the channels. Plan the work and carry it out with minimum interference to the City's wastewater treatment facility.

2.2 OPERATION OF EXISTING SYSTEM PROHIBITED

A. At no time undertake to close off any lines or open valves or take any other action which would affect the operation of the existing system, except as specifically required by the Drawings and Specifications and after approval is granted by the OWNER.

PART 3 SITE CONDITIONS

3.1 SITE INVESTIGATION

A. The CONTRACTOR acknowledges satisfaction as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or the cost thereof under this Contract.

PART 4 TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

4.1 TEMPORARY WATER

A. Water is available at the project site at a pressure of approximately 10 psi. The OWNER will provide the water at no charge to the CONTRACTOR.

4.2 TEMPORARY ELECTRIC POWER

A. 115 volt electric power is available at the site. The OWNER will pay for electrical power used during construction.

4.3 SANITARY FACILITIES

A. Sanitary facilities for the CONTRACTOR's employees are available at the site in the OWNER's Wastewater Treatment Plant.

4.4 STORAGE OF MATERIALS

A. Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposed without the written permission of the OWNER.

PART 5 SAFETY AND CONVENIENCE

5.1 CONFINED SPACE ENTRY

A. The work to be performed under this CONTRACT is in a confined space. The work is to be performed in a structure that is 6 feet wide, 22 feet long, and approximately 29 feet deep. The structure is accessible from the top which contains removable grating. Raw municipal wastewater will be flowing through a portion of the structure during the entire construction period.

B. The CONTRACTOR shall meet all Federal, State, and Local regulations regarding confined space entry. A copy of Chapter 6 – Confined Space Entry Program, from the City of Newberg Safety Manual is included at the end of this section for the CONTRACTOR's reference. However, the CONTRACTOR shall make his own determination as to the effort required to provide for the safety of his employees and the City's representative observing the work.

5.2 CONSTRUCTION SAFETY PROGRAM

A. The CONTRACTOR shall develop and maintain for the duration of this Contract, a safety program that will effectively incorporate and implement all required safety provisions. The CONTRACTOR shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

B. The duty of the ENGINEER to conduct construction review of the CONTRACTOR'S performance is not intended to include a review or approval of the adequacy of the CONTRACTOR'S safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.

5.3 SAFETY EQUIPMENT

A. The CONTRACTOR, as part of his safety program, shall maintain at his office or other well-known place at the jobsite, safety equipment applicable to the work as prescribed by the governing safety authorities, all articles necessary for giving first-aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of any person who may be injured on the jobsite.

B. The CONTRACTOR shall do all work necessary to protect the general public from hazards.

C. The performance of all work and all completed construction, particularly with respect to ladders, platforms, structure openings, scaffolding, and the like, shall be in accordance with the applicable governing safety authorities.

5.4 ACCIDENT REPORTS

A. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the ENGINEER. In addition, the CONTRACTOR must promptly report in writing to the ENGINEER all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

B. If a claim is made by anyone against the CONTRACTOR or any subcontractor on account of any accident, the CONTRACTOR shall promptly report the facts in writing to the ENGINEER, giving full details of the claim.

PART 6 PRESERVATION, RESTORATION, AND CLEANUP

6.1 SITE RESTORATION AND CLEANUP

A. At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.

PART 7 PAYMENT

7.1 GENERAL

A. Payment for the work in this section will be included as part of the lump sum bid amount stated in the Bid.

END OF SECTION

CHAPTER 6 - CONFINED SPACE PROGRAM

Chapter 6. Confined Space Entry Program

SECTION 1: CONFINED SPACE ENTRY & OPERATIONAL PLAN

OVERVIEW Every employer is responsible for setting policies to properly handle work operations in confined spaces, as a result, the City of Newberg has established the following confined space policy and procedures. Supervisory employees are responsible to ensure that proper procedures are carried out in all phases of confined space entry operations.

Policy	**No employee shall enter any vessel or confined space without the expressed permission of his/her supervisor.**

The supervisor is responsible for ensuring that the proper safety equipment is available and used and for the safety of the employees during confined space entry. A designated lead person may be assigned the responsibility for directing the permit confined space entry. The entry supervisors shall be responsible for:

- Evaluation of all confined spaces including those that are non-permit required to ensure that all hazards are controlled.
- Completion of the work permit indicating the safety equipment required.
- Special precautions to be observed.
- The number of employees permitted to enter.
- The duration of the permit.
- Cancellation of the permit.

Employees are responsible for following all steps of the entry procedure exactly as shown on the entry permit.

The following policy defines the types of spaces that are classified as confined spaces under Oregon OSHA "Permit Required Confined Spaces" CFR 1910.146. Remember if you have question about any space please consult with the Public Works Supervisors prior to entry.

The Public Works Supervisors will be responsible for the annual review of the confined space program and will maintain copies of all permits issued for one year. At the end of the year each City work crew will send in a copy or the original permits issued for the calendar year. The Public Works Supervisors will review the permits as part of the annual program evaluation.

Classification

The following listing shows the general type of confined spaces found in our facilities and field operations. To streamline the classification system we have defined types of spaces which share space characteristics and have adopted a two level Hazard Classification System. The hazard classification A requires entry permits. Class B (non-permit confined space) requires adequate evaluation to ensure that all hazards are controlled and there are no possible atmospheric hazards documented by air testing.

Classes

Hazardous atmosphere (A) - means an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes: flammable or combustible gases, oxygen deficient or enriched atmospheres, toxic atmospheres, engulfment, and other serious physical hazards.

These type of spaces will have limited or restricted means for entry or exit. Examples given in the regulations include tanks, vessels, silos, storage bins, hoppers, vaults, pits and diked areas. These spaces are also not designed for continuous employee occupancy.

Non-permit confined space (B) - means a space where there is an extremely low likelihood that an IDLH (immediately dangerous to life and health) or engulfment hazard could be present, and where all other serious hazards have been controlled. The OSHA standard defines a non-permit space as:

> *"a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm."*

Examples of non-permit confined spaces includes: vented vaults, motor control cabinets, and dropped ceilings. Although they are "confined space" these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere, and they do not present engulfment or other serious hazards.

Hot Work Permit: Any welding or hot work being done in a confined space requires both a Confined Space Permit and **Hot Work Permit** even if the confined space is originally defined as Non-permit.

There may be other hazardous locations which do not fall under a confined space definition but would be hazardous due to the potential presence of chemical exposures. An example would be at a Chlorine storage and use area at the water or sewage treatment facilities during a chlorine leak. This confined space policy only

addresses the type of spaces that are regulated under OSHA 1910.146 (a) Permit Required Confined Spaces.

General Types of Spaces	Hazard Classification
1. Open top: basins, tanks or horizontal open structures such as culvert. (*if engulfment or chemicals are not a hazard)	B*
2. Tanks /Vaults with manhole or limited entry area or manholes.	A
3. Pits and sumps, ditches and trenches.	A or B

Note: Waste Water Treatment, Water Treatment and Street Maintenance have identified the spaces in their areas and the completed listing is kept by the Supervisors.

When spaces are **reclassified** or initially classified as non-permit a certification of the space will be kept by the Public Works Supervisors. See the Assessment Form in the forms section of this document.

Definitions

The following definitions are for terms used throughout this document and are based on the OSHA 1910.146 Permit Required Confined Space regulation definitions. **NOTE:** ADDITIONAL DEFINITIONS ARE FOUND IN THE EMPLOYEE TRAINING SECTION 4. THESE ARE KEY DEFINITIONS.

Confined Space

Confined Space: Every partial or complete enclosure (pit, manhole, tank, vault, etc.) where there may be deficient oxygen content or dangerous concentrations of air contaminants (toxic or combustible) must be considered a confined space.

Some characteristics of confined spaces include:

- Relatively difficult entry and exit.
- Access is small or seldom opened or both.
- The physical design obstructs direct visual and/or audible contact between the occupant and outside attendant.
- Contains or has a potential to contain a hazardous atmosphere.
- Potential for engulfment of an entrant.

Entry

Entry: *Entry into a confined space occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.*

Entry Permit

Entry Permit: The written permit defines the conditions under which the permit space may be entered.

Hazardous Atmosphere

Hazardous atmosphere: means an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes:

- A flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL).
- An atmospheric oxygen concentration below 19.5% or above 23.5%.
- A combustible dust environment.
- An atmospheric concentration of any substance for which an employee exposure would exceed the permissible exposure limit (PEL).
- Any atmospheric condition recognized as immediately dangerous to life or health.

IDLH — **Immediately dangerous to life or health:** means any condition which poses an immediate threat of loss of life; or may result in irreversible or immediate-severe health effects or other conditions which could impair escape from the permit space.

LFL — **Lower Flammable Limit**: The minimum concentration of a combustible gas or vapor in air (usually expressed in percent by volume at sea level) which will ignite if an ignition source (sufficient ignition energy) is present. The upper flammable limit (**UFL**) is the maximum vapor to air concentration above which propagation of a flame will not occur. Below the LFL the mixture is said to be *too lean* to burn and above the UFL it is *too rich* to burn.

NOTE: Also called Lower Explosive Limits (LEL)

EXAMPLE: ACETONE CLASS IB FLAMMABLE LIQUID:

- FLASH POINT: -4° F
- IGNITION TEMPERATURE: 869 ° F
- FLAMMABLE LIMITS:

  - LFL: 2.5%
  - UFL: 13%

PEL — **Permissible Exposure Limits (PEL)**: means an airborne chemical exposure limit established by Oregon OSHA which can not be exceeded without proper respiratory protection and the implementation of feasible engineering controls.

Standby Person — The OSHA rules designate a standby person as an "attendant" which means an individual stationed outside the permit required confined space who is trained as required by the standard and who monitors the authorized entrants inside the permit required confined space. An attendant may monitor more entrants, if the conditions and permit allow for monitoring more than one person in a space.

Permit Entry Safety Rules

The following entry and operational plan has been developed for the City of Newberg confined space entries.

ENTRY INTO CONFINED SPACES WILL OCCUR ONLY AFTER THE PROCEDURES IN THIS POLICY ARE MET.

Training

1. Only trained employees will perform work in confined space. Supervisors shall ensure that **only authorized** employees who have received the appropriate training are permitted to enter confined spaces.

Labeling

2. Signs shall be posted near permit spaces in the our facilities to notify employees what hazards may be present and that only authorized workers may enter those spaces. Signs are not practical nor feasible for the street type manholes thus all those areas are automatically considered confined spaces and only authorized employees will have access.

   The signs shall state:

   DANGER - CONFINED SPACE
   ENTRY BY PERMIT ONLY

Inspection

3. The safety equipment to be used in a confined space must be inspected by a qualified person designated by the Supervisor who certifies that the equipment is in working condition as outlined by the OSHA rules or by the manufacturer's specifications. The inspection frequency varies depending on specific rule requirement and by the manufacturer's specifications. See Section 3 Equipment Inspection Procedures.

   The equipment includes, but is not limited to:

   - Ladders
   - Man-hoists
   - Safety Harness or life lines
   - Gas Monitors
   - Power ventilators
   - Airline systems
   - Communication systems

Permit

4. A *Confined Space Entry-Hazardous Atmosphere Work Permit* must be issued for each confined space entry. The permit will be properly filled out and followed. Specific Permit instructions are given in Section 2.

   a. The permit is required to be kept for one year. Each supervisor will retain the permits issued in their area and send copies of all the permits issued during the year, every December 31st to the Public Works Supervisors. The Public Works Supervisors will keep the permits and use the permits in the annual program review.

   b. Permits may be granted for the duration **of the project requiring confined space entry** time period for Hazard Classification Level A. The permit is only valid as long as the physical conditions set out in the permit are met.

   c. The permits are to be posted at the work area or kept in the vehicle in use at the work site if it is not feasible due to location or the weather to post the permit at the space.

Air Testing

5. Testing of the air within confined spaces shall be performed prior to entry to determine oxygen content, toxic gas potential and flammable or explosive atmospheres.

   Entry into a confined space is prohibited until initial testing of the atmosphere has been done from outside the space. Entry, without air supplied respiratory equipment will only be made after the appropriate tests show that the atmosphere is safe. (See item 6).

   The tests performed shall include those for oxygen content, flammable gases, hydrogen sulfide, and carbon monoxide. Additional tests may be required by the Supervisor depending on the circumstances. The specific monitoring protocols are found in the Training Section 4 of this policy.

Acceptable Atmosphere Without SCBA

6. If the space meets the following air quality standards then entry may be done without a Self Contained Breathing Apparatus (SCBA) or continuous airline with escape bottle:

   - Oxygen level between 19.5% - 23.5%
   - Flammable vapors below 10% the LFL*
   - Hydrogen sulfide below the PEL of 10 ppm
   - Carbon Monoxide below the PEL of 35 ppm

   ***Note:** many flammable and combustible gases are also toxic. The standard LEL or LFL readings are not sensitivity enough to detect toxic levels nor do the meters determine what chemical is present. If toxic gases are present other sampling methods such as direct reading tubes procedures would be needed.

   Even if the air test show not problem it still may be prudent to wear respiratory protection. This decision needs to be made by supervisor filling out the permit with possible assistance from the Public Works Supervisors for additional technical support

   If unusual odors are present, entry shall be made using air supplied respiratory equipment. The presence of odors is not always related to the degree of hazard just as the lack of odor does not mean that it is safe; however, odors could be the result of illegal chemical dumping or an accidental spill which could affect your health and safety. Your supervisor needs to be notified to ensure that the reason for the unusual conditions aren't due to an accidental or illegal chemical dumping.

Acceptable Entry With a SCBA

7. The atmosphere with one or more of the following characteristics may be entered only with SCBA or airline with 5 minute escape bottle because the environment would be defined as Dangerous and/or IDLH. Where feasible, the City's policy is to ventilate, purge, and clean confined spaces until such time the atmosphere is below dangerous levels .

   - Oxygen levels below 19.5%
   - Flammable vapors below 10% LFL - **No one shall enter a potentially explosive environment (over 10% LFL).**
   - Hydrogen sulfide above the PEL of 10 ppm
   - Carbon Monoxide above the PEL of 35 ppm
   - Other Toxic Gases are above the PELs

Where a confined space cannot be purged and ventilated to provide and maintain a safe atmosphere, then a worker entering a confined space shall use all of the following:

- A self-contained breathing apparatus (SCBA) or a continuous air-line system with a 5 minute escape bottle.
- Continuous air monitoring to ensure levels are below 10% LFL.
- A safety harness of a type which will keep the worker in a position to permit rescue. The harness line shall be attached to the mechanical hoisting device if the vertical space descent is more than 5 feet.
- A life line attached to the safety harness which is tended by the outside attendant.
- A spare SCBA, life line and harness must be available for rescue if 3 or more employees are available. Otherwise arrangements must be made for outside rescue.

Ventilation

8. Ventilation of confined spaces shall be used to provide adequate levels of oxygen, to dilute toxic and flammable gases and to improve general air quality. The ventilation equipment shall be explosion proof if it is placed inside the confined space.

   The space should be continuous ventilated as long as the person is in the space. Exception to this would be made on case by case bases by the supervisor filling out the entry permit.

Other Chemicals

9. The Material Safety Data Sheets (MSDSs) of all products and cleaning materials used in the confined space must be reviewed before entry unless the products have already been covered with the employees in the routine hazard communication training.

Lock-out

10. Mechanical equipment installed in the confined space must be disconnected from its power source and locked out. The City's lock-out program must be followed (Chapter 7).

Electrical

11. Only double insulated electric tools or tools on a ground fault circuit interrupter system are used in confined spaces. All portable lights and tools shall be explosion proof when working in a confined space where there is a potential flammable or explosive atmosphere.

Emergency Rescue

12. The Supervisor will ensure that the proper procedures and equipment necessary to rescue an entrant from a permit space are implemented and provided. This includes:

    - Safety harness, life line and tripod hoist or other type of rescue devices as needed for the permit space being entered. A mechanical device shall be available to retrieve

personnel from vertical type permit spaces more than 5 feet deep.

- Communication with other entry team members by Mobile Radio, Telephone or other effective means is provided.
- First aid and emergency response by notification of the proper first aid/CPR trained member and 911 rescue assistance.

Traffic Hazards

13. The Supervisor will ensure that all pedestrian, vehicle or other barriers necessary to protect workers from external hazards are provided. This includes ensuring that employees handling traffic are trained in flagging and traffic control per the Uniform Traffic Code.

Open Floor

14. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.

Hot Work

15. When any hot work involving sources of ignition including welding and burning is done in a confined space, then all fire hazards and flammable atmospheres must be controlled. All combustible material shall be protected.

    Hot work permit and instructions are found in Section 2. These procedures are in addition to the general Hazardous Atmosphere Permit Entry requirements.

Other Safety Issues

16. Many other occupational safety regulations relate directly or indirectly to conditions found in confined spaces. Section 5 Regulations, provides a listing of possible related issues, the rule references, and the City's program policies. If you have any questions about these other safety issues please contact the Public Works Supervisors.

Outside Contractors

17. When the City hires an outside contractor to conduct confined space work then the City's management must ensure that the contractor is provided with information about the hazards associated with the confined spaces involved in the contract. This procedure is also covered in the City's Hazard Communication policy. (See Contractor Notification Form)

Entry Steps

18. The following pages provide the minimum required procedures for preparation and entry into the 3 basic types of spaces our employee may be entering.

OPEN TOP BASINS & TANKS OR HORIZONTAL OPEN STRUCTURE SUCH AS CULVERTS ENTRY PROCEDURES

Policy

All open top basin/tanks or open horizontal structures such as culverts are to be evaluated prior to entry. These spaces will generally be considered non-permit Class B because there is an **extremely low likelihood** that an IDLH or engulfment hazard could be present, and if all **other serious hazards** have been controlled.

However, blockage of natural ventilation or damming of water flows or hazardous equipment in the space could significantly change the hazards. As result, each space permit will be evaluated prior to entry and classed based on the hazards present. Entry into these type of spaces may need to address the control of potential safety hazards such as closing infeed lines, locking out equipment, ladder usage and fall protection. If the space does not have a hazardous atmosphere or uncontrolled safety hazards then a permit would not be required.

The following procedures outline the basic steps to taken in entry planning stage.

Equipment Required

The following equipment is required if work is being performing in the spaces without mechanical ventilation or presence of other serious hazards.

- Air test monitor - testing for the types of potential air contaminants (includes oxygen).
- Power Ventilator in cases where oxygen deficiency or presence of hazardous atmosphere.
- Safety Clothing including coveralls, gloves and other devices based on work to be performed and conditions which could include goggles, and respiratory, disposable coveralls, etc.
- Portable Ladders or use of Fixed Ladders
- Communications - visual and verbal between the entrant and the outside observer if the spaces is hazardous.
- Lockout/tagout equipment where applicable

Personnel

Two employees are required if the space is hazardous.

Procedures

Step 1 Permit

Determine the type of work tasks to be performed and review the space configuration and determine potential for hazardous atmosphere or limited access and egress. If space meets the criteria of potential hazardous atmosphere and limited access and egress then the Supervisor or designated person is to complete a Entry Permit.

Step 2
Testing

Test the air quality and record the levels on the permit and continually monitor if air quality conditions could change.

Acceptable air quality is listed on the permit based on employee safety and the OSHA standards. Any questions should be directed to the Public Works Supervisors.

Step 3
Ventilate

If the atmosphere is not acceptable then the space needs to be ventilated using power ventilator.

Step 4
Access

Ensure safe access and egress into and out of the space. Ensure proper ladders are provided. Determine if Fall Protection is needed based on height of fixed ladders (20 feet or more) or if employees will be working on unguarded platforms 10 feet or higher or if hazardous condition exist below at any height.

Step 5
Safety

Determine if any engulfment or other potential hazardous energy which will need to be controlled per the "Control of Hazardous Energy Plan" which is Chapter 7 Lock out/ Tag out.

Step 6
PPE

Employees need to wear the proper protective equipment which protects them against the safety hazards in space.

Step 7
Rescue

Determine if special emergency rescue procedures and equipment are needed and ensure they are provided. Ensure the standby employee is prepared to handle a potential emergency situation and rescue. These procedures must be discussed with the entrant and standby person.

Step 8
Entry

Employee enters the space and follows permit requirements. An attendant is required based on space hazard class. If the space is non-permit required then the Supervisor may determine that the space can be entered without providing an attendant. This would need to be documented and all hazards controlled.

MANHOLE & TANK/VAULT ENTRY PROCEDURES

Policy

This procedure is in effect when entering all manholes and vaults/tanks. Shallow vaults are not included if the employee's face does not break the plane of the vault opening to do the job task.

Equipment Required

The following equipment is required to be with each crew performing confined space entries:

- Gas monitor
- Power ventilator
- Appropriate respirators which may include airline respirator system
- Safety harness
- Personnel-lift (hoist)
- Personal Protective Equipment including but not limited to: Hard Hat, Coveralls or other Protective Clothing, Gloves, Half Face Respirators with Chemical and Particulate Cartridges
- Mobile Radio or communication system

Personnel

A minimum two person crew is required. If the space and entry are difficult more employees may be needed because of the complexity of work and potential problems encountered when performing maintenance and repair. This includes extended entry times in manholes and vaults, chemical product usage, extensive equipment to use and handle, and often difficult traffic routing and control issues.

Procedures

Step 1 Permit

The Supervisor fills out the Entry Permit noting the specific requirements to be followed. Those requirements will include the following steps.

Step 2 Testing

Monitor the manhole or tank atmosphere with the gas detector. Record the levels on the permit and continually monitor while the manhole is open. If the monitoring indicates a unacceptable atmosphere after either ventilating or waiting for a short time period the crew's supervisor or lead person needs to be notified. An acceptable atmosphere is defined on the permit.

It the atmosphere is not acceptable then employees are **NOT PERMITTED TO ENTER THE SPACE AND THE PERMIT WOULD NOT BE VALID.**

Step 3 Ventilate

Ventilate with power ventilator of at least 750 CFM capacity or more. Ventilate until the atmosphere is safe to enter and continue to ventilate while the manhole is open.

Step 4
Rescue Device & Access

For Manholes and vaults with vertical entrance of more than 5 feet a personnel-lift needs to be setup. Examine and inspect all the lines to ensure that they are functioning properly. For horizontal entrances have the employee in safety harness and life line. If the space requires portable ladders or other entrance devices those will be made available and be in proper working condition.

Step 5
Communication

The employees discuss and determine communication methods prior to manhole or vault/tank entry. Emergency rescue procedures need to be determined and communicated with the entrant(s) and standby employees.

Step 6
Respirator

If necessary*, set up the breathing air supply system and inspect air supply system components to ensure proper function. Place the system in an areas readily available to the work space. Air supply system is defined as: full face mask, 5-minute hip pac for emergency escape, and the remote air supply cylinder and hose line or SCBA.

NOTE: in most cases our entries are only permitted if the space atmosphere is acceptable. There are conditions, however, where the work will involve the use of paints, other chemicals, and welding that would required proper respiratory protection. This must be determine and stated on the permit based on the hazard.

Step 7
PPE

The employee entering puts on the safety harness, gloves, hard hat, and is secured to the man-lift. Donn the respiratory protection if needed. The employee will generally wear the gas monitor, if not the standby employee will monitor the atmosphere with a remote probe in the area where the entrant is working.

Step 8
Standby Duties

When the standby employee topside is prepared, check gas monitor, and personnel-lift. After all the equipment is checked then the employee can be lowered into the manhole. The topside employee will continuously check the gas monitor if the employees is not wearing the monitor or other personnel air monitors.

Step 9
Standby Duties

While the employee is in the manhole, the standby employee remain alert to his/her activity. Mobile radio source must be within 50 feet of the manhole work. If gas monitor alarm activates, employee will signal the entrant and will hoist the person out of the manhole or vault if they are on a tripod lift.

Step 10
Exiting

When the work is completed the entrant employee will signal topside observer(s) who will operate man-lift and life lines to ensure none become entangled with obstructions.

PITS & SUMPS ENTRY PROCEDURES

Policy

All pits that are closed or expanded metal covered pits containing sewage and/or sludge will be considered as Class A potentially dangerous atmospheres. Access is usually by ladders (fixed or portable) there are a few raw sewage pits that are accessible by stairs. The following procedures will apply for entry into these spaces.

Ditches and trenches may be Class B non-permit, but the potential for hazardous materials infiltrating into the trench must be evaluated. All the construction standards requirements for safety must also be followed.

Other pit areas such as the mechanical or high voltage areas also may be non-permit confined spaces and need to be evaluated prior to entry.

Equipment Required

The following equipment is required if work is being performed in the **covered or open pits without mechanical ventilation.**

- Gas Monitor
- Power Ventilator
- Safety Harness or coveralls with built in harness for pits over 6 feet deep.
- Personnel-lift for pits over 6 feet deep with manhole ladder entry. (note: some pits have fixed stairway entrances)
- Air Supply System for rescue or entry if pit air quality does not meet the standards.
- Personal Protective Equipment including but not limited to: Hard Hat, Coveralls, Rain Gear, Gloves, Respirators
- Communications system if visual and verbal signals cannot be heard or seen
- Locks for locking out equipment or power supplies as necessary
- Portable ladders as needed
- Fall Protection for use with fixed ladders over 20 feet or work off platforms over 10 feet.

Personnel Required

Minimum of two authorized employees to be present and others available if a rescue is needed.

Procedures - Pits and Sumps

Step 1
Permit

The Supervisor fills out the Entry Permit noting the specific requirements to be followed. Those requirements will include the following steps.

Step 2
Testing

Monitor the pit's atmosphere with the gas detector. Record the levels on the permit and continually monitor while the manhole or access point is open. If the monitoring indicates a unacceptable atmosphere after either ventilating or waiting for a short time period the crew's supervisor or lead person needs to be notified. An acceptable atmosphere is defined on the permit.

It the atmosphere is not acceptable then employees are **NOT PERMITTED TO ENTER THE SPACE AND THE PERMIT WOULD NOT BE VALID.**

Step 3
Ventilate

Ventilate with power ventilator of at least 750 CFM capacity or more. Ventilate until the atmosphere is safe to enter and continue to ventilate while the manhole or access to the pit is open. This time period will depend on several factors including the size and configuration of the space.

Step 4
Rescue Device & Access

For most pits there is with vertical entrance of more than 5 feet thus a personnel-lift must be setup. Examine and inspect all the lines to ensure that the they are functioning properly. For spaces such as the truck weight station scale pits connection of life line to the hoist could only be used during the descend and ascent and cannot be worn during work in the space because of the number of structures in the way. The employee would wear a harness but rescue would involve entrances of trained employees potentially with air line respirator systems if unacceptable atmosphere was the reason an employee could not exit the space.

If the space requires portable ladders or other entrance devices those will be made available and be in proper working condition.

Step 5
Communication

The employees discuss and determine communication methods prior to manhole or vault/tank entry. Emergency rescue procedures need to be determined and communicated with the entrant(s) and standby employees.

Step 6
Respirator

If necessary*, set up the breathing air supply system and inspect air supply system components to ensure proper function. Place the system in an areas readily available to the work space. Air supply system is defined as: full face mask, 5-minute hip pac for emergency escape, and the remote air supply cylinder and hose line or SCBA.

*NOTE: in most cases the entries are only permitted if the space atmosphere is acceptable. There are conditions, however, where the work will involve the use of paints, other chemicals, and welding that would required proper respiratory protection. This must be determine and stated on the permit based on the hazard.

Step 7
PPE

The employee entering puts on the safety harness, gloves, hard hat, and is secured to the man-lift. Donn the respiratory protection if needed. The employee will generally wear the gas monitor, if not the standby employee will monitor the atmosphere with a remote probe in the area where the entrant is working.

Step 8
Standby Duties

When the standby employee topside is prepared, check gas monitor, and personnel-lift. After all the equipment is checked then the employee can be lowered into the manhole. The topside employee will continuously check the gas monitor if the employees is not wearing the monitor or other personnel air monitors.

Step 9
Standby Duties

While the employee is in the pit, the standby employee remain alert to his/her activity. Mobile radio source must be within 50 feet of the pit work. If gas monitor alarm activates, employee will signal the entrant to leave and hoist the person out of the pit if they are on a tripod lift.

Step 10
Exiting

When the work is completed the entrant employee will signal topside observer(s) who will operate man-lift and life lines to ensure none become entangled with obstructions.

Confined Space Entry Permits & Related Forms

Permits

A written permit is necessary because of the special precautions that must be taken to ensure that the confined space work is performed safely.

There are 2 permit forms:

- **Confined Space Entry Permit** for Class A Hazardous Atmosphere Work Permit. The permit requires that the entry be evaluated for safety and health hazards and necessary controls.

- **Hot Work Permit** to be use with the Confined Space Entry Permit which addresses the additional hazards from welding and other hot work.

The permit functions as a checklist to ensure proper work preparation and atmospheric testing. The permit establishes expiration time and date which prevents the entry permit from being used for unauthorized entries. The permit also requires signature of the responsible supervisor/lead person in charge and employees who will perform the work.

There are 3 additional forms:

- Certification of non-permit space conditions and reclassification to non-permit space.

- Contractor's Notification of Confined Space and overall hazards.

- Employee Training Certificate

Confined Space Permit Entry Instructions

Instructions The Permit form includes the following information:

a. The identity of the permit space or location of work.

b. The purpose of entry (nature of job being done).

c. The individual authorizing the entry shall sign the permit before the entry begins. Entry is not permitted until all actions and conditions necessary for safe entry have been performed (on-site supervisor).

d. Special instructions prior or during entry.

e. Space classification. Note if the space is determined not be a confined space a record should be made and noted on the form.

f. The measures for isolation of hazardous energy sources in the permit space which including lock-out procedures to be performed.

g. Type of hazardous work being performed which takes additional precautions including: painting, sand blasting, electrical work, welding, etc. If hot work is required then the Hot Work Permit will also be required.

h. Special precautions that will be needed including procedures for purging, inerting, ventilating and flushing the space to remove or control the potential hazards.

i. The communication procedures and equipment used by authorized workers and attendants to maintain contact.

j. Rescue procedures, equipment, and other services which would be summoned in case of emergency and means of communication with those services.

k. The personal protective equipment, such as: hard hats, gloves, coveralls, respirators, safety harness, and retrieval lines, provided in order to ensure employee safety.

l. Acceptable environmental conditions with regards to the hazards identified in the permit space by monitoring the air quality.

m. The date of entry and authorized duration.

n. The authorized confined space workers' signatures.

o. Upon completion of the entry covered by the permit, and after all workers have exited the permit space, the individual authorizing the entry shall cancel the permit.

NOTICE

In the event that toxic/flammable gases in a confined space cannot be reduced below acceptable levels as posted on the procedures, no one shall enter except when using proper equipment including SCBA unit or air-supplied respirator.

Permit # _____

CITY OF NEWBERG - CONFINED SPACE ENTRY
HAZARDOUS ATMOSPHERE PERMIT

Department Issuing the Permit _____ Location of Work _____

Nature of the Job Being Done _____ PERSON in Charge of Work (On-site supervisor) _____

Special Instructions _____

CHECKLIST

	Check if Required	Check When Completed
Isolation: Lockout/Tagout Procedures Required		
1. Electrical	_____	_____
2. Mechanical	_____	_____
3. Other _____	_____	_____
Hazardous Work:		
1. Welding/Burning(NOTE: Complete a Hot Work Permit)	_____	_____
2. Electrical Work	_____	_____
3. Painting	_____	_____
4. Sand Blasting	_____	_____
5. Other _____	_____	_____
Special Requirements		
1. Lines Disconnected	_____	_____
2. Vessel/Tank Purge - Flush	_____	_____
3. Ventilation	_____	_____
4. Communication	_____	_____
5. Emergency Rescue Procedures	_____	_____
6. Other _____	_____	_____
Personal Protective Equipment Needed		
1. Harness & Life Line	_____	_____
2. Respirator	_____	_____
3. Protective Clothing	_____	_____
4. Other _____		
Atmosphere Tests (Record Results in Completed Column)		
1. Oxygen - 19.5% - 23.5%	_____	_____
2. Flammable Vapors - below 10% LFL (Fire/Explosion)	_____	_____
3. Hydrogen sulfide - below PEL 10 ppm	_____	_____
4. Carbon Monoxide - below PEL 35 ppm	_____	_____
5. GAS TEST Equipment	_____	_____
Calibration Date _____	Date	Date
6. Other Chemicals: _____	_____	_____

Date & Time Issued: _____ **Date & Time Expired or Cancelled:** _____

Employee (Entrant) _____ Employee (Standby) _____

Employee (Entrant) _____ Entry Supervisor _____

Use back side of the form for additional instructions or listing additional employees who will be involved in entry or standby responsibilities

Hot Work Permit Procedures and Instructions

Requirement

An additional Hazardous Work Permit is required when the City's employees are welding or using some type of an open flame/hot work in a confined space. The permit is to ensure that the proper planning and precaution are taken because hot work in a confined space is inherently dangerous.

Permit System

The City's permit system requires the following:

1. The Supervisor is to complete the Confined Space Entry Permit and the Hot Work permit.

2. The Permit form includes the following:

   a. The identity of the permit space or location of work.

   b. The purpose of entry.

   c. Identifying the special fire hazards are so that proper precautions can be implemented to control the conditions.

   d. The special measures taken to ensure that the tank or basin has been properly purged by specifying the methods for flushing and ventilating the confined space.

   e. The measures for isolation of other hazards that may be effected by hot work including: electrical lock-out, and gas or hazardous chemical line blanking. Compressed gas cylinders shall not be allowed in the confined space.

   f. Air monitoring to verify that acceptable environmental conditions are being maintained during hot work.

   i. Additional personal protective equipment, such as respirators, clothing, special eye protection and welding helmets, provided in order to ensure employee safety.

   j. The date of entry and authorized duration.

   k. The authorized employees' and supervisor's signatures.

Permit # _____

CITY OF NEWBERG - CONFINED SPACE ENTRY
HOT WORK PERMIT

NOTE: THIS PERMIT IS TO BE USED WITH THE HAZARDOUS WORK PERMIT WHEN ANY HOT WORK IS PLANNED TO BE DONE IN A CONFINED SPACE.

Department Issuing the Permit _____ Location of Work _____

Nature of the Job Being Done _____ PERSON In Charge of Work (On-site Supervisor) _____

Special Fire Hazards _____

Hazardous Work to be performed: (Welding/Burning/Open Flame)_____

CHECKLIST

Special Requirements

1. Vessel/Tank Purge - Flush & Ventilate: Yes____ No____
   - Type of Deposit or material in tank _____
   - Method of Cleaning_____
2. Fire Prevention Precautions _____
3. Ventilation for Welding Fumes: Yes____ No____ Types:_____
4. Isolation: Lock-out
   - Electrical: Yes____ No____
   - Mechanical: Yes____ No____
   - Gas Lines: Yes____ No____
   - Other: Yes____ No____ Types:_____
5. Additional Personal Protective Equipment Needed
   - Respirator: Yes____ No____ Type:_____
   - Welding Helmet: Yes____ No____
   - Hearing Protection: Yes____ No____
   - Protective Clothing: Yes____ No____

Date & Time Issued:_____ Date & Time Expired or Cancelled:_____

Employee (Entrant) _____ Employee (Entrant) _____

Employee (Standby) _____ Entry Supervisor _____

CONFINED SPACE ASSESSMENT WORKSHEET:

The **confined space assessment worksheet** will be done by the Public Works Supervisors and other trained entry supervisors. Space characteristics and controls may change as a result a space may be initially document as a permit space and then need to be reclassified. The City must keep documentation on the space change in a form of a certification. The following form provides documentation for the assessment of non-permit space for reclassification.

The following information must be gathered and recorded. The evaluator must also sign the assessment sheet and made sure that this is available to employees entering the space.

Document:

1. Potential Confined Space and Specific Location.
2. Identify the potential reasons for entry and how frequent do employees enter.
3. Is there a potential hazardous atmosphere, if not why?
4. Who last entered and why? Were there any problems or were conditions different than anticipated?
5. Record test data measurements including oxygen, flammable gases and others that are relevant to the space.
6. The person evaluating the space needs to date and sign the form.

CONFINED SPACE - ASSESSMENT WORKSHEET

DOCUMENTATION OF NON-PERMIT SPACES & RECLASSIFICATION TO NON-PERMIT

1. **Potential Confined Space & Specific Location:**_____

2. **Reasons for Entry and how frequent:**_____

3. **Is there a potential hazardous atmosphere if not why?**_____

4. **Who last entered and why? Any comments on possible problems during the entries?**_____

5. **Specific Conditions of the Space and Space Test Data:**_____

SPACE CLASSIFICATION: This space meets the following requirements: (**Note** if the space is classes as IDLH/Dangerous then a permit must be issued.

IDLH: _____ DANGEROUS_____ Non-Permit_____

_____ _____

Safety Officer /Entry Supervisor **DATE**

CONTRACTOR NOTIFICATION FORM

The **contractor notification** will be done by the Public Works Supervisors. This notification is to ensure that the Department complies with rule 1910.146 (c)(8) of the Confined Space regulations. If the City contracts for confined space entry work as the host employer the City is responsible to:

1. Inform the contractor that a permit required space is involved in the work. This includes information about any chemicals in the space per Hazard Communication requirements.

2. Apprise the contractor of the hazards the City has identified and any experience the City's employees have had with the space.

3. Apprise the contractor of any precautions the City's employees have taken for entry.

4. Coordinate entry operations with the contractor if more than one contractor or if the City's employees will also be entering the space.

5. Debrief the contractor to determine if any problems were encountered requiring changes in procedures.

CONTRACTOR CONFINED SPACE NOTIFICATION CHECKLIST

PROJECT COORDINATOR:_____ DATE: _____

CONTRACTOR REPRESENTATIVE: _____

LOCATION OF SPACE:_____

CHECKLIST OF SAFEGUARDS

HAZARDS & RECOMMENDED SAFEGUARDS

Isolation:
1. Electrical _____
2. Mechanical _____
3. Other _____

Hazardous Work:
1. Welding/Burning/Open Flame _____
3. Electrical Work _____
4. CHEMICALS_____

Special Requirements
1. Lock-outs _____
2. Lines Disconnected _____
3. Vessel/Tank Purge - Flush & Vent _____
4. Ventilation _____
5. Secure Area _____
6. Lighting _____
7. Communication _____
8. Fire Extinguishers _____
9. Emergency Egress Procedures _____
10. Other _____

Personal Protective Equipment Needed
1. Harness & Life Line _____
2. Respirator _____
3. Eye Protection _____
4. Hearing Protection _____
5. Protective Clothing _____

Atmosphere Tests - List type of air testing that would be necessary _____

Contractor's Emergency Response Information Needed:
1. Phone Number and Location of Nearest telephone_____
2. Name of First Aid Person & Location of Nearest First Aid Kit _____
3. Emergency Rescue Plan _____

POST ENTRY DEBRIEFING NOTES: _____

EMPLOYEE TRAINING CERTIFICATE

CONFINED SPACE ENTRY TRAINING

Name of Trainer

Time and Date of Training

EMPLOYEE NAME & DEPARTMENT

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SECTION 3: CONFINED SPACE ENTRY EQUIPMENT INSPECTION PROCEDURES

EQUIPMENT INSPECTION PROCEDURES

Requirement

The safety equipment used in a confined space must be inspected by a qualified person designated by the crew leader and periodically by the Public Works Supervisor in charge. The inspection evaluates the equipment to ensure that it is functioning as required by the OSHA rules or by the manufacturer's specifications. The inspection frequency varies depending on specific rule requirement and on the manufacturer's specifications.

OSHA current has specific inspection and/or maintenance rules for ladders and respiratory equipment. General standards that require an employer to assure a safe workplace and that equipment be in "good repair" would apply to other devices used in the workplace. However for specific inspection protocols the manufacturer's specifications or ANSI standards will need to be used for the personnel-lift (hoist), safety harness, gas monitoring equipment, power ventilators, and communication systems.

Inspection Log

The City's employees inspecting the equipment will use an inspection log to keep track of the equipment conditions and ensure that all the relevant items are evaluated.

INSPECTION PROTOCOLS:

The following provides general inspection protocols for the safety equipment and access/egress equipment used in confined space entries.

Ladders

Oregon OSHA rules have specific care, maintenance and inspection procedures for ladders dependent on the type of ladder - portable wood or metal and fixed fixtures.

Portable Wood Ladders:

Wood Ladders

Wood ladders are to free from sharp edges and splinters. Upon inspection the ladders are not to shake, or wane. The ladder is not to show any compression failures, decay or other irregularities. (Rule# 1910.25(b)(1)(i))

The specific care and maintenance includes: (Rule # 1910.25 (d)(i)-(xi).

1. Ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.

2. Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.

3. Frayed or badly worn rope shall be replaced.

4. Safety feet and other auxiliary equipment shall be kept in good condition to insure proper performance.

5. Ladders shall be inspected frequently and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use".

6. Rungs should be kept free of grease and oil.

Portable Metal Ladders:

Metal Ladders

The maintenance and care of portable metal ladders includes

1. Ladders must be maintained in good usable condition at all times.

2. If a ladder is tipped over or damaged in way then an immediate inspection is necessary, which includes:

    a. Inspecting the side rails for dents, or bends, or excessively dented rungs;
    b. Checking all rung-to-side-rail connections,
    c. Checking hardware connections and the rivets for shear;

3. If ladders are exposed to oil and grease, equipment should be cleaned of oil, grease or slippery materials.

Fixed Ladders:

Fixed Ladders

Fixed ladders are required to be protected from deterioration. This includes:

1. Metal ladders and appurtenances shall be painted or otherwise treated to resist corrosion and rusting when location demands.

2. Ladders rungs in a corrosive atmosphere shall be a minimum diameter of 1 inch or shall be painted or otherwise treated to resist corrosion that is maintained in good repair.

Fixed ladders are to be maintained in a safe condition, and all ladders shall be inspected regularly, with the intervals between inspections being determined by use and exposure. (Rule 1910.27(f))

LADDER INSPECTION CHECKLIST

Ladders Portable Wooden/Metal

1. Wood or metal steps and rails are in solid and not broken.
2. All the hardware and fittings are securely attached.
3. All movable parts operate freely without binding or undue play.
4. Metal bearings for wheels, pulleys, or locks shall be frequently lubricated.
5. Frayed or badly worn rope shall be replaced.
6. Safety feet shall perform as intended.
7. Step rungs shall be free of grease and oil causing a slipping hazard.

NOTE: All defect portable ladders shall be withdrawn from service and tagged as "Dangerous - Do Not Use".

Fixed Ladders Metal

1. Metal ladders and appurtenances shall be painted or otherwise treated to resist corrosion and rusting when location demands.
2. Ladders formed by individual metal rungs imbedded in concrete, which serve as access to pits and to other areas under floors, are frequently located in an atmosphere that causes corrosion and rusting. To increase rung life in such atmosphere, individual metal rungs shall have a minimum diameter of 1 inch or shall be painted or otherwise treated to resist corrosion and rusting.

Wood

3. Wood ladders, when used under conditions where decay may occur, shall be treated with a nonirritating preservative, and the prevent or minimize the accumulation of water on the wood parts.
4. Inspection shall determine if the ladders are in safe condition.

Respirators

Respirators

SCBA's and airline systems used routinely are to be checked after each use. Those used for emergency or infrequently need to be check monthly. The checks are to assure that the equipment is kept clean and in proper working condition. The respirator inspection shall include an evaluation of:

- Tightness of the connections
- Condition of the face piece
- Condition of the headbands
- Condition of the cartridges or tank pressure
- Condition of the valves
- Pliability and cleanliness of the face piece material

RESPIRATOR INSPECTION RECORD

Date of Inspection:_____ Inspector:_____

Type of Respirator _____

CLEANLINESS OF THE EQUIPMENT_____

CONDITION OF THE EQUIPMENT

A. Facepiece_____

B. Inhalation valve_____

C. Exhalation valve_____

D. Headbands_____

E. Cartridge holder or Tank Pressure_____

F. Harness assembly_____

G. Hose assembly_____

H. Gaskets_____

I. Connections_____

J. Regulator Condition_____

K. Other defects_____

Fall Protection

Fall Protection

Fall protection and safety harness or life lines are currently only mentioned in OSHA's Confined Space regulations and specific inspection and maintenance requirements are not given. The exception to this is found in the new Powered-Platform Lift Rules which do provide specifications. While those rules only apply to powered platforms they do provide guidelines for the types of systems, inspection and maintenance programs for these pieces of equipment.

Personal Fall Arrest Systems

Fall arrest system means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline or suitable combination of these. Fall arrest may be combined with descent and retrieval devices.

Body support is provided by a connecting line or device to an individual harness that is connected to an anchor. Rope or webbing and safety harness system allow for freedom of movement flexibility for workers, yet will arrest a fall and help absorb the shock.

1. Body Support Device:

This is a full body support device made up straps. The devices must be properly fitted for each person. Employees need to be trained in how to fit a body support device.

2. Lanyards and Shock Absorbing Lanyards:

A 2 to 4 feet lanyard gives freedom of movement; however the better devices have shock absorbing lanyards with can significantly reduce fall forces on the body and reduce the potential for injury.

3. Retracting Lifeline Devices

These portable, self-contained devices are fixed to an anchorage point above the work areas. They act as an automatic taut lanyard. The lifeline is attached directly to the worker's body support harness. The rope or wire plays out of the device as distance increase and retracts as the worker moves closer. At the moment a fall occurs, a centrifugal locking mechanism is activated to arrest the movement, thereby reducing the potential shock load.

4. Lifeline System:

The portable system comprises several points designed to arrest the fall.

a. Anchorage Point: This is critical problem for all of the fall protection devices. OSHA rule requires anchorage points be capable of 5400 minimum pounds of static load strength. Where there is a free fall of two feet or less then a strength of 3,000 pounds is required. Anchorage for confined space entry is commonly a tripod.

b. Lifeline (Dropline). A lifeline is a vertical line which extends from the independent anchorage point and to which a lanyard or body harness is attached using a grabbing device.

c. Body Support: There are four classes of body support and each have specific uses. For confined space entry only the Class III approved full-body harness shall be used.

d. Lanyard. A lanyard is a short, flexible rope or strap webbing connecting a worker's safety belt to either the anchorage point or the grabbing device on the lifeline. A lanyard is designed to permit limited freedom of movement on the job.

e. Rope Grab Devices. A grabbing device connects the worker's body harness or lanyard to the lifeline and is designed to arrest a fall mechanically, bringing the worker to a full stop.

f. Hardware or connections: These are the devices used to couple parts of the system together. It may be an independent component of the system or an integral component of part of the system such as a D-ring sewn into a body harness.

Care and Inspection

1. Each component of the system shall be inspected prior to each use for mildew, wear, damage, and other deterioration, and defective components shall be removed from service if their strength or function may be adversely affected.

2. Personal fall arrest systems or components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection unless inspected and determined by a competent person to be undamaged and suitable for reuse.

Manufacturer Specifications and Recommended Inspections for:

Holst

Personnel-hoists and Recovery Systems require the following inspection and maintenance. Note: also follow all the instructions by the Manufacturer:

- **Inspection:**

1. Before use, inspect the device for any sign of damage, wear or malfunction. The personnel-hoist system must be inspected and tested satisfactorily before each use. Before the user is subject to fall hazard or recovery situation, connect the snap hook of the recovery system onto the D- ring of the user's harness.

2. Test the cable movement to insure that it moves freely and retracts satisfactorily. If the cable does not pull out smoothly or sticks when retracting, pull all of the cable out of the housing and allow it to retract slowly under light tension. Check for kinks or other damage. The cable should be checked regularly for signs of wear.

3. Test the cable braking action by grasping the snap hook and pulling outward with a steady sharp pull to engage the brake.

4. Check the snap hook keeper to be sure that it operates freely and locks.

5. Check all mounting equipment.

6. The unit is designed for a working load of 300 pounds - do not exceed this weight.

7. Do not use the unit if the cable doesn't retract or lock on testing.

Service of the Equipment

1. Service must only be carried out by an approved service engineer trained in the repair and service of the fall arrest lifeline systems and devices.

2. A record log of all servicing and inspection dates should be maintained by the company.

3. The device should be returned to the manufacturer's service representative on an annual basis for physical inspection and recertification or whenever subjected to a severe free fall.

4. Only original manufacturer's replacement parts are approved for use in the devices.

Other Devices in which the Manufacturers' Use, Care and Maintenance Protocols will need to be followed:

- Safety Harness
- Gas Monitors
- Power ventilators
- Communication systems

SECTION 4: Employee Training Program

Objectives: Employees who are required to work in a confined space, or in support of those working in a confined space shall have the following training:

- Understand the hazards associate confined spaces.
  - General hazards and the specific hazards for each confined space that will be entered.
  - Recognition of the signs and symptoms of exposure to a hazard and the consequences of the exposure.
- How the communications will be maintained between the attendant and the workers in the confined space.
- Emergency entry and exit procedures
- Use of respirators and other protective equipment
- First aid and CPR
- Lockout and isolation procedures
- Safety equipment use
- Rescue procedures
- Permit system
- Work practices required under the permit

Supervisor Training: The individual in charge or authorizing the entry shall have additional training on how to evaluate the confined space ensuring that the permit calls for adequate safeguards. This individual need to know how to use the testing and monitoring equipment and all other aspects of the entry program. This additional training will be arranged by the Public Works Supervisors including arrangements with equipment manufacturer's training programs.

Training Certificate We will use the training certificate as shown in Section 2 - Forms which contains the name of each employee trained, the signatures of the trainer(s), and the date of the training.

Training Frequency

Training frequency required by the Oregon OSHA standard is:

- Before the employee is first assigned duties involving confined space.
- Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained.
- Whenever there are deficiencies in the program and/or employee performance relating to the safety of the confined space entry.

Definition The following definitions are for terms used throughout this document:

Confined Space **Confined Space:** Every partial or complete enclosure (pit, manhole, tank, vault, etc.) where there may be deficient oxygen content or dangerous concentrations of air contaminants (toxic or combustible) must be considered a confined space.

Some characteristics of confined spaces include:

- Relatively difficult entry and exit.
- Access is small or seldom opened or both.
- The physical design obstructs direct visual and/or audible contact between the occupant and outside attendant.
- Contains or has a potential to contain a hazardous atmosphere.
- Potential for engulfment of an entrant.

Entry **Entry:** Entry into a confined space occurs as soon as any part of the **entrant's body breaks the plane of an opening into the space.**

Entry Permit **Entry Permit**: The written permit defines the conditions under which the permit space may be entered.

Hazardous Atmosphere **Hazardous atmosphere:** means an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes:

- A flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL).
- An atmospheric oxygen concentration below 19.5% or above 23.5%.
- A combustible dust environment.
- An atmospheric concentration of any substance for which an employee exposure would exceed the permissible exposure limit (PEL).
- Any atmospheric condition recognized as immediately dangerous to life or health.

Hot Work — **Hot Work** means operations which could provide a source of ignition, such as welding, cutting, burning or heating.

IDLH — **Immediately dangerous to life or health:** means any condition which poses an immediate threat of loss of life; or may result in irreversible or immediate-severe health effects or other conditions which could impair escape from the permit space.

LFL — **Lower Flammable Limit**: The minimum concentration of a combustible gas or vapor in air (usually expressed in percent by volume at sea level) which will ignite if an ignition source (sufficient ignition energy) is present. The upper flammable limit (**UFL**) is the maximum vapor to air concentration above which propagation of a flame will not occur. Below the LFL the mixture is said to be *too lean* to burn and above the UFL it is *too rich* to burn.

Isolation — A process whereby the confined space is removed from service and completely protected against the inadvertent release of energy or material into the space by the following:

- Locking out: locking out all hazardous sources of energy including electrical.
- Blanking and bleeding: blanking off the lines by inserting a metal type blank between flanges, or miss aligned sections of all lines and pipes, and bleeding of the pressure or chemical in the lines system.
- Inerting or purging - Displacement of the atmosphere by a non-reactive gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.
- Line Breaking or disconnecting means the intentional opening of a pipe, line or duct that is or has been carrying flammable, corrosive or toxic material, an inert gas, or any fluid at a pressure or temperature capable of causing injury.

PEL — **Permissible Exposure Limits (PEL)**: means an airborne chemical exposure limit established by Oregon OSHA which can not be exceeded without proper respiratory protection and the implementation of feasible engineering controls.

Rescue Devices — **Emergency Rescue Devices** include:

- Personnel-lifts (hoists) for rescue and retrieval are both manual or mechanical devices for raising, lowering or supporting a workers. The may be mounted on tripods or davit arm or other proper anchorage.

- Retrieval Line means a line or rope secured at one end to the worker by a body harness or wristlets, and with its other end secured to either a lifting device or to an anchor point located outside the entry portal.

- Safety Harness: There are 4 types of safety body support systems consisting of belts and body harness. The type that we use are Class III Full Body Harness designed for rescue, retrieval and fall protection. Class I Belts may be used with ladders where only fall arrest protection is needed.

Standby Person

The OSHA rules designate a standby person as an "attendant" which means an individual stationed outside the permit required confined space who is trained as required by the standard and who monitors the authorized entrants inside the permit required confined space. An attendant may monitor more entrants if the conditions and permit allow for monitoring more than one person in a space.

Supplied Air Respirators

Supplied Air systems approved for confined space are either Self Contained Breathing Apparatus (SCBA's) or Supplied airline systems with 5 minute escape pacs. The air is supplied by compressed bottles.

HAZARDS ASSOCIATED WITH CONFINED SPACES

Overview

Workers entering and working in confined spaces are routinely subjected to hazards that can cause illness, bodily injury and death. Proper entry procedures and preparation will control for the potential hazards encountered allowing the employee to safely exit the space after the work is completed. **The City does not want any of their employees becoming an accident statistic.**

Atmosphere Exposures

Exposure to chemical products in a confined space can cause a variety of symptoms, depending on how much of the chemical was present and what chemical is involved. For example, breathing carbon monoxide at elevated levels for a short period of time may cause a bad headache, but breathing hydrogen sulfide at the same concentration can cause instant death!

Health effects of chemicals depend also on how long people have been exposed, and on the person involved. For example, a smoker who has had a heart attack may develop chest pain while working in a area with slightly elevated CO levels whereas a healthy non-smoker may stay symptom free.

Space air monitoring is critical in determining the air quality. The air quality in the confined space must meet certain criteria for entry without SCBA or air line system and for any hot work. Thus the test results help to determine: if you can enter the area and; If so what type of respiratory equipment will be needed.

Hazards

1. Oxygen levels

Oxygen Deficiency

Normal fresh air contains 20.9 percent oxygen. If the oxygen level is below 19.5%, your body may not have enough oxygen to function normally. This oxygen deficiency can result in headaches, light headedness, shortness of breath, palpitations, cyanosis (a bluish or purplish discoloration of the skin due to deficient oxygen) and sweating. If the levels are low enough unconsciousness and death can result rapidly.

Common causes: rusting, bacterial action (fermentation), burning, dilution with other gases, welding or cutting.

Oxygen Enrichment

If the oxygen percentage is too high (23.5% or greater) , light headedness, chest pains and unconsciousness may occur. Also, high oxygen levels can create fire or explosion hazard. Oxygen-enriched atmosphere will cause flammable materials, such as clothing and hair, to burn violently when ignited.

Effects of Oxygen Levels	
23.5%	Enrichment - poses extreme fire hazard
20.9%	Oxygen in the Air
19.5%	Minimum safe level (OSHA, NFPA)
16%	Disorientation and wooziness. Approximate point where flame safety lamp extinguishes.
12%	Unconsciousness is almost certain between 8 - 12%
5%	Death

2. Flammable/Combustible gases and vapors

Combustible gases

Atmospheres which may explode or ignite if a source of ignition is present. Gases have different flammable ranges. If a source of ignition (ie, a sparking or electrical tool) is introduced into a space containing a flammable atmosphere an explosion will result.

Common flammable gas found in confined spaces is methane. Methane alone does not have an odor, and is dangerous because it replaces oxygen in the lungs causing oxygen deficiency. Sewer gases are usually a mixture and will have sulfur odors, however, odor fatigue can develop so you can not depend on your sense of smell for detection. The symptoms are the same as listed in item 1. Also remember that many flammable gases are also toxic. A good example would be gasoline which can be found in sewers or pocketed underground due to leaking gas tanks.

3. Toxic gases and vapors

Toxic gases

Atmospheres containing contaminants that even in low concentration can cause serious injury or death. This category includes carbon monoxide, hydrogen sulfide, sulfur dioxide or nitrogen dioxide.

H_2S

Hydrogen Sulfide is a deadly gas at low concentrations. Levels should never exceed 10 ppm for enter without air-supplied respiratory protection. Hydrogen Sulfide bonds strongly to hemoglobin, which carries oxygen in the bloodstream. As a result, the body is not able to

use the oxygen. This can result in rapid loss of consciousness and death. Often, bystanders without respiratory equipment try to rescue these victims also lose their lives. At repeated low level exposures, eye inflammation can develop.

Always have air-supplied system on before entering areas with elevated levels of hydrogen sulfide. Hydrogen sulfide smells of rotten eggs however, an individual can rapidly develop odor fatigue and no longer notice the smell.

CO **Carbon monoxide** (at levels above 35 ppm) causes decreased oxygen levels in the blood because it has a much stronger affinity to bond with hemoglobin than oxygen. Depending on how long and at what level exposure occurred, the following symptoms may develop: headache, rapid breathing, nausea, weakness, light headedness, confusion and cyanosis. At higher levels loss of consciousness and death can occur.

Remember that additional symptoms can develop while present in a confined space. There are several reasons for this:

- A mixture of gases may be present.
- Other chemicals may be present like various solvents from an industrial spill or illegal dumping.

If unusual odors are present, entry shall be made using air supplied respiratory equipment. The presence of odors is not always related to the degree of hazard just as the lack of odor does not mean that it is safe; however, odors could be the result of illegal chemical dumping or an accidental spill which could affect your health and safety.

OVERVIEW SELECTED CHEMICALS FIRE AND HEALTH HAZARD LEVELS

GAS	PHYSICAL CHARACTERISTICS	LFL % VOLUME	TOXICITY (PEL)
Carbon Monoxide CO	colorless odorless	12.5%	35 ppm (0.0035%)
Hydrogen Sulfide H_2S	colorless rotten eggs* ODOR FATIGUE	4%	10 ppm (0.001%)
Methane CH_4	colorless odorless	5%	Non-toxic (replaces oxygen)
Gasoline Vapors	colorless distinctive odor sweet	1%	300 ppm (0.03%)

GENERAL PHYSICAL HAZARDS

Various physical hazards may be present in confined space environments, these may include:

Engulfment Engulfment hazards from sewage or sludge flows into a confined space which would engulf and suffocate a worker. The sewer gravity lines are not typically subject to surges, unless entry is made during a storm, high flow conditions following a storm, or the line is downstream from a pump station. Thus these conditions must be considered prior to entry. In the plants each space needs to be evaluated for possible engulfment and feed lines need to be properly closed off or disconnected.

Falls Slips and falls can occur on a wet surface causing injury or death. Ladder safety is also a critical issue in preventing fall injuries.

Electrical Wet surfaces will increase the likelihood and severity of electric shock in areas where electrical circuits, equipment and tools are used.

Heat Stress The spaces entered may be hot but often the problem is the type of protective clothing worn. Impervious clothing does not allow for heat dissipation as the person works. This can result in serious heat stress situation especially if the space is hot due to outside temperatures or heat generating equipment in the space.

Structural Hazards Overhead hazards and falling objects may be a problem for employees below ground level. Structural hazards within a confined space such as baffles in horizontal tanks, trays in vertical towers, bends in tunnels, overhead structural members or scaffolding installed for maintenance can all represent potential physical hazards from hitting the objects, climbing over, running into the objects etc.

Mechanical Hazards Machinery and equipment activating while an employee is in the confined space can result in serious injury or death. Moving parts of a machinery can be a hazardous. If an employee is in close proximity or trapped near equipment in a confined space it must be disconnected and locked-out of service.

Noise Exposure to high noise levels due to cleaning equipment or other power tools used in the maintenance of the space. Noise problems are usually intensified in confined spaces because the interior tends to cause sound to reverberate and thus expose the worker to higher sound levels than found in an open environment. Higher noise levels may also significantly disrupt verbal communications with the standby person on the exterior of the confined space.

PERMIT PROCESS AND EVALUATION OF THE HAZARDS

Policy

No employee shall enter any vessel or confined space without the expressed permission of his/her supervisor. The supervisor is responsible for the proper preparation of equipment and the space before and during entry. A designated lead person may be assigned the responsibility for directing the permit confined space entry. The entry supervisors shall be responsible for:

- Evaluation of the confined space to determine if it is non-permit or permit requiring. (See Permit-Required Confined Space Flowchart)
- Completion of the work permit indicating the safety equipment required.
- Special precautions to be observed.
- The number of employees permitted to enter.
- The duration of the permit.
- Cancellation of the permit.

Employees are responsible for following all steps of the entry procedure exactly as shown on the entry permit.

Classification

The City's policy provides a detailed listing of the main confined spaces found in our facilities and field operations. **NOTE:** If a space that has the configurations fitting a confined space and is not on the list you must first contact your supervisor prior to arranging entry. Additional spaces will be added to our list as we determine the need.

To streamline the classification system 4 general types of spaces have been defined in relation to the two level Hazard Permit Classification System (Classes A and B).

Hazardous atmosphere (A) - means an atmosphere which exposes employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes: flammable or combustible gases, oxygen deficient or enriched atmospheres, toxic atmospheres, engulfment, and other serious physical hazards.

These type of spaces will have limited or restricted means for entry or exit. Examples given in the regulations include tanks, vessels, silos,

storage bins, hoppers, vaults, pits and diked areas. These spaces are also not designed for continuous employee occupancy.

Non-permit confined space (B) - means a space where there is an extremely low likelihood that an IDLH (immediately dangerous to life and health) or engulfment hazard could be present, and where all other serious hazards have been controlled. The OSHA standard defines a non-permit space as:

> *"a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm."*

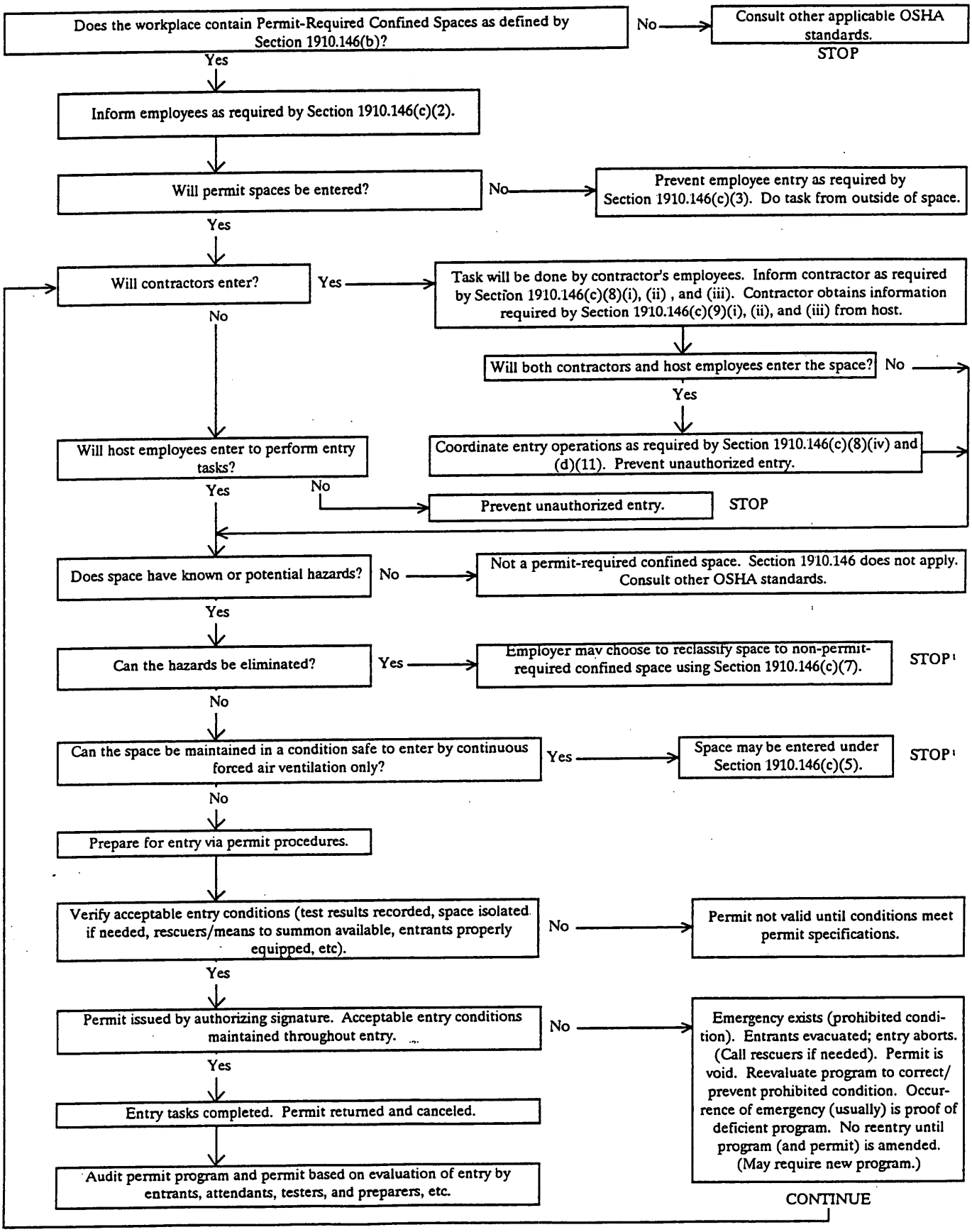
Examples of non-permit confined spaces includes: vented vaults, motor control cabinets, and dropped ceilings. Although they are "confined space" these spaces have either natural or permanent mechanical ventilation to prevent the accumulation of a hazardous atmosphere, and they do not present engulfment or other serious hazards.

Hot Work Permit: Any welding or hot work being done in a confined space requires both a Confined Space Permit and **Hot Work Permit** even if the confined space is originally defined as Non-permit.

General Types of Spaces	Hazard Classification
1. Open top: basins, tanks or horizontal open structures such as culvert. (*if engulfment or chemicals are not a hazard)	B*
2. Tanks /Vaults with manhole or limited entry area or manholes.	A
3. Pits and sumps, ditches and trenches.	A or B

PERMIT REQUIRED CONFINED SPACE DECISION FLOWCHART

Appendix A
Permit-Required Confined Space Decision Flowchart



1 Spaces may have to be evacuated and reevaluated if hazards arise during entry.

Labeling

Signs shall be posted near permit spaces to notify employees what hazards may be present and that only authorized workers may enter those spaces. Signs are not practical nor feasible for the manholes thus all those areas are automatically considered confined spaces and only authorized employees will have access. The signs shall state:

DANGER - CONFINED SPACE
ENTRY BY PERMIT ONLY

Permit

A *Confined Space Entry-Hazardous Atmosphere Work Permit* must be issued for each confined space entry. The permit will be properly filled out and followed.

Requirement

A written permit is necessary because of the special precautions that must be taken to ensure that the confined space work is performed safely. There are 2 permit forms:

- **Confined Space Entry Permit**
- **Hot Work Permit**

The permit functions as a checklist to ensure proper work preparation and atmospheric testing. The permit establishes expiration time and date which prevents the entry permit from being used for unauthorized entries. The permit also requires signatures of the responsible supervisor/lead person in charge and employees who will perform the work.

Confined Space Permit Instructions

Instructions The Permit form includes the following information:

1. The identity of the permit space or location of work.
2. The purpose of entry.
3. The individual authorizing the entry shall sign the permit before the entry begins. Entry is not permitted until all actions and conditions necessary for safe entry have been performed.
4. The measures for isolation of hazardous energy sources in the permit space which include lock-out procedures to be performed.
5. Whether or not hot work or electrical work will be performed, if so the Hot Work Permit will also be required.
6. Special precautions that will be needed including procedures for purging, inerting, ventilating and flushing the space to remove or control the potential hazards.
7. The communication procedures and equipment used by authorized workers and attendants to maintain contact.
8. Rescue procedures, equipment, and other services which would be summoned in case of emergency and means of communication with those services.
9. The personal protective equipment, such as: hard hats, gloves, coveralls, respirators, safety harness, and retrieval lines, provided in order to ensure employee safety.
10. Acceptable environmental conditions with regards to the hazards identified in the permit space by monitoring the air quality.
11. The date of entry and authorized duration.
12. The authorized confined space workers' signatures.
13. Upon completion of the entry covered by the permit, and after all workers have exited the permit space, the individual authorizing the entry shall cancel the permit.

Permit # _____

CONFINED SPACE ENTRY
HAZARDOUS ATMOSPHERE PERMIT

Department Issuing the Permit _____ Location of Work _____

Nature of the Job Being Done _____ PERSON In Charge of Work (On-site supervisor) _____

Special Instructions _____

CHECKLIST

	Check If Required	Check When Completed
Isolation: Lockout/Tagout Procedures Required		
1. Electrical	_____	_____
2. Mechanical	_____	_____
3. Other _____	_____	_____
Hazardous Work:		
1. Welding/Burning(NOTE: Complete a Hot Work Permit)	_____	_____
2. Electrical Work	_____	_____
3. Painting	_____	_____
4. Sand Blasting	_____	_____
5. Other _____	_____	_____
Special Requirements		
1. Lines Disconnected	_____	_____
2. Vessel/Tank Purge - Flush	_____	_____
3. Ventilation	_____	_____
4. Communication	_____	_____
5. Emergency Rescue Procedures	_____	_____
6. Other _____	_____	_____
Personal Protective Equipment Needed		
1. Harness & Life Line	_____	_____
2. Respirator	_____	_____
3. Protective Clothing	_____	_____
4. Other _____		
Atmosphere Tests (Record Results In Completed Column)		
1. Oxygen - 19.5% - 23.5%	_____	_____
2. Flammable Vapors - below 10% LFL (Fire/Explosion)	_____	_____
3. Hydrogen sulfide - below PEL 10 ppm	_____	_____
4. Carbon Monoxide - below PEL 35 ppm	_____	_____
5. GAS TEST Equipment	_____	_____
Calibration Date _____	Date	Date
6. Other Chemicals: _____	_____	_____

Date & Time Issued: _____ **Date & Time Expired or Cancelled:** _____

Employee (Entrant) _____ Employee (Standby) _____

Employee (Entrant) _____ Entry Supervisor _____

Use back side of the form for additional instructions or listing additional employees who will be involved in entry or standby responsibilities

Hot Work Permit Procedures and Instructions

Requirement

An additional Hazardous Work Permit is required when employees are welding or using some type of an open flame/hot work in a confined space. The permit is to ensure that the proper planning and precaution are taken because hot work in a confined space is inherently dangerous.

Permit System

The permit system requires the following:

A. The Supervisor is to complete the Confined Space Entry Permit and the Hot Work permit.

B. The Permit form includes the following:

1. The identity of the permit space or location of work.
2. The purpose of entry.
3. Person in charge of the entry
4. Identifying the special fire hazards are so that proper precautions can be implemented to control the conditions.
5. The special measures taken to ensure that the tank or basin has been properly purged by specifying the methods for flushing and ventilating the confined space.
6. The measures for isolation of other hazards that may be affected by hot work including: electrical lock-out, and gas or hazardous chemical line blanking. Compressed gas cylinders shall not be allowed in the confined space.
7. Additional personal protective equipment, such as respirators, clothing, special eye protection and welding helmets, provided in order to ensure employee safety.
8. The date of entry and authorized duration.
9. The authorized employees' and supervisor's signatures.
10. The date the permit expires or is canceled.

Permit # _____

CONFINED SPACE ENTRY
HOT WORK PERMIT

NOTE: THIS PERMIT IS TO BE USED WITH THE HAZARDOUS WORK PERMIT WHEN ANY HOT WORK IS PLANNED TO BE DONE IN A CONFINED SPACE.

_____ _____

Department Issuing the Permit **Location of Work**

_____

Nature of the Job Being Done **PERSON In Charge of Work (On-site Supervisor)**

Special Fire Hazards _____

_____

Hazardous Work to be performed: (Welding/Burning/Open Flame)_____

CHECKLIST

Special Requirements

1. **Vessel/Tank Purge - Flush & Ventilate: Yes____ No____**
   - **Type of Deposit or material in tank** _____
   - **Method of Cleaning**_____
2. **Fire Prevention Precautions** _____
3. **Ventilation for Welding Fumes: Yes____ No____ Types:**_____
4. **Isolation: Lock-out**
   - **Electrical: Yes____ No____**
   - **Mechanical: Yes____ No____**
   - **Gas Lines: Yes____ No____**
   - **Other: Yes____ No____ Types:**_____
5. **Additional Personal Protective Equipment Needed**
   - **Respirator: Yes____ No____ Type:**_____
   - **Welding Helmet: Yes____ No____**
   - **Hearing Protection: Yes____ No____**
   - **Protective Clothing: Yes____ No____**

Date & Time Issued:_____ **Date & Time Expired or Canceled:**_____

_____ _____

Employee (Entrant) **Employee (Entrant)**

_____ _____

Employee (Standby) **Employee (Standby)**

HAZARD CONTROL MEASURES

Inspection

The safety equipment to be used in a confined space must be inspected by a qualified person designated by the Supervisor who certifies that the equipment is in working condition as outlined by the OSHA rules or by the manufacturer's specifications. The inspection frequency varies depending on specific rule requirement and by the manufacturer's specifications. See the Policy "Equipment Inspection Procedures" in Section 3 of the Confined Space Program which outlines the inspection protocols.

The equipment includes, but is not limited to:

- Ladders
- Personnel-hoists
- Safety Harness and life lines
- Gas Monitors
- Power ventilators
- SCBA's and airline systems
- Communication systems

Isolation

Isolation may involve a variety of activities necessary to control for potential hazardous conditions within the space.

Lock-out

Mechanical equipment installed in the confined space must be disconnected from its power source and locked out. The lock-out program must be followed. It is preferable to disconnect and lock out the main switches remote from the equipment.

Additional methods of isolation include blanking and bleeding of pneumatic, hydraulic lines and chemical lines and securing mechanical moving parts within confined spaces with latches, chains, chocks, blocks, or other devices.

Electrical

Only double insulated electric tools or tools on a ground fault circuit interrupter system are used in confined spaces. All portable lights and tools shall be explosion proof when working in a confined space where there is a potential flammable or explosive atmosphere.

Hot Work

When any hot work involving sources of ignition including welding and burning is done in a confined space, then all fire hazards and flammable atmospheres must be controlled. All combustible material shall be protected. A Hot Work Permit is required to be completed in addition to the Class A Hazardous Atmosphere Permit.

Ventilation

Ventilation of confined spaces shall be used to provide adequate levels of oxygen, to dilute toxic and flammable gases and to improve general air quality. The ventilation equipment shall be explosion proof if it is placed inside the confined space or is used as an exhaust system for flammable gases.

A common method of ventilation requires a large hose, one end attached to a fan and other lowered into a manhole or opening. For example, a manhole would have the ventilating hose run to the bottom to blow out all harmful gases and vapors. The air intake should be placed in an areas that will draw in fresh air only. Blowers need to be located so they will not pick up exhaust gases from vehicles.

Ventilation should be continuous where possible, because in many confined spaces the hazardous atmosphere will form again when the flow of air is stopped.

Test have shown that, in ventilating underground structures, forced draft (blowing) is superior to suction draft because blowing air creates turbulence and scours out all areas. Blowers should also be located so there are no unnecessary bends in the hose. Normally one 90 degree bend reduces the blower capacity to 70% of the rated capacity. Two 90 degree bends reduce the capacity to 50% or half.

The recommended number of air exchanges varies in the literature 5 to 20. However research using models has found that the answer is much more complicated because the space configurations are critical in how effective ventilation is. Thus even with ventilation it is critical to conduct thorough initial atmosphere testing and once entry is made to continue the testing.

A study published in the Applied Industrial Hygiene Journal Jan. 1989 "Ventilation to Eliminate Oxygen Deficiency in a Confined Space Part 1: A Cubical Model" found: "Oxygen recovery in the closed-top case (space) was generally more rapid for supply ventilation than for exhaust. Ventilation effectiveness (oxygen recovery) improved with increasing flow rate, to a cut-off point above which little additional improvements was shown. Ventilation effectiveness was also affected by inlet/outlet height and location in the space."

Respirators

Respiratory Protection and Training: Respirators are devices that can allow workers to safely breathe without inhaling toxic gas particles. Two basic types are air-purifying which filter dangerous substances from the air; and air-supplying which deliver a supply of safe breathing air from a tank or an uncontaminated area nearby. Our policy "Respirator Selection, Use and Fit-Testing Requirements" provides the details on respiratory selection, use, maintenance and inspection.

ONLY AIR SUPPLYING RESPIRATORS MAY BE USED IN CONFINED SPACES WHERE THERE IS NOT ENOUGH OXYGEN.

Supplied-Air Line

These respirators deliver air to a full facepiece. The air, which must be breathing quality, can come from a large compressed air cylinder or an air compressor located in an uncontaminated area. The Supplied air respirators used by the City are a positive pressure type. This means there is a continuous flow of air at all times and additional air is provided by the breathing demand of the user. Positive pressure regulators maintain a positive pressure in the respiratory facepiece and therefore are less likely to allow inward leakage of air contaminants.

These systems provide a high level of protection, but the airline hose does limit mobility to a maximum hose length of 300 feet. Airline supplied air respirators can NOT be used in atmospheres classified as Immediately Dangerous to Life and Health UNLESS a five minute reserve air bottle is attached for the worker to use for escape purposes if the primary air supply fails.

SCBAs

These respirators come equipped with a full facepiece, hose, and cylinder of air which is worn on the back. These systems provide complete respiratory protection against toxic gases and oxygen deficient atmospheres. These units are commonly worn by fire fighters who must enter areas where atmospheric contaminants may be highly toxic and concentrations are not known. SCBA's do have a limited use-life of about one-half hour per cylinder of air.

SCBA's can be very heavy and bulky. The weight may impose an extra physical burden on an employee who is already performing strenuous physical exertion. Keep in mind that individuals in poor physical condition, or with certain medical problems, may be unable to work safely in SCBA's.

SCBA use requires additional employee training. Specialized maintenance procedures are also necessary. For further information on respirators including SCBA see Respiratory Protection Policy.

Air Testing

Testing of the air within confined spaces shall be performed prior to entry to determine oxygen content, toxic gas potential and flammable or explosive atmospheres.

Entry into a confined space is prohibited until initial testing of the atmosphere has been done from outside the space. Entry without air supplied respiratory equipment will only be made after the appropriate tests show that the atmosphere is safe.

The tests performed shall include those for oxygen content, flammable gases, hydrogen sulfide, and carbon monoxide. Additional tests may be required by the Supervisor depending on the circumstances.

It is important to understand that some gases or vapors heavier than air and will settle to the bottom of a confined space. Also some gases are lighter than air and will be found around the top of the confined space. Therefore, it is necessary to test all areas (top, middle, bottom) of a confined space with properly calibrated testing instruments to determine what gases are present.

Methane
(lighter than air)

Carbon Monoxide
(same as air)

Hydrogen Sulfide
(slightly heavier than air)

Gasoline Vapors
(heavier than air)

Never trust your senses to determine if the air in a confined space is safe! You cannot see or smell many toxic gases and vapors, nor can you determine the level of oxygen present.

Testing Protocols using a general digital electrical sensor four channel tester. (Note: employees need to be specifically trained on the units they use in the filed).

a. The confined space shall be tested using a direct reading instrument with a remote sampling probe. This instrument simultaneously displays and continuously monitors four gases: Combustibles, Oxygen, Hydrogen Sulfide and Carbon Monoxide.

b. The (meter) is a diffusion instrument with a remote probe that allows the probe to be dropped down into an opening or telescoped into a horizontal space while the actual readings are taken outside the space. The unit has a built in dosimeter which records the total exposure to both hydrogen sulfide and to carbon monoxide and calculates the TWA from the moment the instrument is activated. It also has a peak hold which will show the highest level of the toxic or combustible readings and the lowest oxygen readings during the operating time.

The instrument are usually powdered by alkaline batteries which will provide 8 to 10 hours of continuous operation.

It is equipped with dual audible and visual alarms which are which are factory set. If the unit has not been updated it needs to be for the Alarms to activate at:

Combustibles:	at or above 10% LFL
Oxygen:	below 19.5% or above 23.5%
Hydrogen Sulfide	10 ppm
Carbon Monoxide	35 ppm

Atmospheric monitoring instrumentation requires routine maintenance. The most important maintenance item is frequent system calibration. It is preferable to check calibration before each day's use. Instruments shall be calibrated in accordance with the manufacturer's guidelines or manuals. Each calibration shall be recorded, filed by the person responsible for testing equipment.

If testing reveals atmosphere deficiency then the space must be ventilated and re-tested. For spaces where ventilation is not feasible then entry will only be made with air-supplied respiratory system and where the flammable gas level is below 10% LFL.

Acceptable Atmosphere Without SCBA

If the space meets the following air quality standards then entry may be done without a SCBA or continuous airline with escape bottle:

- Oxygen level between 19.5% - 23.5%
- Flammable vapors below 10%*
- Hydrogen sulfide below the PEL of 10 ppm
- Carbon Monoxide below the PEL of 35 ppm

Even under these conditions it is prudent to wear either the airline system or at least a half-face piece respirator with an organic vapor/acid gas cartridge in conjunction with a particulate filter. This will provide protection against low level organic solvents (below 1000 ppm and acid gases such as hydrogen chloride below 50 ppm) and particulate mist droplet exposures from the sewage.

* Extra safety measure since many flammable gases are toxic at below 100 ppm (.01%). While this is not true of methane (non-toxic) gas your instrument can not distinguishes between toxic flammable gases and non-toxic flammable gases. The general combustible gas meters used do not provided sensitivity enough readings to judge the toxic levels of solvents. Other testing equipment will be needed if toxic vapors are present in the confined space. The additional testing will be identified on the permit.

NOTE: If unusual odors are present, entry shall be made using air supplied respiratory equipment. The presence of odors is not always related to the degree of hazard just as the lack of odor does not mean that it is safe; however, odors could be the result of illegal chemical dumping or an accidental spill which could affect your health and safety. Your supervisor needs to be notified to ensure that the reason for the unusual conditions aren't due to an accidental or illegal chemical dumping.

Acceptable Entry With a SCBA

The atmosphere with one or more of the following characteristics may be entered only with SCBA or airline with 5 minute escape bottle because the environment would be defined as Dangerous and/or IDLH. Where feasible, the policy is to ventilate, purge, and clean confined spaces until such time the atmosphere is below dangerous levels .

- Oxygen levels below 19.5%
- Flammable vapors above 10% LFL - **No one shall enter a potentially explosive environment (over 10% LFL).**
- Hydrogen sulfide above the PEL of 10 ppm
- Carbon Monoxide above the PEL of 35 ppm

Where a confined space cannot be purged and ventilated to provide and maintain a safe atmosphere, then a worker entering a confined space shall use all of the following:

- A self-contained breathing apparatus (SCBA) or a continuous air-line system with a 5 minute escape bottle.
- Continuous air monitoring to ensure levels are below 10% LFL.
- A safety harness of a type which will keep the worker in a position to permit rescue. Where feasible the harness line should be attached to the mechanical hoisting device.
- A life line attached to the safety harness which is tended by the outside attendant.
- A spare SCBA, life line and harness must be available for rescue if 3 or more employees are available.

OTHER SAFETY ISSUES

Many other occupational safety regulations relate directly or indirectly to conditions found in confined spaces. If you have any questions about these other safety issues please contact your supervisor

Traffic Hazards

Your Supervisor will ensure that all pedestrian, vehicle or other barriers necessary to protect workers from external hazards are provided. This includes ensuring that employees handling traffic are trained in flagging and traffic control per the Uniform Traffic Code.

Other Chemicals

The Material Safety Data Sheets (MSDSs) of all products and cleaning materials used in the confined space must be reviewed before entry unless the products have already been covered with the employees in the routine hazard communication training.

EMERGENCY RESCUE

Emergency Rescue

The Supervisor will ensure that the proper procedures and equipment necessary to rescue an entrant from a permit space are implemented and provided.

Over 50% of the workers who die in confined spaces are attempting to rescue other workers. Rescuers must be trained in and follow established emergency procedures and use appropriate equipment and techniques (lifelines, respiratory protection, standby persons)

REMEMBER AN UNPLANNED RESCUE WILL PROBABLY BE YOUR LAST.

The equipment and procedures that need to be in place for emergency rescue includes:

- Safety harness, life line and tripod hoist or other type of rescue devices as needed for the permit space being entered.

- Communication with other entry team members by Mobile Radio, Telephone or other effective means is provided.

- First aid and emergency response by notification of the plant first aid/CPR trained member and 911 rescue assistance. It is important to provide clear and detailed information to your central dispatch or to the person who will be calling 911. For the emergency responders to properly prioritize and respond they need to know:

  - the exact location,
  - the number of individuals in need of rescue and/or medical care,
  - the type of medical care needed, and
  - the current work or site conditions.

CONFINED SPACE TRAINING EXERCISE
MANHOLE ENTRY

Exercise: This exercise may be done on paper only or if facilities are available a planned entry should be done.

Condition You are to develop procedures and complete a permit for entering and performing work for the space identified below. This will involve determining the potential hazard, the control measures, equipment and employees needed, specific procedural steps and completion of the permit.

Employees need to enter a pipe vault to install a special flow monitoring device. The pipeline/vault contains/has contained storm water. The pipeline and vault have been out of use for the last year.

SECTION 11020
INSTALLATION OF OWNER FURNISHED SLUICE GATES

PART 1 GENERAL

1.1 SCOPE

A. This section covers the work necessary to isolate and remove two existing sluice gates and install two new sluice gates furnished by the OWNER. The work also includes the bypass pumping of the contents of the plant drain.

B. Isolation of Channels

1. Install OWNER furnished bulkhead to isolate channels upstream of sluice gates in the Influent Pump Station Inlet Structure at the OWNER's Wastewater Treatment Facility. There are existing bulkhead guides on the west side of the structure. CONTRACTOR shall install bulkhead guides on the east side of the structure as shown on the Drawings.
2. Only one side of the inlet structure shall be isolated at a time while the other side remains in service. The Influent Pump Station must remain in service at all times.

C. Bypass Pumping

1. During installation of the east sluice gate the CONTRACTOR shall provide for bypass pumping of the contents of the 24-inch plant drain pipe.
2. Plug the 24-inch pipe on the downstream side of the plant drain manhole located approximately 10 feet east of the inlet structure.
3. Provide a 30 gpm submersible pump, with on/off level controls, in the plant drain manhole located approximately 10 feet east of the inlet structure. Provide discharge pipe of sufficient length for discharge on the west side of the inlet structure. The OWNER will provide 480 volt, 3 phase power at the site for operation of the pump.

D. Demolition

1. Remove the two existing 4' x 4' sluice gates and associated stems, stem guides, and operators.

2. It is uncertain whether the existing sluice gates are mounted on anchor bolts cast in the concrete or on threaded rods in concrete anchors. The CONTRACTOR shall submit a base bid that assumes that the existing sluice gates are mounted on threaded rods in concrete anchors. The base bid shall include the work to remove the existing threaded rods and replace them with new ¾- inch Type 316 stainless steel threaded rods with double nuts.
3. If the existing sluice gates are found to be mounted on anchor bolts cast in the concrete, additional work will be required. The anchor bolts shall be cut off flush with the face of the concrete. The CONTRACTOR shall provide ¾-inch Type 316 threaded rods in adhesive anchors for mounting of the new sluice gates. The new gates shall be mounted 5 inches higher than the existing gates to avoid interference between the cut off anchor bolts and the new adhesive anchors. A new 5-inch high concrete sill shall be placed at the bottom of each sluice gate. The additional work shall be included in the amount bid for the Additive Item in the Bid.

E. Installation of Sluice Gates

1. CONTRACTOR shall install, complete and ready for operation, the sluice gates furnished by the OWNER.

PART 2 PRODUCTS

2.1 MATERIALS TO BE FURNISHED BY OWNER

A. The OWNER will furnish two 4' x 4' Waterman Ni-resist sluice gates with accessories including stems, stem guides, and operators. The gates will be of the rising stem type.

B. The purchase specifications for the OWNER furnished sluice gates are available from the OWNER by request.

C. One copy of shop drawings detailing the sluice gates to be furnished will be furnished to the CONTRACTOR prior to construction.

D. The OWNER will furnish a 48" by 70.75" by 1" thick plywood bulkhead for CONTRACTOR's use in isolating the channels upstream of the sluice gates. The bulkhead has a 3/8-inch neoprene seal on the bottom edge.

2.2 INCIDENTAL MATERIALS

A. CONTRACTOR shall furnish all incidental materials and lubricants as shown and as required for the operation of the sluice gates installed under this section.

2.3 CONTRACTOR FURNISHED ITEMS

A. Bulkhead Guides:

1. CONTRACTOR shall furnish and install bulkhead guides for isolation of the east side of the inlet structure using the OWNER furnished bulkhead.
2. Guides shall be aluminum alloy 6061-T6, of size and shape shown on the Drawings.

B. Adhesive Anchors:

1. Anchor Rods:
   a. AISI Type 316 stainless steel threaded rod, diameter as shown.
   b. Length as required to provide minimum depth of embedment.
   c. Clean and free from grease, oil, or other deleterious material.

2. Adhesive:
   a. ASTM C881-90.
   b. Two-component, insensitive to moisture, designed to be used in adverse freeze/thaw environments, with gray color after mixing.
   c. Cure Temperature, Pot Life, and Workability: Compatible for intended use and environmental conditions.
   d. Nonsag, with selected viscosity based on installation temperature and overhead application where applicable.
3. Packaging:
   a. Disposable, self-contained cartridge system capable of dispensing both components in the proper mixing ratio and fitting into a manually or pneumatically operated caulking gun.
   b. Cartridge Markings: Include manufacturer's name, product name, material type, batch or serial number, and adhesive expiration date.
4. Manufacturers and Products:
   a. Adhesives Technology Corp., Kent, WA; Anchor-It Fastening Systems, HS 200 Epoxy.
   b. ITW Ramset/Red Head, Wood Dale, IL; Epcon Ceramic 6 Epoxy Anchor System.

c. Covert Operations Inc., Signal Hill, CA; CIA-Gel 7000 Epoxy Anchors.
d. The Rawlplug Co., Inc., New Rochelle, NY; Foil Fast Epoxy Injection Gel System.
e. Hilti, Inc., Tulsa, OK; HIT Doweling Anchor Sytem (HIT C-100).
f. Ackerman Johnson Fastening Systems, Inc., Addison, IL; Poly-All PAC-24 Epoxy.
g. Unitex, Kansas City, MO; Pro-Poxy 300.

PART 3 EXECUTION

3.1 GENERAL

A. Install equipment in accordance with manufacturer's recommendations and with manufacturer's shop drawings, as shown on the Drawings, and as directed.

3.2 INSPECTION

A. Upon transfer of the OWNER furnished equipment to the CONTRACTOR, the CONTRACTOR and the OWNER's Representative shall make a joint inspection of the condition of each piece of equipment and shall note, in writing, the material transferred to the CONTRACTOR's care and defects in said equipment. Equipment and materials damaged or lost after the date of their transfer to the CONTRACTOR shall be repaired or replaced at the CONTRACTOR's expense.

3.3 RESPONSIBILITY FOR COMPLETE SYSTEM

A. The CONTRACTOR shall assume complete responsibility for storing, installing, adjusting, lubricating, maintaining, testing, and operational startup of all OWNER furnished equipment under this section.

PART 4 PAYMENT

4.1 BASE BID

A. Payment for the work in this section exclusive of Additive Item No. 2 will be included as part of the lump sum bid amount stated for Item No. 1 in the Bid.

4.2 ADDITIVE BID

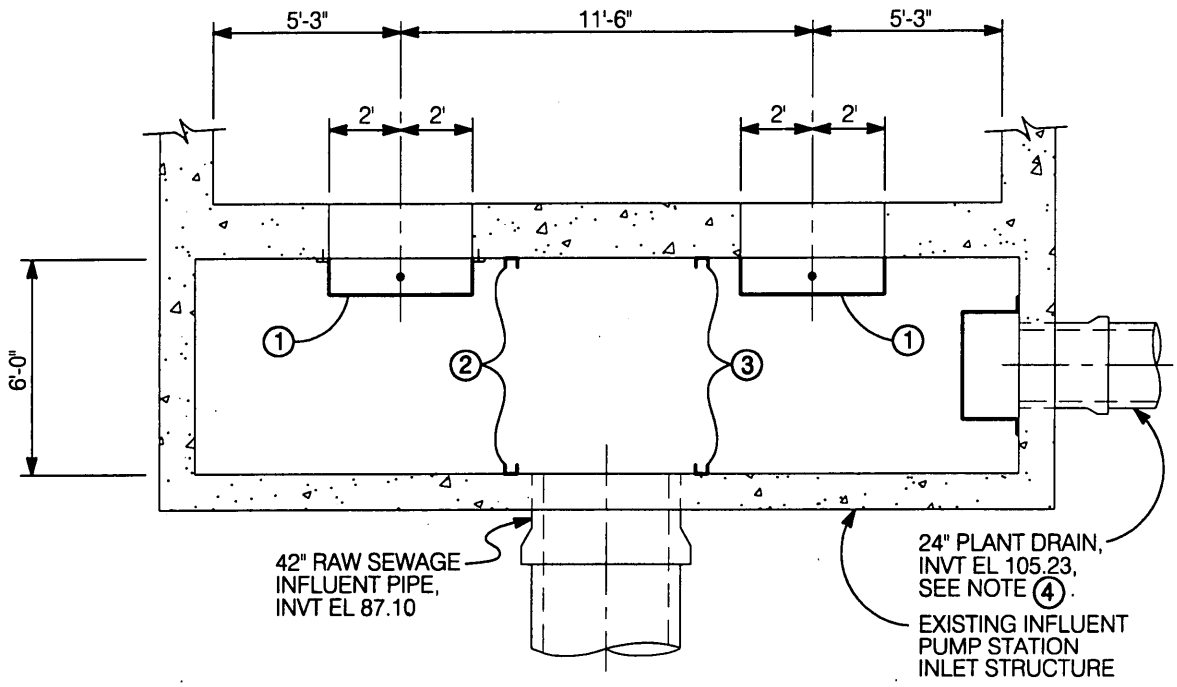
A. Payment for additional work to install adhesive anchors and concrete sills, if required, will be included as part of the lump sum bid amount stated for Item No. 2 in the Bid.

B. No work shall be performed under the Additive Bid Item without prior authorization from the OWNER.

END OF SECTION

PART 5

DRAWINGS



NOTES:

1. EXISTING 4' x 4' SLUICE GATES TO BE REMOVED AND REPLACED WITH NEW OWNER FURNISHED SLUICE GATES. SEE FIGURE 2.

2. EXISTING BULKHEAD GUIDES (WEST SIDE ONLY). OWNER WILL FURNISH 48" x 70.75" x 1" THICK BULKHEAD FOR CONTRACTOR'S USE IN ISOLATING CHANNEL.

3. CONTRACTOR SHALL PROVIDE BULKHEAD GUIDES ON EAST SIDE FOR ISOLATION OF EAST SLUICE GATE USING OWNER PROVIDED BULKHEAD. SEE FIGURE 3.

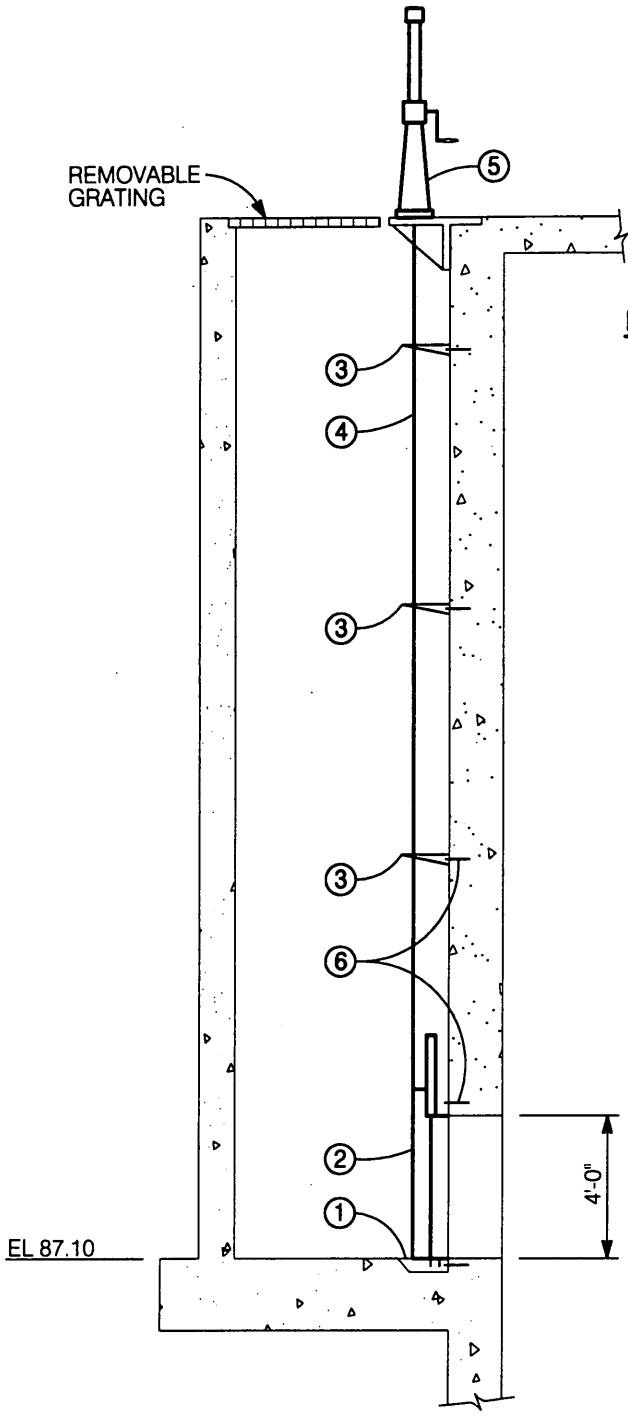
4. PLUG 24" PLANT DRAIN IN UPSTREAM MANHOLE LOCATED APPROXIMATELY 10' EAST OF INLET STRUCTURE. PROVIDE 30 GPM SUBMERSIBLE PUMP WITH ON/OFF LEVEL CONTROLS IN MANHOLE AND PUMP FLOW FROM PLANT DRAIN TO WEST SIDE OF INLET STRUCTURE DURING INSTALLATION OF EAST SLUICE GATE. 480 VOLT, 3 PHASE POWER IS AVAILABLE FROM THE OWNER FOR USE DURING THE BYPASS PUMPING.

Figure 1

LOWER PLAN

3/16" = 1'-0"

July 22, 1999



NOTES:

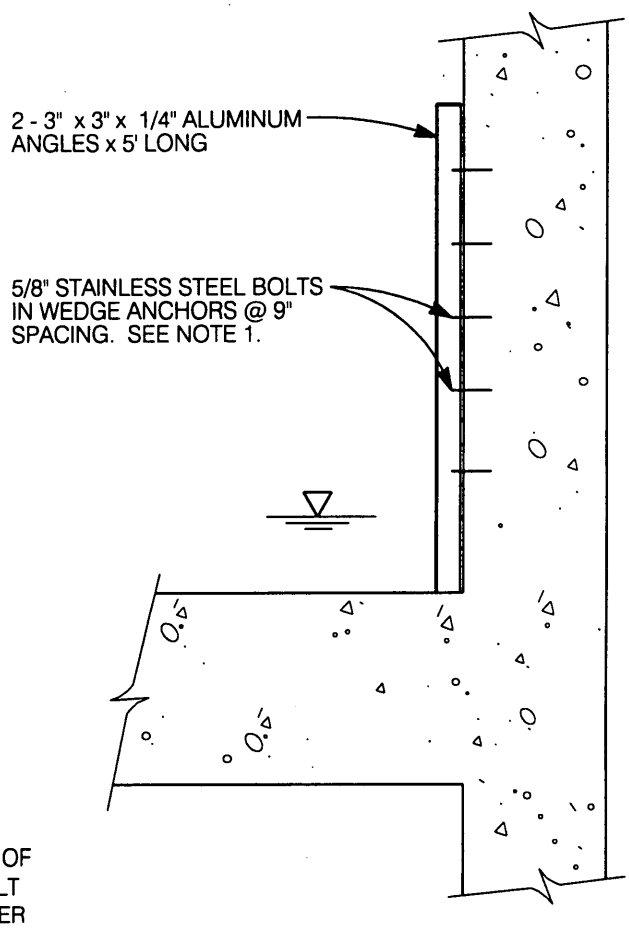
1. REMOVE GROUT FROM BLOCKOUT TO REMOVE EXISTING GATE AND REPLACE WITH NON-SHRINK GROUT AFTER INSTALLATION OF NEW GATE.
2. REMOVE EXISTING SLUICE GATE AND INSTALL OWNER FURNISHED 4' x 4' SLUICE GATE.
3. REMOVE EXISTING STEM GUIDES AND INSTALL NEW STEM GUIDES FURNISHED BY OWNER.
4. REMOVE EXISTING STEM AND INSTALL NEW STEM FURNISHED BY OWNER. LUBRICATE NEW STEM AS RECOMMENDED BY MANUFACTURER.
5. REMOVE EXISTING OPERATOR AND INSTALL NEW OPERATOR FURNISHED BY OWNER.
6. REMOVE EXISTING THREADED RODS AND PROVIDE NEW TYPE 316 STAINLESS STEEL THREADED RODS WITH DOUBLE NUTS. IF GATES ARE FOUND TO BE MOUNTED ON EMBEDDED ANCHOR BOLTS, PROVIDE ADDITIONAL WORK SHOWN IN FIGURE 4.

Figure 2

SECTION AT SLUICE GATE

3/16" = 1'-0"

July 22, 1999



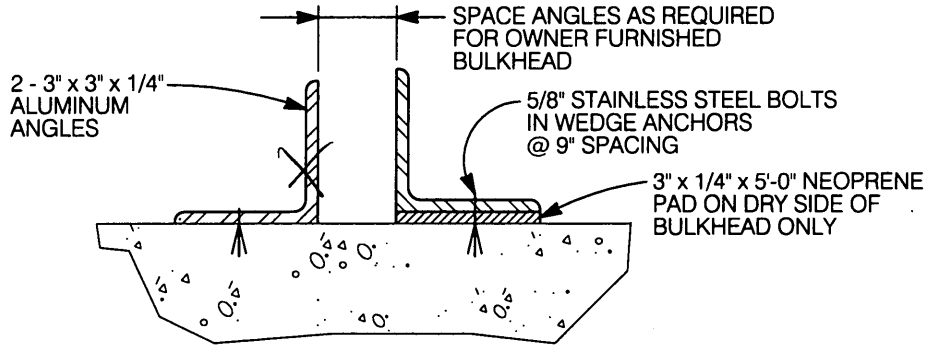
NOTE:

1. OWNER WILL LOWER WATER SURFACE AS LOW AS POSSIBLE DURING INSTALLATION OF BULKHEAD GUIDES. INSTALL LOWEST BOLT AND WEDGE ANCHOR 3" ABOVE LOW WATER LEVEL.

Elevation

1/2" = 1'-0"

only one side



Plan

3" = 1'-0"

Figure 3

BULKHEAD GUIDES

July 22, 1999

NOTES:

① REMOVE GROUT FROM EXISTING BLOCKOUT AND REMOVE EXISTING SLUICE GATE.

② CUT OFF EXISTING ANCHOR BOLTS FLUSH WITH FACE OF CONCRETE.

③ PLACE 5" CONCRETE SILL ON TOP OF GATE OPENING.

④ PROVIDE 1/2" RODS IN ADHESIVE ANCHORS @ 9" CENTERS AND #4 BARS @ 9" CENTERS, 1-1/2" CLEAR FROM TOP.

⑤ MOUNT GATE ON 3/4" TYPE 316 STAINLESS STEEL RODS IN ADHESIVE ANCHORS. PROVIDE DOUBLE NUTS FOR LEVELING GATE.

⑥ FILL BLOCKOUT WITH NON-SHRINK GROUT.

⑦ PROVIDE NON-SHRINK GROUT ALL AROUND GATE.

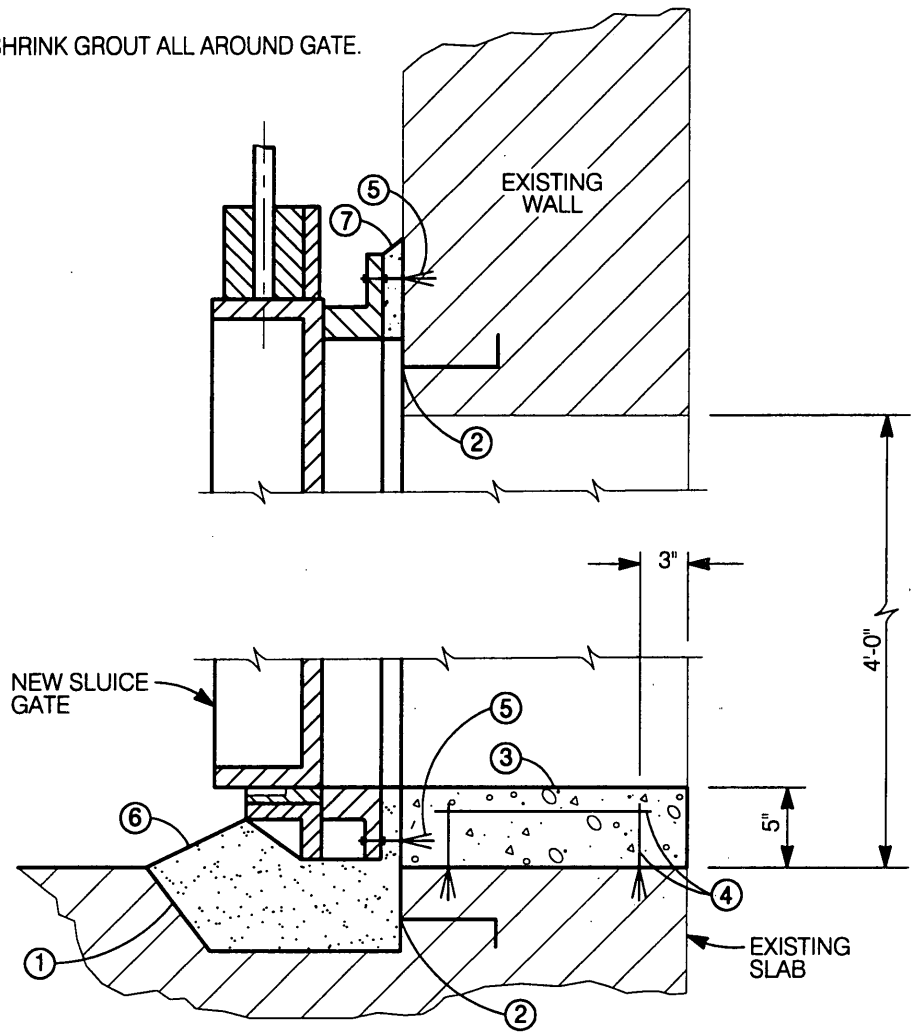


Figure 4

ALTERNATE GATE MOUNTING DETAIL*

1" = 1'-0"

* THIS DETAIL SHALL APPLY ONLY IF IT IS NECESSARY TO PROVIDE NEW ADHESIVE ANCHORS TO MOUNT THE SLUICE GATES. THIS ADDITIONAL WORK SHALL NOT BE PERFORMED WITHOUT AUTHORIZATION FROM THE OWNER AND SHALL BE PAID FOR THROUGH THE ADDITIVE ITEM IN THE BID.

Chang Order ?

July 22, 1999