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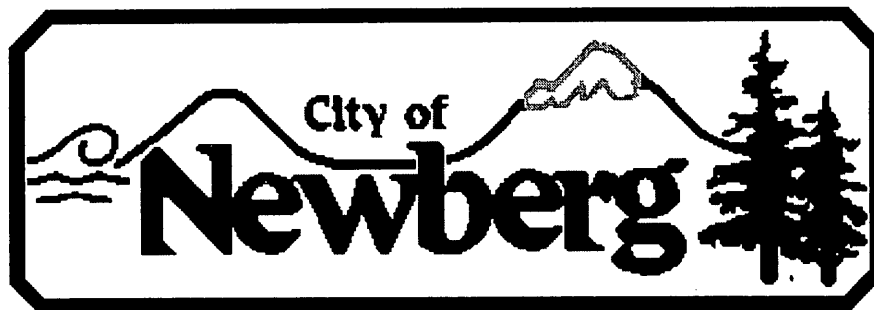
CITY OF NEWBERG

CITY ORDER INDEX NO. 1725

CITY OF NEWBERG, OREGON

COMMUNITY DEVELOPMENT DEPARTMENT

SEWAGE PUMP STATIONS, FORCE MAINS, AND GRAVITY SEWER



APRIL 2000

For information regarding this project,
contact:

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

**CITY OF NEWBERG
CONTRACT CHANGE ORDER NO. 2
December 7, 2000**

Project: Pump Stations, Force Mains and Gravity Sewer
(Charles, Andrew and Sheridan Streets)
Contractor: Three Dimensional Contracting, Inc.
Bid Item: See Below
Account #: P O # 300261

THE CONTRACT IS HEREBY CHANGED AS FOLLOWS:

1. Description: Miscellaneous items to complete project.

| ITEM | ITEM | ESTIMATED QUANTITY | UNIT PRICE | AMOUNT |
|------|---|--------------------|------------|-----------|
| | Andrew Street Modifications | | | |
| 1 | Elevation increase at Andrew St | 20 CY | \$ 20.00 | \$ 400.00 |
| 2 | Move RP | 2 Hr | \$ 38.63 | \$ 77.26 |
| 3 | New "Hot Box" and brass fittings for RP | Lump Sum | \$ 550.38 | \$ 550.38 |
| 4 | Extra "Raven Coating" in wet-well | Lump Sum | \$ 318.00 | 318.00 |
| | Charles Street Modifications | | | |
| 5 | Foundation stabilization | 10 CY | \$ 20.00 | \$ 200.00 |
| 6 | New "Hot Box" and brass fittings for RP | Lump Sum | \$ 550.38 | \$ 550.38 |
| | Sheridan Street Modifications | | | |
| 7 | Install new RP | 12 Hr | \$ 38.63 | \$ 463.56 |
| 8 | New "Hot Box" and brass fittings for RP | Lump Sum | \$ 750.38 | \$ 750.38 |
| 9 | Extra "Raven Coating" in wet-well | Lump Sum | \$ 500.00 | \$ 500.00 |

| ITEM | ITEM | ESTIMATED QUANTITY | UNIT PRICE | AMOUNT |
|------|--|--------------------|-------------|-------------------|
| 10 | AC Pavement at 618 Sheridan Street | Lump Sum | \$ 2,000.00 | \$ \$ 2,000.00 |
| 11 | Additional Block wall to surround PS | Lump Sum | \$ 538.58 | \$ 538.58 |
| 12 | Additional chain link fence to surround PS | 20 FT | \$ 17.50 | \$ 350.00 |
| 13 | 15% profit and overhead | 15 % | \$ 6,698.54 | \$ 1,004.78 |
| | NET CHANGE | | | \$7,703.32 |

| | | | |
|--------------------|--------------------------------------|--------------|--------------|
| 2. Cost Summary | Original Contract Amount | | \$291,248.40 |
| | Net Change by Previous Change Orders | \$ 16,770.85 | |
| | Previous Total | | \$308,019.25 |
| | This Change Order | | \$7,703.32 |
| | New Contract Amount to Date | | \$315,722.57 |

3. Time Extension: None.


4. Contract Completion Date: December 12, 2000.


All other provisions of the contract documents remain in full force.

5. ACCEPTANCE SIGNATURES:

 _____
Date 1/15/01

 _____
City of Newberg Date 01-25-01
Community Development Director

 _____
Title

 _____
City of Newberg Date 01-25-2001
City Manager

**CITY OF NEWBERG
CONTRACT CHANGE ORDER NO. 1
December 7, 2000**

Project: Pump Stations, Force Mains and Gravity Sewer
(Charles, Andrew and Sheridan Streets)
Contractor: Three Dimensional Contracting, Inc.
Bid Item: See Below
Account #: P O # 300261

THE CONTRACT IS HEREBY CHANGED AS FOLLOWS:

1. **Description:** Project extension to upgrade eleven (11) Sheridan Street sewer laterals from main sewer line to property line.

| ITEM # | ITEM | ESTIMATED QUANTITY | UNIT PRICE | AMOUNT |
|--------|--|--------------------|-------------|--------------------|
| 2B | Trench excavation & backfill (3 – 8 ft) | 255 FT | \$ 19.90 | \$ 5,074.50 |
| 6 | 4-in. AC pavement over trenches | 1705 SF | \$ 3.38 | \$ 5,762.90 |
| 7 | Curb Crossings | 2 EA | \$ 750.00 | \$ 1,500.00 |
| 11A | 4-inch PVC pipe | 255 FT | \$ 1.50 | \$ 382.50 |
| A | Landscape repair | Lump Sum | \$ 500.00 | \$ 500.00 |
| B | Labor for extra day of work (2 Laborers, 1 Operator, 1 Truck Driver) | Lump Sum | \$ 1,697.97 | \$ 1,697.97 |
| C | Extra tap on Sheridan Street main line | Lump Sum | \$ 740.00 | \$ 740.00 |
| D | Pump truck rental for extra day of work | Lump Sum | \$ 390.00 | \$ 390.00 |
| E | Water truck rental for extra day of work | Lump Sum | \$ 194.60 | \$ 194.60 |
| F | 15% profit and overhead for items A - E | 15% | \$ 3,522.57 | \$ 528.38 |
| | NET CHANGE | | | \$16,770.85 |

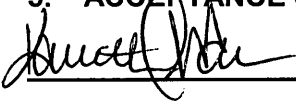
| | | | |
|------------------------|--------------------------------------|---------|--------------|
| 2. Cost Summary | Original Contract Amount | | \$291,248.40 |
| | Net Change by Previous Change Orders | \$ 0.00 | |
| | Previous Total | | \$291,248.40 |
| | This Change Order | | \$16,770.85 |
| | New Contract Amount to Date | | \$308,019.25 |

3. Time Extension: None.

4. Contract Completion Date: December 12, 2000.

All other provisions of the contract documents remain in full force.


5. ACCEPTANCE SIGNATURES:




 1/15/01
 Date



 01-25-01
 Date
 City of Newberg
 Community Development Director



 Title



 01-25-2001
 Date
 City of Newberg
 City Manager

CITY OF NEWBERG
SEWAGE PUMP STATIONS, FORCE MAINS,
AND GRAVITY SEWER
APRIL 18, 2000

ADDENDUM NO. 1

This addendum No. 1 forms a part of the Contract Documents. It modifies the original Bidding Documents.

A. CONTRACT DOCUMENTS

1. CONTRACT FOR CONSTRUCTION

- a. On Page 1, 3rd paragraph, in the fourth and fifth lines, change the dates from "January 2000" to "March 2000".

B. SPECIAL SPECIFICATIONS

1. Section 01001, GENERAL REQUIREMENTS

- a. Page 9, Add Article "7.11 HOURS OF WORK: Construction activity on the site must be in compliance with Newberg Code 5.845 relating to noise. Unless granted a special permit, construction activity is limited to the hours of 7:00 AM to 6:00 PM for Contractors."

2. Section 02900, LANDSCAPING.

- a. Page 2, Article 1.02. Delete the entire Article.
- b. Page 23, Article 4.01, Item A. In the first line, delete the words "unit price" and insert the words "lump sum".

3. Section 15070, PVC PIPE AND FITTINGS.

- a. Page 4, Article 4.1, Item A. In the first line, delete the words "lump sum" and insert the words "unit price".

C. DRAWINGS

1. Sheet 4 of 19.

- a. Add the following Note #20: "3/4" water line shall be Type K copper with compression fittings."
- b. Add the following Note #21: "Refer to Sheet 6 of 19 for modifications and overflow pipe at existing manhole north of the pump station."

- c. Add the following Note #22: "All items of work for the Charles Street Pump Station, except for the overflow pipe on Sheet 6 of 19 and the force main pipe on Sheets 7 and 8 of 19 shall be included in the lump sum bid amount in the Bid."
2. Sheet 5 of 19.
 - a. Add the following note to Detail 1: "Provide a 1" x ¼" x 9" long vertical stainless steel plate welded on top of the checkered plate cover at the end that is under the disconnect enclosure so that the checkered plate cannot be removed without removing the front of the disconnect enclosure."
3. Sheet 6 of 19
 - a. Add the following Note #7: "All items of work on this drawing, except for the overflow box and the concrete driveway replacement shall be included in the unit price bid amounts in the Bid."
4. Sheet 7 of 19
 - a. Add the following Note #8: "All items of work on Sheets 7 and 8 of 19 shall be included in the unit price bid amounts in the Bid."
5. Sheet 12 of 19
 - a. Add the following Note #16: "All items of work for the Andrew Street Pump Station, including the gravity sewer, overflow pipe and storm drain shall be included in the lump sum bid amount in the Bid."
6. Sheet 13 of 19
 - a. Add the following sentence to Note #6: "The length of the concrete pavement from the back of the curb to the south edge of the pavement is 26.0 feet."
7. Sheet 18 of 19.
 - a. In Detail 1, Front View, delete the note, "Cable channel, see Det 2, this Sht" and replace with the note, "Cable channel, see Det 1 on Sht 5".
 - b. In Detail 1, Front View, delete the note, "Cut in 3 ½" holes and rubberize the edges" and replace with the note, "Cut in holes and provide bushings. Holes shall be sized to pass the plug on the end of the cable."
8. Sheet 3 of 11.
 - a. Add the following Note #14: "Provide the following shrubs in locations as directed by the Engineer:

Six - 1 gal. Red Flowering Current (*Ribes Sanguineum*)
Five - 1 gal. Snowberry (*Symphoricarpos Albus*)"

9. Sheet 4 of 11

- a. Add the following Note #11: "The two 90 bends in the 4-inch force mains on the east side of the valve vault shall be long radius elbows."
- b. Add the following Note #12: "All items of work for the Sheridan Street Pump Station, except for the PVC gravity sewer and manholes, PVC service connections, and PVC force mains shall be included in the lump sum bid amount in the Bid."

10. Sheet 5 of 11

- a. Add the following Note #12: "Install two intermediate guide bar supports on each guide bar. The supports will be provided by the OWNER."
- b. Add the following Note #13: "Clean water removed from the excavation shall be disposed of in the creek approximately 180 feet west of the site and shall meet all local, state, and federal regulations. Erosion control measures may be necessary. Or, at the Contractor's option, the groundwater may be disposed of in the sanitary sewer manhole located on Sheridan Street, 90 feet east of the site. The maximum capacity of the sewer is 100 g.p.m."
- c. Change the dimensions on the 3' x 5' access cover to 4' x 6'.

11. Sheet 6 of 11.

- a. Add the following Note #11: "The existing 6-inch sewer to be removed is concrete pipe."

12. Sheet 11 of 11.

- a. Add the following note to Detail 2: "Provide a 1" x ¼" x 9" long vertical stainless steel plate welded on top of the checkered plate cover at the end that is under the disconnect enclosure so that the checkered plate cannot be removed without removing the front of the disconnect enclosure."
- b. In Detail 1, Front View, delete the note, "Cut in 3 ½" holes and rubberize the edges" and replace with the note, "Cut in holes and provide bushings. Holes shall be sized to pass the plug on the end of the cable."

Bidders shall acknowledge on Page 3 of the Bidding Documents that they have received this addendum by writing in addendum number and date received.

Jadene Torrent
Utility Engineer/Project Manager
City of Newberg

CITY OF NEWBERG

CONTRACT DOCUMENTS

for the construction of the

**SEWAGE PUMP STATIONS, FORCE MAINS,
AND GRAVITY SEWER**

CONSISTING OF:

BIDDING REQUIREMENTS

CONTRACT FORMS

STANDARD SPECIFICATIONS

SPECIAL SPECIFICATIONS

DRAWINGS



Exp. 6/30/00

SOUTHWOOD ENGINEERING

**Philomath, Oregon
March 2000**

PART 1

Bidding Requirements

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City of Newberg
ADVERTISEMENT FOR BID
Sewage Pump Stations, Force Mains, and Gravity Sewer

Sealed bids for the construction of the **Sewage Pump Stations, Force Mains, and Gravity Sewer** for the City of Newberg, Oregon will be received until **12:00 noon** prevailing time on **Tuesday, the 25th day of April, 2000**, addressed to Jadene Torrent, Utility Engineer, Community Development Office, 719 E. First Street, 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, but is not limited to, the construction and improvements to two existing sewage pump stations and one new sewage pump station. This project consists of three packages of work:

Package I provides for the replacement and expansion of the existing "package-type" 0.14 MGD Charles Street Sewage Pump Station and Force Main, with a new 0.22 MGD submersible pump facility including a 500 foot force main extension to an existing gravity sewer, site improvements and other associated work.

Package II provides for the replacement and expansion of the existing "package-type" 0.14 MGD Andrews Street Sewage Pump Station with a new 0.22 MGD submersible pump facility, site improvements and other associated work.

Package III provides for construction of a new 0.15 MGD Sheridan Street Sewage Pump Station with submersible pumps including a 500 foot dual force main, 457 foot gravity sewer and other associated work.

Bidders must be pre-qualified to perform public contracts in conformance with Oregon Law ORS 279.047. A State of Oregon pre-qualification form must be submitted to the Owner at least seven (7) calendar days prior to the bid opening date.

Contractors eligible to bid on this project shall have a minimum of five years experience with the size and type of project specified and must have successfully completed at least two pump stations of the size and type specified. State of Oregon Prequalification is still required.

Bid documents may be obtained and/or examined at the Community Development Office, 719 E. First Street, Newberg, Oregon 97132 at no charge for the set of documents.

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 ten percent (10%) 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** pre-bid conference will be held on **Monday, the 17th day of April, 2000 at 12:00 noon** local time, at the Wastewater Treatment Plant, 2301 Wynooski Road, Newberg and a tour of the construction sites 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.

Jadene Torrent
Utility Engineer
Community Development Office
(503) 554-8881

PUBLISHED: Tuesday, April 4, 2000 - Daily Journal of Commerce
Friday, April 7, 2000 - Daily Journal of Commerce

BID

PLACE: CITY OF NEWBERG, OREGON

PROJECT: SEWAGE PUMP STATIONS, FORCE MAINS, AND GRAVITY SEWER

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 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 specifications with related documents; and is satisfied as to the quantities involved including materials and equipment; and is familiar with all of the conditions surrounding the furnishing of the proposed equipment 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-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 one hundred eighty (180) calendar days thereafter. Bidder further agrees to pay as liquidated damages, the sum of two hundred dollars (\$200.00) for each consecutive calendar day thereafter until the equipment shall have been delivered. 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 Schedule of Prices amount. The Bidder agrees that the 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, 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.

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 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. <u>1</u> | DATE <u>April 18, 2000</u> | NO. _____ | DATE _____ |
| NO. _____ | DATE _____ | NO. _____ | DATE _____ |

The name of the Bidder submitting this Proposal is

Three Dimensional Contracting, Inc. doing business at

PO Box 5581, Beaverton, OR, 97006
(Street) (City) (State) (Zip)

SCHEDULE OF PRICES
SEWAGE PUMP STATIONS, FORCE MAINS, AND GRAVITY SEWER

| NO. | ITEM - DESCRIPTION | ESTIMATED QUANTITY | UNIT PRICE FIGURES | UNIT PRICE IN WRITING | TOTAL AMOUNT |
|---|--|--------------------|---------------------|---|---|
| SCHEDULE A - Includes all work for gravity sewer, force mains and overflow pipes | | | | | |
| 1 | Mobilization | 1 L.S. | 12,700 | Twelve Thousand Seven hundred | 12,700 ⁰⁰ |
| 2 | Trench excavation and backfill | | | | |
| a. | 2-3 feet | 615 L.F. | 17. ⁹⁹ | Seventeen Ninety Nine | 11,063. ⁸⁵ |
| b. | 3-8 feet | 356 L.F. | 19. ⁹⁰ | Nineteen Ninty | 7,084.40 7,263. ²⁵ |
| c. | 8-12 feet | 125 L.F. | 58. ²² | Fifty Eight Two Nine | 7,296. ²⁵ |
| d. | 18-20 feet | 35 L.F. | 193. ¹⁴ | One hundred Ninety Three fourteen cents | 6,759. ⁹⁰ |
| 3 | Remove & dispose abandoned sewer pipe | 385 L.F. | 2. ⁰⁰ | Two dollars | 770. ⁰⁰ |
| 4 | Remove & dispose abandoned manholes | 9 L.F. | 50. ⁰⁰ | fifty dollars | 450. ⁰⁰ |
| 5 | Plug existing sewers at existing manholes | 2 EA | 200. ⁰⁰ | Two hundred | 400. ⁰⁰ |
| 6 | 4" asphalt concrete pavement over trenches | 5,450 S.F. | 3. ³⁸ | Three dollar ³⁸ / ₁₀₀ cents | 18,421. ⁰⁰ |
| 7 | Curb crossings | 3 EA | 750. ⁰⁰ | Seven hundred fifty | 2,250. ⁰⁰ |
| 8 | Railroad undercrossing | 1 EA | 1650. ⁰⁰ | One thousand Six hundred fifty | 1,650. ⁰⁰ |
| 9 | 48" diameter manhole construction | | | | |
| a. | 0-8 foot depth | 3 EA | 2500. ⁰⁰ | Two thousand five hundred | 7,500. ⁰⁰ |
| b. | Additional standard manhole depth | 13 L.F. | 250. ⁰⁰ | Two hundred fifty | 3,250.⁰⁰ 3,200. ⁰⁰ |
| 10 | Gravity sewer pipe | | | | |
| a. | 6 inch | 125 L.F. | 5. ⁰⁰ | Five dollar | 625. ⁰⁰ |
| b. | 8 inch | 457 L.F. | 3. ⁰⁰ | Three dollar | 1,371. ⁰⁰ |

| NO. | ITEM - DESCRIPTION | ESTIMATED QUANTITY | UNIT PRICE FIGURES | UNIT PRICE IN WRITING | TOTAL AMOUNT |
|-----|--|--------------------|--------------------|-------------------------------|---------------------|
| 11 | Force main pipe | | | | |
| | a. 4 inch PVC | 1,480 L.F. | 1.75 | One dollar Seventy five Cents | 2,590 ⁰⁰ |
| | b. 4 inch cleanouts | 2 EA | 200 ⁰⁰ | Two hundred dollars | 400 ⁰⁰ |
| 12 | Sewer connections to existing manholes | | | | |
| | a. 4 inch | 3 EA | 150 ⁰⁰ | One hundred fifty dollars | 450 ⁰⁰ |
| | b. 6 inch | 2 EA | 200 ⁰⁰ | Two hundred dollars | 400 ⁰⁰ |
| | c. 8 inch | 1 EA | 250 ⁰⁰ | Two hundred fifty dollars | 250 ⁰⁰ |
| 13 | Service connections | | | | |
| | a. 8" x 4" service tees | 9 EA | 100 ⁰⁰ | One hundred dollars | 900 ⁰⁰ |
| | b. 4" pipe | 150 L.F. | 1 ⁵⁰ | One and fifty cents per foot | 225 ⁰⁰ |
| 14 | 6" flap valves | 2 EA | 500 ⁰⁰ | five hundred dollars | 1000 ⁰⁰ |
| 15 | Television inspection | 452 L.F. | 1 ⁰⁰ | One dollar | 452 ⁰⁰ |
| 16 | Traffic control | 1 L.S. | 3000 ⁰⁰ | Three thousand dollars | 3000 ⁰⁰ |

SCHEDULE A - SUBTOTAL

Thirty three thousand eight hundred and eighty seven dollars 93,877⁰⁰
93,248⁴⁰

SCHEDULE B - Includes all other work not included in the unit price items of Schedule A

1 Lump Sum Bid

| | |
|-----------------------------------|---------|
| One hundred Ninety Eight Thousand | 198,000 |
|-----------------------------------|---------|

SCHEDULE B - SUBTOTAL

| | |
|-----------------------------------|---------|
| One hundred Ninety Eight Thousand | 198,000 |
|-----------------------------------|---------|

TOTAL BID (SCHEDULE A & B)

| | |
|---|-----------------------|
| Two hundred Ninety one thousand eight hundred and seventy seven | 291,877 ⁰⁰ |
|---|-----------------------|

~~\$ 291,248⁴⁰~~

BIDDER'S COMPANY NAME

ADDRESS

CITY STATE ZIP

PHONE/FAX

AUTHORIZED SIGNATURE

PRINT NAME

| |
|------------------------------------|
| Three Dimensional Contracting, Inc |
| PO Box 5581 |
| Beaverton OR 97006 |
| 503-626-1926 503-626-3876 |
| <i>Ken</i> |
| Lance Landis |

Ken

BIDDER'S DISCLOSURE

The City of Newberg pursuant to OAR 137-040-0017 must reject a bid if the Bidder fails to disclose information regarding its subcontractors.

The City recommends the Bidder disclose subcontract information for any subcontractor as follows:

1. Determine the lowest possible contract price. That price will be the base bid amount less all alternate deductive bid amounts (exclusive of any options that can only be exercised after contract award).
2. Provide the required disclosure information for any first-tier subcontractor whose potential contract services (i.e. subcontractor's base bid amount plus all alternate additive bid amounts, exclusive of any options that can only be exercised after contract award) are greater than or equal to: (1) 5% of that lowest contract price, but at least \$15,000; or (2) \$500,000 regardless of the percentage. Total all possible work for each subcontractor in making this determination (e.g., if a subcontractor will provide \$15,000 worth of services on the base bid and \$40,000 on an additive alternate, then the potential amount of subcontractor's services is \$55,000. Assuming \$55,000 exceeds 5% of the lowest contract price, provide the disclosure for both the \$15,000 services and the \$40,000 services).
3. A Bidder shall submit the disclosure form required by this rule within four (4) working hours of bid closing in the manner specified herein.
4. Bids which are submitted by bid closing but for which the separate disclosure submittal has not been made by the specified deadline, are not responsive and shall not be considered for contract award.
5. Substitution of affected first-tier subcontractors shall be made only in accordance with ORS 279 (Oregon Laws 1999, Chapter 689, Section 6 HB2895). Agencies do not have a statutory role or duty to review, approve or resolve disputes concerning such substitutions. However, Agencies are not precluded from making related inquiries or investigating complaints in order to enforce Contract provisions that require compliance generally with laws, rules and regulations.
6. This rule shall apply to Public Improvements Contracts first advertised on or after January 1, 2000.

Complete the attached disclosure form or submit a separate form showing subcontractor's name and address, Construction Contractor Board registration number and the subcontract dollar value. If Bidder is not using any subcontractors that are subject to the above disclosure requirements, you are required to indicate "NONE" on the accompanying form.

**SEWAGE PUMP STATIONS FORCE MAINS, AND GRAVITY SEWER
DISCLOSURE STATEMENT**

PRIMARY BIDDER

| Bidders Name | CCB Number | Mailing Address | Phone/Fax | Dollar Value |
|--------------|---------------|-----------------|-----------|--------------|
| | | | | |
| | | | | |

SUB-TOTAL PRIMARY BID _____

SUBCONTRACTORS

| Sub-bidders Name | CCB Number | Mailing Address | Phone/Fax | Sub-contract Dollar Value |
|------------------|---------------|-----------------|-----------|------------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

SUB-TOTAL OF SUB-BIDS _____

TOTAL BID _____

**SEWAGE PUMP STATIONS FORCE MAINS, AND GRAVITY SEWER
DISCLOSURE STATEMENT**

PRIMARY BIDDER

| Bidders Name | CCB Number | Mailing Address | Phone/Fax | Dollar Value |
|-----------------------------|------------|-------------------------------|-----------|-----------------------|
| Three Dimensional Contracty | 97138 | P.O. Box 5581 Beaverton 97006 | 626-1926 | 291,877 ⁰⁰ |
| | | | 626-3870 | |

SUB-TOTAL PRIMARY BID

291,877⁰⁰

SUBCONTRACTORS

| Sub-bidders Name | CCB Number | Mailing Address | Phone/Fax | Sub-contract Dollar Value |
|----------------------|------------|----------------------------|-----------|---------------------------|
| Brix Paving | 13108 | Tualatin OR, P.O. Box 2388 | 570-9355 | 12,153 ⁵⁰ |
| Concrete Sharp sharp | | Tigard | 634-3444 | 46,000 ⁰⁰ |
| DND Electric | | | | 47,000 ⁰⁰ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

SUB-TOTAL OF SUB-BIDS

105,153

TOTAL BID

BIDDER

The name of the Bidder submitting this Bid is Three Dimensional Contracting, Inc.
doing business at 700 W Hayden Island Dr., Portland, OR, 97217.
(Street) Suite 290 (City) (State) (Zip)

which is the address to which all communications shall be sent.

(If Sole Proprietor or Partnership)

In witness thereto the undersigned has set his hand this ___ day of _____, 2000.

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 15 day of April, 2000.

Three Dimensional Contracting, Inc.
Name of Corporation

By [Signature]

Print Name Thana Cardin

Vice Pres.
Title

Attest [Signature]
Secretary

I.C.W. GROUP
 INSURANCE COMPANY OF THE WEST
 EXPLORER INSURANCE COMPANY
 INDEPENDENCE CASUALTY AND SURETY COMPANY
11455 EL CAMINO REAL, SAN DIEGO, CA 92130-2045
P.O. BOX 85563, SAN DIEGO, CA 92186-5563
(858) 350-2400 FAX (858) 350-2707
www.icwgroup.com

BID BOND

KNOW ALL MEN BY THESE PRESENTS: THAT we, THREE DIMENSIONAL CONTRACTING, INC. DBA: 3DC, as Principal, and INSURANCE COMPANY OF THE WEST, as Surety, are held and firmly bound unto the CITY OF NEWBERG, hereinafter called the District, in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal submitted to the said District for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying bid dated 04/25/00, for SEWAGE PUMP STATIONS, FORCE MAINS & GRAVITY SEWER.

NOW, THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after said opening; and, if the Principal be awarded the contract, and shall within the period specified therefor, or, if no period be specified, within five (5) days after the prescribed forms are presented to him for signature, enter into a written contract with the District, in accordance with the bid as accepted and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract and for the payment for labor and materials used for the performance of the contract, or in the event of the withdrawal of said bid within the period specified or the failure to enter into such contract and give such bonds within the time specified, if the Principal shall pay the District the difference between the amount specified in said bid and the amount for which the District may procure the required work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the District in again calling for bids, then the above obligation shall be void and of no effect; otherwise to remain in full force and virtue.

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

In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all litigation expenses incurred by the District in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this 25TH day of APRIL, 2000, the name and corporate seal of each corporate party being hereto affixed and these presents duly assigned by its undersigned representative, pursuant to authority of its governing body.

THREE DIMENSIONAL CONTRACTING, INC. DBA: 3DC

Principal

By [Signature]

Title Vice President

(Corporate Seal)

INSURANCE COMPANY OF THE WEST

Surety

By [Signature]

MOLLY K. MANSFIELD

Attorney-In-Fact

Title Attorney-in-fact

(Corporate Seal)



Insurance Company of the West

HOME OFFICE: SAN DIEGO, CALIFORNIA

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That INSURANCE COMPANY OF THE WEST, a California Corporation, does hereby appoint:

MOLLY K. MANSFIELD

its true and lawful Attorney(s)-in-Fact, with full power and authority, to execute, on behalf of the Company, fidelity and surety bonds, undertakings, and other contracts of suretyship of a similar nature.

This Power of Attorney is granted and is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors on the 23rd day of February, 1998, which said Resolution has not been amended or rescinded and of which the following is a true copy:

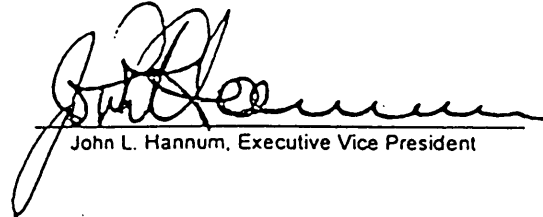
"RESOLVED, that the Chairman of the Board, the President, an Executive Vice President or a Senior Vice President of the Company, and each of them, is hereby authorized to execute Powers of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company, fidelity and surety bonds, undertakings, or other contracts of suretyship of a similar nature; and to attach thereto the seal of the Company; provided however, that the absence of the seal shall not affect the validity of the instrument.

FURTHER RESOLVED, that the signatures of such officers and the seal of the Company, and the signatures of any witnesses, the signatures and seal of any notary, and the signatures of any officers certifying the validity of the Power of Attorney, may be affixed by facsimile."

IN WITNESS WHEREOF, INSURANCE COMPANY OF THE WEST has caused these presents to be signed by its duly authorized officers this 18th day of November 1998.



INSURANCE COMPANY OF THE WEST

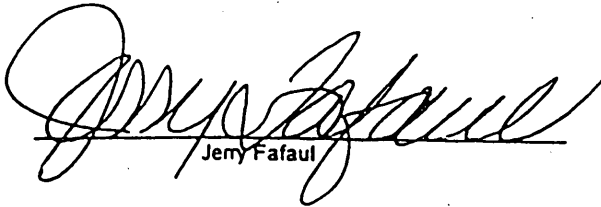

John L. Hannum, Executive Vice President

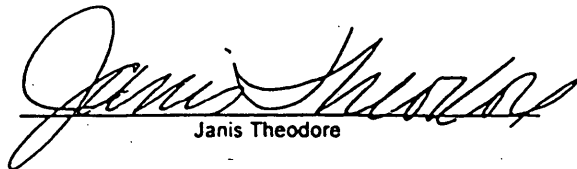
STATE OF CALIFORNIA

SS

COUNTY OF SAN DIEGO

IN WITNESS WHEREOF, the undersigned certify that they are adults, and have witnessed the signing of this instrument by the principal or have witnessed the principal's acknowledgment of the signature on the power of attorney, pursuant to California Probate Code §4121 and 4122.


Jerry Fafaul


Janis Theodore

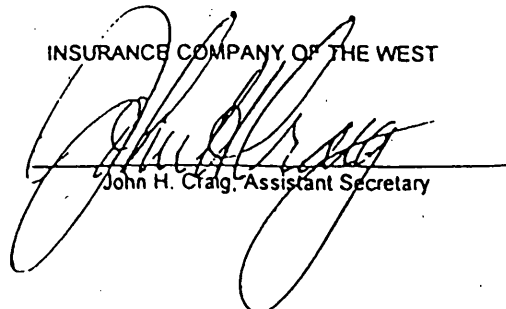
CERTIFICATE:

I, John H. Craig, Assistant Secretary of INSURANCE COMPANY OF THE WEST, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a true copy, is still in full force and effect, and that this certificate may be signed by facsimile under the authority of the above quoted resolution.

IN WITNESS WHEREOF, I have subscribed my name as Assistant Secretary, on this 25th day of April, 2000



INSURANCE COMPANY OF THE WEST


John H. Craig, Assistant Secretary

PART 2

Contract Documents

CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

05/25/00

PRODUCER

MANSFIELD INC
 P.O. BOX 10327
 PORTLAND, OREGON
 97296-0327

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

INSURED

THREE DIMENSIONAL
 CONTRACTING, INC. DBA: 3DC
 P.O. BOX 5581
 BEAVERTON, OREGON 97006

| | | |
|----------------|---|------------------|
| COMPANY LETTER | A | SAFECO INSURANCE |
| COMPANY LETTER | B | SAFECO INSURANCE |
| COMPANY LETTER | C | SAFECO INSURANCE |
| COMPANY LETTER | D | |
| COMPANY LETTER | E | LLOYDS OF LONDON |

COVERAGES

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

| CO LTR | TYPE OF INSURANCE | POLICY NUMBER | POLICY EFFECTIVE DATE (MM/DD/YY) | POLICY EXPIRATION DATE (MM/DD/YY) | LIMITS |
|---|---|---------------|----------------------------------|-----------------------------------|---|
| A | GENERAL LIABILITY | CP2369716 | 10/01/99 | 10/01/00 | GENERAL AGGREGATE \$ 2,000,000 |
| | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY | | | | PRODUCTS-COMP/OP AGGR. \$ 2,000,000 |
| | <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR. | | | | PERSONAL & ADV. INJURY \$ 1,000,000 |
| | <input checked="" type="checkbox"/> OWNER'S & CONTRACTOR'S PROT. | | | | EACH OCCURRENCE \$ 1,000,000 |
| | <input checked="" type="checkbox"/> WA STOP GAP | | | | FIRE DAMAGE (Any one fire) \$ 50,000 |
| | <input checked="" type="checkbox"/> PER PROJECT AGG | | | | MED. EXPENSE (Any one person) \$ 5,000 |
| B | AUTOMOBILE LIABILITY | BA2369716 | 10/01/99 | 10/01/00 | COMBINED SINGLE LIMIT \$ 1,000,000 |
| | <input type="checkbox"/> ANY AUTO | | | | BODILY INJURY (Per person) \$ |
| | <input checked="" type="checkbox"/> ALL OWNED AUTOS | | | | BODILY INJURY (Per accident) \$ |
| | <input checked="" type="checkbox"/> SCHEDULED AUTOS | | | | PROPERTY DAMAGE \$ |
| | <input checked="" type="checkbox"/> HIRED AUTOS | | | | |
| <input checked="" type="checkbox"/> NON-OWNED AUTOS | | | | | |
| <input type="checkbox"/> GARAGE LIABILITY | | | | | |
| C | EXCESS LIABILITY | UL2369716 | 10/01/99 | 10/01/00 | EACH OCCURENCE \$ 2,000,000 |
| | <input checked="" type="checkbox"/> UMBRELLA FORM | | | | AGGREGATE \$ 2,000,000 |
| | <input type="checkbox"/> OTHER THAN UMBRELLA FORM | | | | |
| | WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY | | | | STATUTORY LIMITS |
| | | | | | EACH ACCIDENT \$ |
| | | | | | DISEASE-POLICY LIMIT \$ |
| | | | | | DISEASE-EACH EMPLOYEE \$ |
| E | RAILROAD PROTEC LIAB INSURANCE | B103602P02 | 05/15/00 | 05/15/01 | \$2,000,000 \$6,000,000 EACH/OCC AGG |

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS
 RE: SEWAGE PUMP STATIONS, FORCE MAINS GRAVITY SEWER
 THE CITY OF NEWBERG IS NAMED AS AN ADDITIONAL INSURED WITH RESPECTS TO THE ABOVE REFERENCED POLICIES.
 PLEASE REFER TO ENDORSEMENT ATTACHED.

CERTIFICATE HOLDER

CITY OF NEWBERG/JADENE
 TORRENT/UTILITY ENGINEER
 414 E FIRST STREET
 NEWBERG, OREGON 97132

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

D.P. Mansfield

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**American States
Insurance**
A SAFECO Company

LIABILITY PLUS ENDORSEMENT

CG 76 35 12 98

COMMERCIAL GENERAL LIABILITY

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

ADDITIONAL INSURED - BY WRITTEN CONTRACT, AGREEMENT OR PERMIT

The following paragraph is added to WHO IS AN INSURED (Section II):

5. Any person or organization for whom you are required by written contract, agreement or permit to provide insurance is an insured, subject to the following additional provisions:
 - a. The contract, agreement or permit must be in effect during the policy period shown in the Declarations, and must have been executed prior to the "bodily injury," "property damage," "personal injury," or "advertising injury."
 - b. The person or organization added as an insured by this endorsement is an insured only with respect to liability arising out of:
 - (1) The ownership, maintenance or use of that part of premises you own, rent, lease or occupy, subject to the following additional provisions:
 - (a) This insurance does not apply to any "occurrence" which takes place after you cease to be a tenant in any premises leased to or rented to you;
 - (b) This insurance does not apply to any structural alterations, new construction or demolition operations performed by or on behalf of the person or organization added as an insured;
 - (2) Your ongoing operations for that insured, whether the work is performed by you or for you;
 - (3) The maintenance, operation or use by you of equipment leased to you by such person or organization, subject to the following additional provisions:
 - (a) This insurance does not apply to any "occurrence" which takes place after the equipment lease expires;
 - (b) This insurance does not apply to "bodily injury" or "property damage" arising out of the sole negligence of such person or organization;
- (4) Permits issued by any state or political subdivision with respect to operations performed by you or on your behalf, subject to the following additional provisions:
 - (a) This insurance does not apply to "bodily injury," "property damage," "personal injury," or "advertising injury" arising out of operations performed for the state or municipality;
 - (b) This insurance does not apply to "bodily injury" or "property damage" included within the "products-completed operations hazard."
- c. The insurance with respect to any architect, engineer, or surveyor added as an insured by this endorsement does not apply to "bodily injury," "property damage," "personal injury," or "advertising injury" arising out of the rendering of or the failure to render any professional services by or for you, including:
 - (1) The preparing, approving, or failing to prepare or approve maps, drawings, opinions, reports, surveys, change orders, designs or specifications; and
 - (2) Supervisory, inspection or engineering services.
- d. With regard to any coverage provided to the insured added by this paragraph, Condition 4. Other Insurance (Section IV) applies. However, if the contract or agreement which requires the person or organization be added as an insured specifically requires that this insurance apply without regard to other valid and collectible primary insurance available to that insured, Paragraph 4.a. of COMMERCIAL GENERAL LIABILITY CONDITIONS (Section IV) is amended to read:
 - a. Primary Insurance
This insurance is primary except when b. below applies.
However, no coverage will be provided if, in the absence of this endorsement, no liability would be imposed by law on you.

COMMERCIAL GENERAL LIABILITY

NON-OWNED WATERCRAFT AND NON-OWNED AIRCRAFT LIABILITY

Exclusion g. of COVERAGE A (Section I) is replaced by the following:

- g. "Bodily injury" or "property damage" arising out of the ownership, maintenance, use or entrustment to others of any aircraft, "auto" or watercraft owned or operated by or rented or loaned to any insured. Use includes operation and "loading or unloading."

This exclusion does not apply to:

- (1) A watercraft while ashore on premises you own or rent;
- (2) A watercraft you do not own that is:
 - (a) Less than 52 feet long; and
 - (b) Not being used to carry persons or property for a charge;
- (3) Parking an "auto" on, or on the ways next to, premises you own or rent, provided the "auto" is not owned by or rented or loaned to you or the insured;
- (4) Liability assumed under any "insured contract" for the ownership, maintenance or use of aircraft or watercraft; or
- (5) "Bodily injury" or "property damage" arising out of the operation of any of the equipment listed in paragraph f.(2) or f.(3) of the definition of "mobile equipment."
- (6) An aircraft you do not own provided it is not operated by any insured.

TENANTS' PROPERTY DAMAGE LIABILITY

When a Damage to Premises Rented to you Limit is shown in the Declarations, Exclusion J. of Coverage A, Section I is replaced by the following:

j. **Damage To Property**

"Property damage" to:

- (1) Property you own, rent, or occupy;
- (2) Premises you sell, give away or abandon, if the "property damage" arises out of any part of those premises;
- (3) Property loaned to you;
- (4) Personal property in the care, custody or control of the insured;
- (5) That particular part of real property on which you or any contractors or subcontractors working directly or indirectly on your behalf are performing operations, if the "property damage" arises out of those operations, or

- (6) That particular part of any property that must be restored, repaired or replaced because "your work" was incorrectly performed on it.

Paragraphs (1), (3) and (4) of this exclusion do not apply to "property damage" (other than damage by fire) to premises, including the contents of such premises, rented to you. A separate limit of insurance applies to Damage To Premises Rented To You as described in Section III - Limits Of Insurance.

Paragraph (2) of this exclusion does not apply if the premises are "your work" and were never occupied, rented or held for rental by you.

Paragraphs (3), (4), (5) and (6) of this exclusion do not apply to liability assumed under a sidetrack agreement.

Paragraph (6) of this exclusion does not apply to "property damage" included in the "products-completed operations hazard."

Paragraph 6. of Section III is replaced by the following:

6. Subject to 5. above, the Damage To Property Limit is the most we will pay under Coverage A for damages because of "property damage" to any one premises, while rented to you, or in the case of damage by fire, while rented to you or temporarily occupied by you with permission of the owner.

The Tenants' Property Damage to Premises Rented to You limit is the higher of \$200,000 or the amount shown in the Declarations as Damage to Premises Rented to You Limit.

WHO IS AN INSURED - MANAGERS

The following is added to Paragraph 2.a. of WHO IS AN INSURED (Section II):

Paragraph (1) does not apply to executive officers, or to managers at the supervisory level or above.

SUPPLEMENTARY PAYMENTS - COVERAGES A AND B - BAIL BONDS

- a. Paragraph 2. of SUPPLEMENTARY PAYMENTS - COVERAGES A AND B is replaced by the following:
 2. Up to \$2,000 for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

EMPLOYEES AS INSUREDS - HEALTH CARE SERVICES

Provision 2.a.(1) d. of WHO IS AN INSURED (Section II) is deleted, unless excluded by separate endorsement.

COMMERCIAL GENERAL LIABILITY

EXTENDED COVERAGE FOR NEWLY ACQUIRED ORGANIZATIONS

Provision 4.a. of WHO IS AN INSURED (Section II) is replaced by the following:

- a. Coverage under this provision is afforded only until the end of the policy period.

EXTENDED "PROPERTY DAMAGE"

Exclusion a. of COVERAGE A. (Section I) is amended to read:

- a. "Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" or "property damage" resulting from the use of reasonable force to protect persons or property.

ADDITIONAL INSURED - VOLUNTEERS

1. WHO IS AN INSURED (Section II) is amended to include as insureds any persons who are volunteer workers for you, but only while acting at the direction of, and within the scope of their duties for you. However, no volunteers are insureds for:

- a. "Bodily injury" to:
 - (1) Co-volunteers or your employees arising out of and in the course of their duties for you, or
 - (2) You, any of your "employees," any partner or member (if you are a partnership or joint venture), or any member (if you are a limited liability company).
- b. "Property damage" to property owned, occupied or used by, rented to, in the care, custody, or control of, or over which physical control is being exercised for any purpose by:
 - (1) A co-volunteer or your employee; or
 - (2) You, any of your "employees", any partner or member (if you are a partnership or joint

venture), or any member (if you are a limited liability company).

2. Exclusion 2.a. of COVERAGE C (Section I) is replaced by the following:

- a. To any insured, except volunteer workers who are not paid a fee, salary or other compensation;

INCREASED MEDICAL EXPENSE LIMIT

The medical expense limit is amended to \$10,000.

KNOWLEDGE OF OCCURRENCE

The following is added to Paragraph 2. Duties In The Event Of Occurrence, Offense, Claim Or Suit of COMMERCIAL GENERAL LIABILITY CONDITIONS (Section IV):

Knowledge of an "occurrence," claim or "suit" by your agent, servant or employee shall not in itself constitute knowledge of the named insured unless an officer of the named insured has received such notice from the agent, servant or employee.

UNINTENTIONAL FAILURE TO DISCLOSE ALL HAZARDS

The following is added to Paragraph 6. Representations of COMMERCIAL GENERAL LIABILITY CONDITIONS (Section IV):

If you unintentionally fail to disclose any hazards existing at the inception date of your policy, we will not deny coverage under this Coverage Form because of such failure. However, this provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

LIBERALIZATION CLAUSE

The following paragraph is added to COMMERCIAL GENERAL LIABILITY CONDITIONS (Section IV):

10. If a revision to this Coverage Part, which would provide more coverage with no additional premium, becomes effective during the policy period in the state shown in the Declarations, your policy will automatically provide this additional coverage on the effective date of the revision.

Certificate Holder Copy

INSURED COPY

SBIF CORPORATION

400 High St SE
Salem, OR 97312-1000
Toll Free 1-800-285-8525

**OREGON WORKERS' COMPENSATION
CERTIFICATE OF INSURANCE**

MAIL TO:

THREE DIMENSIONAL CONTRACTING INC
700 N HAYDEN IS DR #290
PORTLAND, OR 97217-8172

CERTIFICATE HOLDER:

CITY OF NEWBURG
719 E FIRST ST
NWEBURG, OR 97132

The policy of insurance listed below has been issued to the insured named below for the policy period indicated. The insurance afforded by the policy described herein is subject to all the terms, exclusions and conditions of such policy.

| POLICY NO. | POLICY PERIOD | ISSUE DATE |
|------------|--------------------------|------------|
| 485812 | 10/01/1999 to 10/01/2000 | 05/25/2000 |

INSURED:

THREE DIMENSIONAL CONTRACTING INC
700 N HAYDEN IS DR #290
PORTLAND, OR 97217-8172

BROKER OF RECORD:

LIMITS OF LIABILITY:

Bodily Injury by Accident \$500,000 each accident
Bodily Injury by Disease \$500,000 each employee
Bodily Injury by Disease \$500,000 policy limit

DESCRIPTION OF OPERATIONS/LOCATIONS/SPECIAL ITEMS:

IMPORTANT:

The coverage described above is in effect as of the issue date of this certificate. It is subject to change at any time in the future.

This certificate is issued as a matter of information only and confers no rights to the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policies above.

AUTHORIZED REPRESENTATIVE



CONTRACT FOR CONSTRUCTION

THIS CONTRACT, made and entered into this 31 day of MAY, 2000, by and between the CITY OF NEWBERG, OREGON, a municipal corporation, hereinafter called the "OWNER", and

of THREE DIMENSIONAL CONTRACTING, INC

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 **Sewage Pump Stations, Force Mains, and Gravity Sewer** to the extent of the Bid made by the Contractor on the 25 day of April, 2000, 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 Bid Bond and Performance-Payment Bond, the Standard Specifications, the Special Specifications, and the Drawings entitled **Sewage Pump Stations Improvements and Force Main Extension, Sheets 1 through 19**, dated **January 2000**, and **Sheridan Street Sewage Pump Stations, Gravity Sewer and Force Main, Sheets 1 through 11**, dated **January 2000**, 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 two hundred dollars (\$200.00) 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 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 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 Duane R. Cole

Print Name Duane R. Cole

 City Manager
Title

CONTRACTOR

By Kenneth F. Warnos

Print Name KENNETH F. WARNOS

 Secretary
Title

APPROVED AS TO FORM:

 [Signature]
City Attorney

 6/8/00
Date

PERFORMANCE - PAYMENT BOND

BOND # 172 12 73

KNOW ALL PEOPLE BY THESE PRESENTS: that the undersigned THREE DIMENSIONAL CONTRACTING, INC. DBA: 3DC as Principal and INSURANCE CO OF THE WEST as Surety, a corporation organized and existing under the laws of the State of CA, are

held and bound unto the City of Newberg as Obligee, in the penal sum of TWO HUNDRED NINETY ONE THOUSAND TWO HUNDRED FORTY Dollars (\$291,248.40), lawful money of the United States of America, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, and successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a Contract with the Obligee, dated 05/24/00, for the construction of the **Sewage Pump Stations, Force Mains, and Gravity Sewer** of which Contract is made a part hereof as if fully incorporated herein.

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if the Principal shall faithfully, punctually and completely perform and abide with the covenants, terms, conditions and provisions of said Contract and any extensions thereof in all respects and within the time prescribed therein, including, but not limited to, the terms of any warranty and guaranteed required under the said Contract; and shall pay all laborers, mechanics, subcontractors, material and equipment suppliers, and all persons supplying to the Principal or its subcontractors and suppliers at any tier labor, materials, supplies or equipment for the prosecution of the work or any part thereof; and shall also fully defend, indemnify and hold harmless the Obligee from all cost and damage which Obligee may suffer by reason of Principal's failure to do so; and shall in all respects perform said Contract according to applicable law, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

No prepayment or delay in payment and no change, extension, addition or alteration of any provision of said Contract and no forbearance on the part of the Obligee shall operate to relieve the Surety from liability on this bond, and consent to make such changes, extensions, additions or alterations without further notice to or consent by the Surety is hereby given.

In the event arbitration or litigation is brought upon this bond by the Obligee and judgement is entered in Obligee's favor, the Surety shall pay all of Obligee's costs incurred in such arbitration or litigation, including attorneys' and expert witness fees as may be fixed by the arbitrator(s) or court in the arbitration at trial, upon petition for review and on appeal.

In the event there is an arbitration clause in said Contract, Surety agrees to participate in and to be bound by any such arbitration to the same extent Principal is bound.

No right of action shall accrue on its bond to or from the use of any person or corporation other than the Obligee or their heirs, executors, administrators or successors of the Obligee.

Executed this 24TH day of MAY, 2000.

THREE DIMENSIONAL CONTRACTING,
INC. DBA: 3DC

PRINCIPAL

Harold Brown Sr
Title

700 N HAYDEN ISLAND DR., S#290
Address

PORTLAND, OR 97217

INSURANCE COMPANY OF THE WEST

SURETY

Molly K. Mansfield
Title MOLLY K. MANSFIELD
ATTORNEY-IN-FACT

8050 S.W. WARM SPRINGS ST., S#140

Address

TUALATIN, OR 97062

COUNTERSIGNED

W. P. Mansfield

Resident Agent



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

Insurance Company of the West

HOME OFFICE: SAN DIEGO, CALIFORNIA

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That INSURANCE COMPANY OF THE WEST, a California Corporation, does hereby appoint:

MOLLY K. MANSFIELD

its true and lawful Attorney(s)-in-Fact, with full power and authority, to execute, on behalf of the Company, fidelity and surety bonds, undertakings, and other contracts of suretyship of a similar nature.

This Power of Attorney is granted and is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors on the 23rd day of February, 1998, which said Resolution has not been amended or rescinded and of which the following is a true copy:

"RESOLVED, that the Chairman of the Board, the President, an Executive Vice President or a Senior Vice President of the Company, and each of them, is hereby authorized to execute Powers of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company, fidelity and surety bonds, undertakings, or other contracts of suretyship of a similar nature; and to attach thereto the seal of the Company; provided however, that the absence of the seal shall not affect the validity of the instrument.

FURTHER RESOLVED, that the signatures of such officers and the seal of the Company, and the signatures of any witnesses, the signatures and seal of any notary, and the signatures of any officers certifying the validity of the Power of Attorney, may be affixed by facsimile."

IN WITNESS WHEREOF, INSURANCE COMPANY OF THE WEST has caused these presents to be signed by its duly authorized officers this 18th day of November 1998.



INSURANCE COMPANY OF THE WEST

[Signature]
John L. Hannum, Executive Vice President

STATE OF CALIFORNIA
COUNTY OF SAN DIEGO

SS

IN WITNESS WHEREOF, the undersigned certify that they are adults, and have witnessed the signing of this instrument by the principal or have witnessed the principal's acknowledgment of the signature on the power of attorney, pursuant to California Probate Code §4121 and 4122.

[Signature]
Jerry Fafaul

[Signature]
Janis Theodore

CERTIFICATE:

I, John H. Craig, Assistant Secretary of INSURANCE COMPANY OF THE WEST, do hereby certify that the original POWER OF ATTORNEY, of which the foregoing is a true copy, is still in full force and effect, and that this certificate may be signed by facsimile under the authority of the above quoted resolution.

IN WITNESS WHEREOF, I have subscribed my name as Assistant Secretary, on this 24th day of May, 2000



INSURANCE COMPANY OF THE WEST

[Signature]
John H. Craig, Assistant Secretary

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 & 1996 Supplements to the Standard Specifications, except as modified by the SPECIAL SPECIFICATIONS and Drawings contained herein.

PREVAILING WAGE RATES

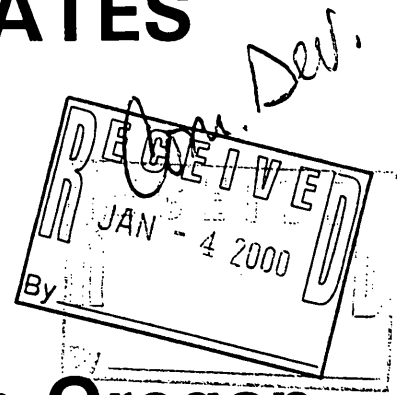
The provisions of ORS 279.334, 187.010 to 187.020 and 279.356 are applicable to work under this CONTRACT. In accordance with ORS 279.352, the prevailing minimum hourly rates of wage as determined by the Bureau of Labor shall be paid to workers in each trade or occupation employed in the performance of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

A copy of the PREVAILING WAGE RATES is included herein.

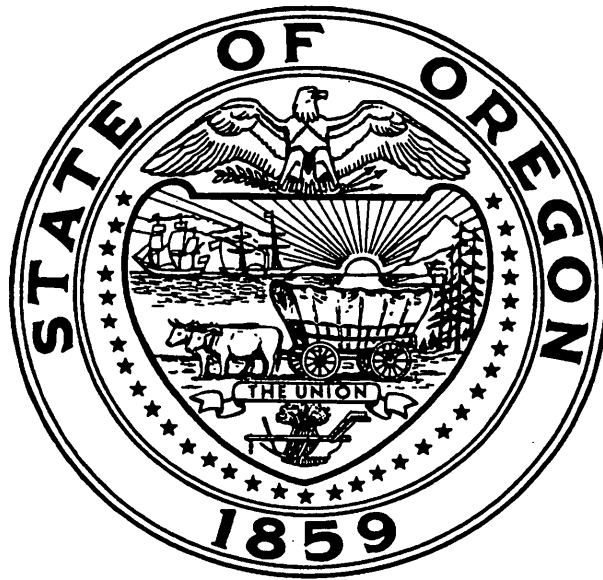
Contractors and subcontractors on public works projects with a total price of less than \$25,000 are not required to pay employees the prevailing wage rate.

PREVAILING WAGE RATES

for



Public Works Contracts in Oregon



OREGON BUREAU OF LABOR AND INDUSTRIES

Jack Roberts
Commissioner
Bureau of Labor and Industries

Effective January 1, 2000

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January 1, 2000

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The Appendix section is to be used only for regions/trades specified in pages 14 through 53. Refer to pages 14 through 53 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

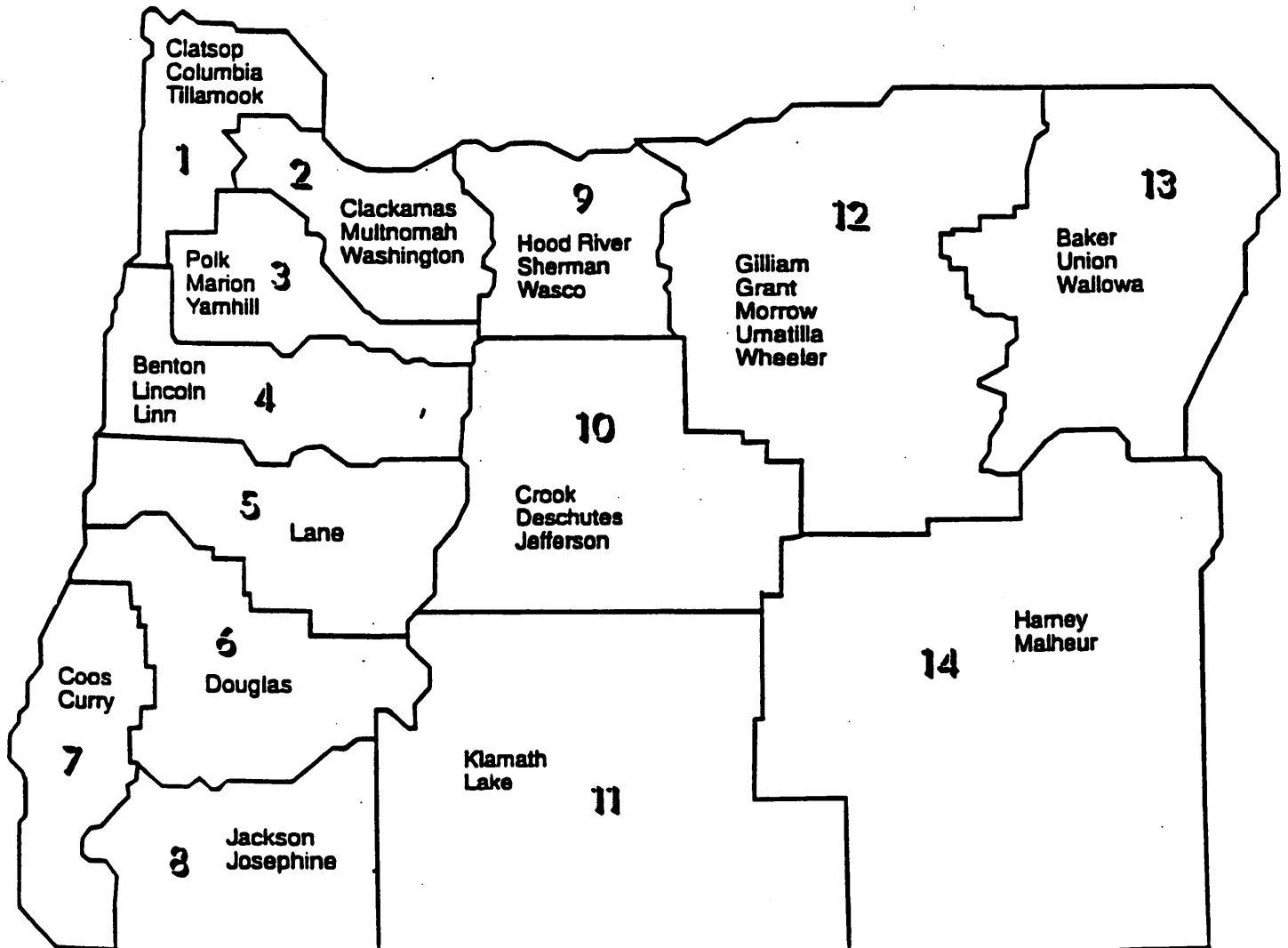
Pursuant to ORS 279.348 to ORS 279.380, the prevailing wage rates contained in this booklet have been adopted for use on public works contracts in Oregon. Additional copies of this booklet are available for \$2.00 each.

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 3 rd , #B-105, Bend, OR 97232 | (541) 388-6330 |
| Eugene | 165 E. 7 th , 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 (see #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.

DEFINITIONS OF COVERED OCCUPATIONS

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)

DEFINITIONS OF COVERED OCCUPATIONS

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. (See #18)

DEFINITIONS OF COVERED OCCUPATIONS

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.

DEFINITIONS OF COVERED OCCUPATIONS

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 #29 and #30 for Tender classifications.)

Group 1 Laborer

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

Group 2 Laborer

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

DEFINITIONS OF COVERED OCCUPATIONS

Laborers (Continued)

Group 3 Laborer

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

Group 4 Laborer

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

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 topsoil 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.

DEFINITIONS OF COVERED OCCUPATIONS

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.

DEFINITIONS OF COVERED OCCUPATIONS

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

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).

DEFINITIONS OF COVERED OCCUPATIONS

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. **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.

DEFINITIONS OF COVERED OCCUPATIONS

28. Sprinkler Fitters

Installs all piping and auxiliary devices, which are necessary for the complete installation of sprinkling

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

Directly assist brickmasons and stonemasons by performing duties of lesser skill. Duties include

Note: Excludes cement and concrete flat work and cement pumping which is performed by

30. Tenders to Plasterers: Assistants to Plasterers and Stucco Masons

Assist plasterers or stucco masons by performing duties of lesser skill. Duties include supplying or

31. Tile Setter/Terrazzo Worker: Hard Tile Setters

Apply tile to walls, floors, ceilings and promenade roof decks following design specifications. Applies

Note: Tenders for tile setters and terrazzo workers are classified in Tile, Terrazzo and Marble

32. Tile, Terrazzo and Marble Finishers

Supplies and mixes construction materials for Marble setter, Terrazzo Worker and Tile Setter. Applies

33. 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

Group 1

| | |
|--|---|
| A-frame or Hydra-Lift Truck w/load bearing surface | Loader and/or Leverman on concrete dry batch plant |
| Battery Rebuilder | manually operated |
| Bus or Man-Haul Driver | Lubrication Man |
| Concrete Buggies (power operated) | Pilot Car |
| Driver | Slurry Truck Driver or Leverman |
| Dump Trucks, side, end and bottom dumps up to and including 10 cu. yards, including semi-trucks and trains or combinations thereof | Solo Flat Bed and miscellaneous body trucks |
| Fork Lifts used in loading, unloading and transporting material on job site. | Steam Cleaner or combination |
| Fuel Truck Driver | Tireman |
| Lift Jitneys | 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 | Oil Distributor Driver or Leverman |
| Flaherty Spreader Driver or Leverman | Transit Mix and Wet or Dry Mix Trucks, over 5 cu. yds. and including 7 cu. yds. |
| Low Bed Equipment, Flat Bed Semi-Truck & Trailer or doubles transporting equipment or wet or dry materials | Water Wagons, 3,000 to 5,000 gallons |
| Lumber Carrier, Driver-Straddle Carrier used in on job site | |

DEFINITIONS OF COVERED OCCUPATIONS

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 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.

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.

34. 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 #1
Clatsop, Columbia and Tillamook Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | \$16.99 | \$5.92 |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| 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 Applicator (Drywall/Wetwall) | See Appendix | See Appendix |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | See Appendix | See Appendix |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$21.03 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledriver men, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders (Carpenters) | See Appendix | See Appendix |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$21.06 | \$5.36 |

REGION #1
Clatsop, Columbia and Tillamook Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$21.67 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$18.31 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$21.03 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #2
Clackamas, Multnomah and Washington Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| 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 Applicator (Drywall/Wetwall) | See Appendix | See Appendix |
| Drywall Taper (Painters and Drywall Tapers) | See Appendix | See Appendix |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) (Laborers) | See Appendix | See Appendix |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | See Appendix | See Appendix |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Strippers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | See Appendix | See Appendix |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$21.03 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledriver men, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders (Carpenters) | See Appendix | See Appendix |
| Painter: Brush, Roller, Machine (spray and sandblasting) | See Appendix | See Appendix |
| 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 | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$21.06 | \$5.36 |

REGION #2
Clackamas, Multnomah and Washington Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$20.94 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$21.67 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | See Appendix | See Appendix |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$21.03 | \$4.00 |
| 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 |

REGION #2

Clackamas, Multnomah and Washington Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|---|---|---|
| Tile Setter/Terrazzo Worker: Hard Tile Setter | See Appendix | See Appendix |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #3
Polk, Marion and Yamhill Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | \$16.99 | \$5.92 |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| 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 Applicator (Drywall/Wetwall) | See Appendix | See Appendix |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | See Appendix | See Appendix |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledriver men, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders (Carpenters) | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$21.06 | \$5.36 |

REGION #3

Polk, Marion and Yamhill Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$20.94 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #4
Benton, Lincoln and Linn Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|---|-------------------------|------------------------|
| Asbestos Workers/Insulators | \$16.99 | \$5.92 |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons | See Appendix | See Appendix |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) (Dredgers) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | See Appendix | See Appendix |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction (Excludes Tree Trimmer) | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) Plasterers and Stucco Masons, (Swinging Scaffold, Nozzlemen and All Other Work) (Plasterers) | \$15.51 See Appendix | \$3.21 See Appendix |
| Plumbers and Steamfitters/Pipefitters (Plumbers) | See Appendix | See Appendix |

REGION #4

Benton, Lincoln and Linn Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators | | |
| Asphalt Paving Equipment: Asphalt Paver Operator, Asphalt Plant Operator, Roller Operator, Screed Operator (any asphalt mix) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$21.06 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |

REGION #4
 Benton, Lincoln and Linn Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmer (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #5
Lane County

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|---|----------------------|--------------|
| Asbestos Workers/Insulators | \$16.99 | \$5.92 |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | \$22.91 | \$7.37 |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| 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 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | See Appendix | See Appendix |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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 |

REGION #5
Lane County

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| 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 | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | See Appendix | See Appendix |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling, (Exclude exploratory drilling for water, minerals, oil & gas) | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | See Appendix | See Appendix |
| Sprinkler Fitters | \$21.58 | \$5.53 |

REGION #5
Lane County

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| Tenders to Mason Trades: Brick and Stonemasons | \$18.16 | \$5.78 |
| Tenders to Plasterers and Stucco Masons | See Appendix | See Appendix |
| Tile, Terrazzo, Brick and Marble Finisher | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #6
Douglas County

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | \$16.99 | \$5.92 |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | \$19.66 | \$7.37 |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons Cement Masons, finishing, hand chipping, patching, grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, stakes, lines and grades. Composition Workers, includes installation of epoxy and other resinous toppings, and Power Machine Operators Cement Masons working on suspended, swinging and/or hanging scaffold | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst Mate, Fireman, Oilers, Operators, Tenderman) (Dredgers) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |

REGION #6
Douglas County

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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 | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | See Appendix | See Appendix |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |

REGION #6
Douglas County

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | See Appendix | See Appendix |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| Tenders to Mason Trades: Brick and Stonemasons | \$17.05 | \$5.78 |
| Tenders to Plasterers and Stucco Masons | See Appendix | See Appendix |
| Tile, Terrazzo, Brick and Marble Finisher | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #7
Coos and Curry Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | \$19.66 | \$7.37 |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 (all) | \$5.76 (all) |
| Cement Masons Cement Masons, finishing, hand chipping, patching, grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, 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 | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |

REGION #7
Coos and Curry Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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 | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | See Appendix | See Appendix |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |

REGION #7
Coos and Curry Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | See Appendix | See Appendix |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| Tenders to Mason Trades: Brick and Stonemasons | \$17.05 | \$5.78 |
| Tenders to Plasterers and Stucco Masons | See Appendix | See Appendix |
| Tile, Terrazzo, Brick and Marble Finisher | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (See Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | See Appendix | See Appendix |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #8
Jackson and Josephine Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | \$19.66 | \$7.37 |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons Cement Masons, finishing, hand chipping, patching, grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, 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 | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) (Ironworkers) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |

REGION #8

Jackson and Josephine Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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 | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | See Appendix | See Appendix |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |

REGION #8
Jackson and Josephine Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| Tenders to Mason Trades: Brick and Stonemasons | \$17.05 | \$5.78 |
| Tenders to Plasterers and Stucco Masons | See Appendix | See Appendix |
| Tile, Terrazzo, Brick and Marble Finisher | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #9
Hood River, Sherman and Wasco Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|---|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| 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 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | 7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$21.03 | \$4.00 |
| Line Construction (Excludes Tree Trimmers) | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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 |

REGION #9
Hood River, Sherman and Wasco Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| 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 | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$21.06 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |

REGION #9
Hood River, Sherman and Wasco Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Telephone and Data Cabling | \$21.03 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #10
 Crook, Deschutes and Jefferson Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|---|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | \$19.66 | \$7.37 |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons Cement Masons, finishing, hand chipping and patching grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, stakes, lines and grades. Composition Workers (includes installation of epoxy and other resinous toppings), and Power Machine Operators Cement Masons working on suspended, swinging and/or hanging scaffold | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |

REGION #10

Crook, Deschutes and Jefferson Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivers, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$16.41 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |

REGION #10
 Crook, Deschutes and Jefferson Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #11
Klamath and Lake Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | \$19.66 | \$7.37 |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons Cement Masons, finishing, hand chipping and patching, grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, stakes, lines and grades. Composition Worker, includes installation of epoxy and other resinous toppings, and Power Machine Operators Cement Masons working on suspended, swinging and/or hanging scaffold | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |

REGION #11
Klamath and Lake Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$16.41 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |

REGION #11
Klamath and Lake Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| Tenders to Mason Trades: Brick and Stonemasons | \$17.05 | \$5.78 |
| Tenders to Plasterers and Stucco Masons | See Appendix | See Appendix |
| Tile, Terrazzo, Brick and Marble Finisher | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #12

Gilliam, Grant, Morrow, Umatilla and Wheeler Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|---|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| 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 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Stripers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$21.03 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | See Appendix | See Appendix |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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 |

REGION #12

Gilliam, Grant, Morrow, Umatilla and Wheeler Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators | | |
| Asphalt Paving Equipment: Asphalt Paver Operator, Asphalt Plant Operator, Roller Operator, Screed Operator (any asphalt mix) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$16.41 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | See Appendix | See Appendix |
| Sprinkler Fitters | \$21.58 | \$5.53 |

REGION #12
 Gilliam, Grant, Morrow, Umatilla and Wheeler Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Telephone and Data Cabling | \$21.03 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #13
Baker, Union and Wallowa Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons Cement Masons, finishing, hand chipping and patching grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, stakes, lines and grades. Composition Workers, includes installation of epoxy and other resinous toppings, and Power Machine Operators Cement Masons working on suspended, swinging and/or hanging scaffold | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Strippers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |

REGION #13

Baker, Union and Wallowa Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Landscape Laborer/Technician | \$12.85 | \$2.18 |
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$21.03 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$16.41 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |

REGION #13
Baker, Union and Wallowa Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | See Appendix | See Appendix |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$21.03 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| Welders (Incidental) | Receive rate for craft performing operation to which welding is incidental. | Receive rate for craft performing operation to which welding is incidental. |

REGION #14
Harney and Malheur Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Asbestos Workers/Insulators | See Appendix | See Appendix |
| Boilermakers | See Appendix | See Appendix |
| Bricklayers/Stonemasons | See Appendix | See Appendix |
| Carpenters Carpenter 1: Auto Nailing Machine, Form Stripper, Floor Layers, Stationary Power Saw Operator Carpenter 2: Cabinet and shelving installers, Floor Finishers, Wall and Ceiling Insulators, Irritating Insulation. | \$19.17 | \$5.76 |
| Cement Masons Cement Masons, finishing, hand chipping and patching grouting, end pointing, screed setting, plugging, filling bolt holes, dry packing, setting curb forms, plants, stakes, lines and grades. Composition Workers, includes installation of epoxy and other resinous toppings, and Power Machine Operators Cement Masons working on suspended, swinging and/or hanging scaffold | \$20.44 | \$6.87 |
| Diver / Divers' Tender | See Appendix | See Appendix |
| Dredging (Asst. Engineer, Asst. Mate, Fireman, Oilers, Operators, Tenderman) | See Appendix | See Appendix |
| 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) | \$17.57 | \$8.05 |
| Drywall Taper | \$20.09 | \$7.16 |
| Electrician | See Appendix | See Appendix |
| Elevator Constructors, Installers and Mechanics | See Appendix | See Appendix |
| Fence Constructor (not metal) | \$17.41 | \$5.60 |
| Fence Erector (metal) | \$14.84 | \$2.97 |
| Floor Covering Layers (Soft tile, linoleum and carpet) | \$20.10 | \$4.73 |
| Glaziers | \$15.56 | \$6.41 |
| Hazardous Materials Handler/Mechanic | \$15.31 | \$3.80 |
| Highway and Parking Strippers | See Appendix | See Appendix |
| Ironworkers (Structural & Reinforcing Metal Workers) | See Appendix | See Appendix |
| Laborers and Material Movers (Hand); Flaggers | \$17.41 | \$5.60 |
| Landscape Laborer/Technician | \$12.85 | \$2.18 |

REGION #14
Harney and Malheur Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|----------------------|--------------|
| Lather (Drywall/Wetwall) | See Appendix | See Appendix |
| Limited Energy Electrician | \$16.39 | \$4.00 |
| Line Construction | See Appendix | See Appendix |
| Marble Setters | See Appendix | See Appendix |
| Marine Carpenters: Bridge, dock and wharf builders, piledrivermen, boom men, marine piledrivers | \$23.91 | \$6.59 |
| Millwrights; Machine Erectors; Machinists; Millwright/Welders | \$17.52 | \$4.83 |
| Painter: Brush, Roller, Machine (spray and sandblasting) | \$15.51 | \$3.21 |
| 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) | \$19.85 | \$5.97 |
| Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operator, Concrete Planer, Grinder or Grooving Machine Operator | \$20.92 | \$7.25 |
| Auxiliary Equipment: Compressors, Generators, Pumps | \$19.82 | \$5.11 |
| Blade: Blade/Grader Operator | \$16.41 | \$5.36 |
| 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) | \$20.33 | \$5.65 |
| Compactors/Roller Operator: (not asphalt) | \$20.04 | \$6.59 |
| 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 | \$17.74 | \$3.47 |
| Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men | See Appendix | See Appendix |
| Crushing: Crusher Plant Operator or Oiler | \$15.06 | \$2.97 |
| Drilling: Earth Boring Machine Operator (horizontal & vertical), Directional Drilling | \$18.86 | \$3.50 |
| 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") | \$23.46 | \$7.34 |
| Fork Lifts: Industrial Lift Truck Operator and Material Handler | See Appendix | See Appendix |

REGION #14
Harney and Malheur Counties

| OCCUPATION | PREVAILING WAGE RATE | FRINGE RATE |
|--|---|---|
| Power Equipment Operators (Continued) | | |
| Front End Loaders, Hydraulic Hoes, Excavators | \$18.68 | \$5.31 |
| 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 | \$17.79 | \$4.29 |
| Sweepers | \$24.09 | \$7.48 |
| 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 | \$14.96 | \$4.37 |
| Sheet Metal Duct Installers; Sheet Metal Workers | \$17.96 | \$5.94 |
| Sprinkler Fitters | \$21.58 | \$5.53 |
| Telephone and Data Cabling | \$16.39 | \$4.00 |
| 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 | \$18.73 | \$5.60 |
| Tile Setter/Terrazzo Worker: Hard Tile Setter | \$21.34 | \$5.79 |
| Tree Trimmers (Line Constructors) | See Appendix | See Appendix |
| Truck Drivers, Heavy or Tractor-Trailer | \$15.24 | \$3.77 |
| 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

JANUARY 1, 2000

THE APPENDIX SECTION IS TO BE USED ONLY FOR REGIONS/TRADES SPECIFIED IN PAGES 14 THROUGH 53. REFER TO PAGES 14 THROUGH 53 BEFORE USING RATES IN THIS SECTION

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OREGON DETERMINATION 2000-01

| | BASIC | | BASIC |
|-------|--------|---------|---------|
| | HOURLY | FRINGE | HOURLY |
| TRADE | RATE | BENEFIT | 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 24.32 9.65
Pressure Welder 25.82 9.65

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.)

BRICKLAYERS/STONEMASONS (Continued)

Area 1

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

Area 2

| | |
|-------------|-------------|
| Benton (b) | Linn (b) |
| Grant | Malheur (b) |
| Harney | Wasco (b) |
| Lincoln (b) | Wheeler |

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 |

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.

OREGON DETERMINATION 2000-01

| TRADE | BASIC | | TRADE | BASIC | |
|-------|-------------|----------------|-------|-------------|----------------|
| | HOURLY RATE | FRINGE BENEFIT | | HOURLY RATE | FRINGE BENEFIT |

CARPENTERS (Continued)

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.

Reference Cities for Groups 5, 6 and 7

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

CARPENTERS (Continued)

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.

OREGON DETERMINATION 2000-01

| TRADE | BASIC | | TRADE | BASIC | |
|-------|-------------|----------------|-------|-------------|----------------|
| | HOURLY RATE | FRINGE BENEFIT | | 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 |

1) For those workers who reside within a reference city below, their zone pay shall be computed from the City Hall of the city wherein they reside.

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

3) The zone pay for all other projects shall be computed from the City Hall of Portland.

DIVERS & DIVERS' TENDERS (Continued)

Zone Differential for Divers/Divers' Tenders

(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 |

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 Divers/Divers' Tenders

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

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' 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. |

OREGON DETERMINATION 2000-01

| TRADE | BASIC | | TRADE | BASIC | |
|-------|-------------|----------------|-------|-------------|----------------|
| | HOURLY RATE | FRINGE BENEFIT | | HOURLY RATE | FRINGE BENEFIT |

DIVERS/DIVERS' TENDERS (Continued)

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 Dredgers (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 | |

DRYWALL/WETWALL

| | | |
|---|-------|------|
| Drywall (Acoustical and Drywall Applicator) | 22.76 | 8.84 |
| Wetwall (Lather) | 21.74 | 9.86 |

ELECTRICIANS

| | | |
|-----------------------------|---------------|---------------|
| <u>Area 1</u> | | |
| Electricians | 21.63 | 6.62 |
| Cable Splicers | 23.79 | 6.71 |
| <u>Area 2</u> | | |
| Electricians | 26.45 | 7.72 |
| Cable Splicers | 27.78 | 7.76 |
| <u>Area 3</u> | | |
| Electricians | 25.25 | 9.10 |
| <u>Area 4</u> | | |
| Electricians | 28.00 | 8.79 |
| Cable Splicers | 30.80 | 8.87 |
| Electrical Material Handler | 11.80 | 3.85 |
| <u>Area 5</u> | | |
| Electricians | 27.95 | 10.86 |
| Cable Splicers | 27.55 | 9.48 |
| Electrical Material Handler | 15.79 | 6.82 |
| <u>Area 6</u> | | |
| Electricians | 25.53 | 8.02 |
| Cable Splicers | 25.53 | 8.02 |
| <u>Area 1</u> | <u>Area 2</u> | <u>Area 3</u> |
| Malheur | Baker | Coos |
| | Gilliam | Curry |
| | Grant | Lincoln |
| | Morrow | Douglas (a) |
| | Umatilla | Lane (a) |
| | Union | |
| | Wallowa | |
| | Wheeler | |

OREGON DETERMINATION 2000-01

| TRADE | BASIC | | BASIC | |
|-------|--------|---------|--------|---------|
| | HOURLY | FRINGE | HOURLY | FRINGE |
| | RATE | BENEFIT | RATE | BENEFIT |

ELECTRICIANS (Continued)

| <u>Area 4</u> | <u>Area 5</u> | <u>Area 6</u> |
|---------------|---------------|---------------|
| 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

| <u>Area 1</u> | | | |
|---------------------|-------|------|-----|
| Mechanic | 29.90 | 7.49 | + a |
| Helper | 20.93 | 7.24 | + a |
| Probationary Helper | 14.95 | .40 | |

| <u>Area 2</u> | | | |
|---------------------|-------|------|-----|
| 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.

| <u>Area 1</u> | <u>Area 2</u> |
|---------------|---------------|
| Umatilla | All |
| Wallowa | Remaining |
| Union | Counties |
| Baker | |

GLAZIERS

| | | |
|--|-------|------|
| | 25.19 | 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 |

| | | |
|--|-------|------|
| <u>HIGHWAY / PARKING STRIPERS</u> | 20.83 | 4.76 |
|--|-------|------|

| | | |
|---------------------------|-------|-------|
| <u>IRONWORKERS</u> | 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 for 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 General Laborer on such a site. For further information on this, call the Prevailing Wage Rate Coordinator at (503) 731-4709.

**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

OREGON DETERMINATION 2000-01

| TRADE | BASIC | FRINGE | TRADE | BASIC | FRINGE |
|-------|--------|--------|-------|--------|--------|
| | HOURLY | | | HOURLY | |

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

- 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.

LABORERS (Continued)

Group 2

| | |
|--------------------------|--------------------------|
| Applicators (a) | Gunite Nozzleman Tender |
| Brush Cutters (b) | Gunite or Sandblasting |
| Burners | Pot Tender |
| Choker Splicer | Handlers/Mixers (f) |
| Clary Power Spreader (c) | Pipe Doping & Wrapping |
| Clean up Nozzleman - | Post Hole Digger, Air, |
| Green Cutter (d) | Gas or Electric |
| Concrete Laborers | Power Tool Operators (g) |
| Concrete Power Buggyman | Sand Blasting (wet) |
| Crusher Feeder | Stake Setter |
| Demolition/Wrecking (e) | 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 | Power Saw Operators (c) |
| Bit Grinder | Sand Blasting (dry) |
| Concrete Saw Operator | Sewer Timberman |
| Drill Doctor | Track Liners (d) |
| Drill Operators (a) | Tugger Operator |
| Laser Beam (b) | Vibrators (all) |
| Manhole Builder | Water Blaster |
| Nippers & Timbermen | Welder |
| Nuclear Plant Worker- | |
| Lead Shield | |

- 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

OREGON DETERMINATION 2000-01

BASIC
HOURLY FRINGE
RATE BENEFIT

BASIC
HOURLY FRINGE
RATE BENEFIT

TRADE

TRADE

LABORERS (Continued)

Group 4

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

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.

LINE CONSTRUCTION

Area 1

| | | |
|---------|-------|------|
| Group 1 | 28.55 | 7.61 |
| Group 2 | 25.75 | 7.50 |
| Group 3 | 19.97 | 5.77 |
| Group 4 | 22.19 | 5.86 |
| Group 5 | 19.37 | 5.75 |
| Group 6 | 18.19 | 5.71 |

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

LINE CONSTRUCTION (Continued)

Group 1

Cable Splicers
Leadman Pole Sprayer
Lineman
Pole Sprayer

Group 3

Tree Trimmer

Group 5

Head Groundman
Jackhammer Man
Powderman

Group 2

Certified Lineman Welder
Heavy Line Equipment
Man

Group 4

Line Equipment Man

Group 6

Groundman

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

OREGON DETERMINATION 2000-01

| TRADE | BASIC HOURLY RATE | FRINGE BENEFIT | TRADE | BASIC HOURLY RATE | FRINGE BENEFIT |
|-------|-------------------|----------------|-------|-------------------|----------------|
|-------|-------------------|----------------|-------|-------------------|----------------|

PAINTERS & DRYWALL TAPERS

Brush Painting 20.15 3.48

(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.

Reference Cities for Area 1

Boise, Idaho or 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.

PLUMBERS & STEAMFITTERS/PIPEFITTERS (Cont'd)

Area 2 (Both) 28.10 10.30
Area 3 (Both) 28.90 9.50

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 | 26.91 | 8.20 |
| Group 2 | 26.00 | 8.20 |
| Group 3 | 25.30 | 8.20 |
| Group 4 | 24.83 | 8.20 |
| Group 5 | 24.27 | 8.20 |
| Group 6 | 22.10 | 8.20 |

Note: A Hazardous Waste Removal Differential must be 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) 731-4709.

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 71

OREGON DETERMINATION 2000-01

| TRADE | BASIC | FRINGE | TRADE | BASIC | FRINGE |
|-------|--------|--------|-------|--------|--------|
| | HOURLY | | | HOURLY | |
| | RATE | | | RATE | |

POWER EQUIPMENT OPERATORS (Continued)

(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.

(C) 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.

(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.

(C) 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)

POWER EQUIPMENT OPERATORS (Continued)

ASPHALT (Continued)

Group

- 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

BULLDOZERS

Group

- 4 Bulldozer Operator
- 4 Drill Cat Operator
- 4 Side-Boom Operator
- 2 Tandem bulldozer operator (quadline & similar type, D-11)
- 4 Bulldozer Operator, twin engine (TC12 and similar type, D-10)
- 4 Cable-Plow Operator (any type)

CLEARING

Group

- 4 Log Skidder Operator
- 4 Chipper Operator
- 4 Incinerator Operator
- 4 Stump Splitter Operator
- 4 Faller/Buncher Operator

OREGON DETERMINATION 2000-01

| TRADE | BASIC | FRINGE | TRADE | BASIC | FRINGE |
|-------|--------|---------|-------|--------|---------|
| | HOURLY | | | HOURLY | |
| | RATE | BENEFIT | | RATE | BENEFIT |

POWER EQUIPMENT OPERATORS (Continued)

COMPRESSORS

Group

- 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

- 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

- 6 Plant Oiler
- 6 Assistant Conveyor Operator
- 6 Conveyor Operator
- 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, Gunit 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

POWER EQUIPMENT OPERATORS (Continued)

CONCRETE (Continued)

Group

- 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
- 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

OREGON DETERMINATION 2000-01

| TRADE | BASIC | FRINGE | TRADE | BASIC | FRINGE |
|-------|--------|---------|-------|--------|---------|
| | HOURLY | | | HOURLY | |
| | RATE | BENEFIT | | RATE | BENEFIT |

POWER EQUIPMENT OPERATORS (Continued)

CRANE (Continued)

Group

- 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
- 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

POWER EQUIPMENT OPERATORS (Continued)

CRUSHER

Group

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

DRILLING

Group

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

OREGON DETERMINATION 2000-01

| TRADE | BASIC | | FRINGE | | TRADE | BASIC | | FRINGE | |
|-------|--------|------|--------|---------|-------|--------|------|--------|---------|
| | HOURLY | RATE | HOURLY | BENEFIT | | HOURLY | RATE | HOURLY | BENEFIT |

POWER EQUIPMENT OPERATORS (Continued)

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 |

GENERATORS

| Group | |
|-------|--------------------------|
| 4 | Generator Operator |
| 4 | Diesel-Electric Engineer |

GUARDRAIL EQUIPMENT

| Group | |
|-------|--|
| 6 | Oiler |
| 6 | Auger Oiler |
| 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

| Group | |
|-------|---|
| 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 |

POWER EQUIPMENT OPERATORS (Continued)

HYDRAULIC HOES

| Group | |
|-------|--|
| 5 | Hydraulic Backhoe Operator, wheel type 3/8 cu. yd. And under with or without front end attachments 2 1/2 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 1/2 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 1/2 cu. yd. and under 4 cu. yd. |
| 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 |

OREGON DETERMINATION 2000-01

| TRADE | BASIC HOURLY RATE | FRINGE BENEFIT | TRADE | BASIC HOURLY RATE | FRINGE BENEFIT |
|---|-------------------------|-------------------|---|-------------------------|---|
| <u>POWER EQUIPMENT OPERATORS</u> (Continued) | | | <u>POWER EQUIPMENT OPERATORS</u> (Continued) | | |
| <u>PILEDRIVERS</u> (Use Crane rates when driving or pulling piling) | | | <u>REMOTE CONTROL</u> | | |
| Group | | | Group | | |
| 4 | | | 2 | | Remote controlled earth-moving equipment |
| 4 | | | | | |
| | | | <u>REPAIRMEN, Heavy Duty</u> | | |
| <u>PIPE LINE – Sewer Water</u> | | | Group | | |
| Group | | | 6 | | Parts Man (Tool Room) |
| 6 | | | 6 | | H.D. Repairman Assistant |
| 6 | | | 6 | | Welder's Assistant |
| 6 | | | 4 | | Diesel-Electric Engineer (Plant or Floating) |
| 5 | | | 4 | | Bolt Threading Machine Operator |
| 5 | | | 4 | | Drill Doctor (Bit Grinder) |
| 4 | | | 4 | | H.D. Mechanic |
| 4 | | | 4 | | H.D. Welder |
| 4 | | | 4 | | Machine Tool Operator |
| 4 | | | 4 | | Combination H.D. Mechanic-Welder, when dispatched and/or when required to do both |
| 4 | | | 4 | | Welder – Certified, when dispatched and/or required |
| 4 | | | | | |
| <u>PUMPS</u> | | | <u>RUBBER-TIRED SCRAPERS</u> | | |
| Group | | | Group | | |
| 6 | | | 4 | | Rubber-tired Scraper Operator, single engine, single scraper |
| 6 | | | 4 | | Self-loading, paddle wheel, auger type under 15 cu. yd. |
| 5 | | | 4 | | Rubber-tired Scraper Operator, twin engine |
| 5 | | | 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 |
| <u>RAILROAD EQUIPMENT</u> | | | | | |
| 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 |

OREGON DETERMINATION 2000-01

| TRADE | BASIC | | TRADE | BASIC | |
|---|--|----------------|---|--|----------------|
| | HOURLY RATE | FRINGE BENEFIT | | HOURLY RATE | FRINGE BENEFIT |
| <u>POWER EQUIPMENT OPERATORS (Continued)</u> | | | <u>POWER EQUIPMENT OPERATORS (Continued)</u> | | |
| <u>SHOVEL, DRAGLINE, CLAMSHELL, BACKHOE, SKOOPER, ETC., OPERATOR</u> | | | <u>TRACTOR - RUBBER TIRED</u> | | |
| Group | | | Group | | |
| 6 | Oiler | | 5 | Tractor Operator, rubber-tired, 50 H.P. Flywheel and under | |
| 6 | Grade Oiler (required to check grade) | | 4 | Tractor Operator, rubber-tired, over 50 H.P. Flywheel | |
| 6 | Grade Checker | | 4 | Tractor Operator, with boom attachment | |
| 6 | Fireman | | 4 | Rubber-tired Dozers and Pushers (Michigan,Cat, Hough type) | |
| 4 | Diesel-Electric Engineer | | <u>TRENCHING MACHINE</u> | | |
| 4 | Stationary Drag Scraper Operator | | Group | | |
| 4 | Shovel, Dragline, Clamshell, Hoe etc., Operator under 3 cu. yd. | | 6 | Oiler | |
| 4 | Grade-all Operator | | 6 | Grade Oiler (required to check grade) | |
| 2 | Shovel, Dragline, Clamshell, Hoe etc., Operator 3 cu. yd. and over | | 5 | Trenching Machine Operator, maximum digging capacity 3 ft. depth | |
| <u>SIGNALMAN</u> | | | 4 | Trenching Machine Operator, maximum digging capacity over 3 ft. depth | |
| Group | | | 4 | Back Filling Machine Operator | |
| 6 | Bell Boy, phones, etc., Operator | | 2 | Wheel Excavator | |
| 6 | Helicopter Radioman (ground) | | 2 | Canal Trimmer | |
| <u>SURFACING (BASE) MATERIAL</u> | | | 2 | Band Wagon (in conjunction with wheel excavator) | |
| Group | | | <u>TUNNEL</u> | | |
| 6 | Roller Operator, grading of base rock (not asphalt) | | Group | | |
| 5 | Roller Operator, Oiling, C.T.B. | | 4 | Mucking Machine Operator | |
| 6 | Tamping Machine Operator, mechanical, self-propelled | | 6 | Conveyor Operator (any type) | |
| 6 | Hydrographic Seeder Machine Operator, straw, pulp or seed | | 4 | Shield Operator | |
| 5 | Rock Spreaders, self-propelled | | 6 | Air Filtration Equipment Operator | |
| 5 | Pulva-mixer or similar types | | 6 | Dinkey Operator | |
| 4 | Blade Mounted Spreaders, Ulrich and similar types | | 6 | Oiler | |
| 5 | Chip Spreading Machine Operator | | 4 | Tunnel Boring Machine Operator | |
| 5 | Lime Spreading Operator | | <u>UNDERWATER EQUIPMENT</u> | | |
| <u>SWEEPERS</u> | | | Group | | |
| Group | | | 2 | Underwater Equipment Operator, remote or otherwise, when used in construction work | |
| 6 | Broom Operator, self-propelled | | | | |
| 5 | Sweeper Operator (Wayne type) self-propelled | | | | |

OREGON DETERMINATION 2000-01

| TRADE | BASIC | FRINGE | TRADE | BASIC | FRINGE |
|-------|--------|---------|-------|--------|---------|
| | HOURLY | | | HOURLY | |
| | RATE | BENEFIT | | RATE | BENEFIT |

**TILE SETTER/
TERRAZZO WORKER** 23.23 6.50

(This trade is tended by "Tile, Terrazzo, Brick & Marble Finishers")

(Add \$.50 to base rate if safety belt required by State safety regulations.)

(Add \$1.00 to base rate if work involves epoxy, furnane, alkor acetylene black grouting or waterproof membrane.)

**TILE, TERRAZZO, BRICK
& MARBLE FINISHERS** 17.39 4.97

Assists Tile Setter, Bricklayers, Marble Masons and Terrazzo Workers by striking, sawing, cleaning, washing or grouting. Does not lay or set any material.

(Add \$.50 to base rate if safety belt required by State safety regulations)

(Add \$1.00 to base rate if work involves epoxy, furnane, alkor acetylene black grouting or waterproof membrane.)

(Add \$.75 to fringe for refractory repair work.)

TRUCK DRIVERS

| | | |
|---------|-------|------|
| Group 1 | 21.57 | 8.60 |
| Group 2 | 21.69 | 8.60 |
| Group 3 | 21.82 | 8.60 |
| Group 4 | 22.07 | 8.60 |
| Group 5 | 22.29 | 8.60 |
| Group 6 | 22.44 | 8.60 |
| Group 7 | 22.64 | 8.60 |

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

TRUCK DRIVERS (Continued)

Group 1 (Continued)

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. yd & 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 on job site.
 Oil Distributor Driver or Leverman

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

OREGON DETERMINATION 2000-01

| | BASIC | | BASIC | |
|-------|--------|---------|--------|---------|
| | HOURLY | FRINGE | HOURLY | FRINGE |
| TRADE | RATE | BENEFIT | RATE | BENEFIT |

TRUCK DRIVERS (Continued)

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.

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS**

Publication Date: December 6, 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) (503) 731-4709.

| | <u>CONTRACTOR NAME</u> | <u>DATE PLACED</u> | <u>REMOVAL DATE</u> |
|-----|--|--------------------|---------------------|
| 1. | B.A.M. Electric Company, Inc. 3718 Altamont Drive Klamath Falls, OR 97603 | July 22, 1998 | July 21, 2001 |
| 2. | Debra Brazell 155 Lyon Drive Fernley, NV 89408 | October 6, 1999 | October 5, 2002 |
| 3. | Kevin Brazell 155 Lyon Drive Fernley, NV 89408 | October 6, 1999 | October 5, 2002 |
| 4. | Norman S. Brown 4324 'B' Street Springfield, OR 97478 | July 15, 1999 | July 14, 2002 |
| 5. | E. Gene Kasey dba Empire Landscaping 4714 SE 104th Portland, OR 97266 | April 1, 1999 | March 31, 2002 |
| 6. | Del Gilman dba Del Gilman Painting 1766 Henderson Eugene, OR 97403 | April 1, 1999 | March 31, 2002 |
| 7. | HydroTech, Inc. 155 Lyon Drive Fernley, NV 89408 | October 6, 1999 | October 5, 2002 |
| 8. | Lisa A. Wiese dba L & G Interiors P.O. Box 2218 Clackamas, OR 97015 | April 20, 1998 | April 19, 2001 |
| 9. | Larson Construction Co., Inc. and David M. Larson 485 SE 5th Warrenton, OR 97146 | July 22, 1998 | July 21, 2001 |
| 10. | Magic Numbers Estimating, Inc. c/o Russell D. Bevans, Registered Agent 895 Country Club Rd., Suite C-175 Eugene, OR 97401-6006 | December 6, 1999 | December 5, 2002 |
| 11. | Pro Fit Development, Inc., Karl O. Johnson, and Devin Luzier 1501 Green Siding Rd. Roseburg, OR 97470 | April 20, 1998 | April 19, 2001 |

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS**

**Publication Date: December 6, 1999
Page 2**

- | | | | |
|-----|---|------------------|------------------|
| 12. | Russell L. Rich 84901 Battle Creek Road Eugene, OR 97402 | July 15, 1999 | July 14, 2002 |
| 13. | Single-Ply Roofing Systems, Inc. c/o Russell L. Rich, Registered Agent 84901 Battle Creek Road Eugene, OR 97402 | July 15, 1999 | July 14, 2002 |
| 14. | Veneta Roofing Company c/o Douglas Minger, Registered Agent 541 Willamette St., Suite 110 Eugene, OR 97401 | July 15, 1999 | July 14, 2002 |
| 15. | Westside Landscape, Inc., an Oregon Corporation, and Tim Barnes 590 Greenwood Rd. Independence, OR 97351 | May 4, 1998 | May 3, 2001 |
| 16. | Bernard J. Woodard dba Woodard Enterprises 33939 Row River Rd. Cottage Grove, OR 97424 | December 6, 1999 | December 5, 2002 |

**OREGON BUREAU OF LABOR AND INDUSTRIES
JACK ROBERTS, COMMISSIONER**



BUREAU OF LABOR AND INDUSTRIES PREVAILING WAGE RATE UNIT

INSTRUCTIONS FOR COMPLETING THE PREVAILING WAGE RATE PAYROLL/CERTIFIED STATEMENT FORM

This form may be used by contractors for reporting their payroll as required by ORS 279.354 on public works projects subject to the Prevailing Wage Rate Law. The form contains a certified statement that is required to be signed by the contractor, certifying the accuracy of the information reported on the payroll, including representations pertaining to the provision of fringe benefits to employees by third parties. Contractors are not required to use this form in reporting their payroll, however, the contractor must provide all of the information contained in the form, and the certified statement must be signed and submitted with the contractor's payroll. Detailed instructions concerning the preparation of the form follow:

Complete the box at the top of the form. Check either the prime contractor or subcontractor box, and indicate whether the payroll report is the first, a 90-day, or last submission. 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 submitted 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," that is most descriptive of the work actually performed by the employee. Give the group number for those worker classifications that include such information. Consult the worker classifications and minimum prevailing wage rate schedule set forth in the contract specifications. Use 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 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 corresponding date below.

HOURS WORKED EACH DAY: Enter the total number of "straight time" hours worked in the row marked "S." Hours worked over 8 in a day or work performed on Saturdays, Sundays, and legal holidays should be entered as overtime ("OT") hours worked. 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 straight time and overtime hours worked by each listed employee and classification during this pay period. The total number of straight time hours worked should be entered in the lower box ("S"); the total number of overtime hours worked should be entered in the top box ("OT").

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 straight time and overtime boxes. (Payment of not less than one and one half times the basic or regular rate of pay, not including fringe benefits, is required to be paid in overtime pursuant to ORS 279.334.)

Column 6 - HOURLY FRINGE BENEFIT AMOUNT 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 that are paid in lieu of fringe benefits.)

Column 7 – GROSS AMOUNT EARNED: Enter the gross amount of wages earned by and paid to the worker in each classification for all listed straight time and overtime hours, and including any additional amounts paid directly to the employee.

Column 8 – TOTAL DEDUCTIONS, FICA, FED, STATE, ETC.: Enter the total amount of deductions withheld from the wages of each employee for only 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 total amount of net wages 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 BENEFITS PAID TO BENEFIT 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 paid as an hourly fringe benefit in Column 10.

CALCULATION CHECK

In order to determine whether the wages and fringe benefits paid are sufficient to meet prevailing wage rate requirements, the following check may be performed:

1. For each trade classification listed in Column 2, compute the sum of:
 - a) the Basic Hourly Rate of Pay (Column 5),
 - b) the Hourly Fringe Benefit Amount Paid as Wages to Employee (Column 6),
 - c) and the Hourly Fringe Benefits Paid To Benefit Party, Plan, Fund or Program (Column 10).
2. This sum must equal or exceed the total of the Basic Hourly Rate (including zone pay and special wage differentials, if any) and the Fringe Benefit Amount as they are listed for the corresponding trade classifications in the appropriate issue of the Bureau of Labor and Industries publication Prevailing Wage Rates for Public Works Contracts in Oregon.

IF YOU HAVE QUESTIONS REGARDING COMPLETION OF THIS FORM, CONTACT THE PREVAILING WAGE RATE UNIT OF THE BUREAU OF LABOR AND INDUSTRIES AT (503) 731-4709.

NOTE: PAYROLL/CERTIFIED STATEMENTS ARE REQUIRED TO BE SUBMITTED TO THE CONTRACTING AGENCY ONLY.

PRIME CONTRACTOR
SUBCONTRACTOR

Check one: FIRST 90 DAY LAST

| | | | | | | | |
|------------------------|--|--------------------------|--|------------------------|--|-----------------|--|
| 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: () CCB Registration Number:
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) | | | | | | | | TOTAL HOURS | BASIC HOURLY RATE OF PAY | HOURLY FRINGE BENEFIT AMOUNT PAID AS WAGES TO EMPLOYEE | GROSS AMOUNT EARNED | TOTAL DEDUCTIONS FICA, FED, STATE, ETC. | NET WAGES PAID FOR WEEK | HOURLY FRINGE BENEFITS PAID TO BENEFIT PARTY, PLAN, FUND OR PROGRAM | NAME OF BENEFIT PARTY, PLAN, FUND, OR PROGRAM | |
| | | | | | | | | | | | | | | | | | HOURS WORKED EACH DAY |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |

THIS FORM CONTINUED ON REVERSE

| (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 AMOUNT PAID AS WAGES TO EMPLOYEE | GROSS AMOUNT EARNED | TOTAL DEDUCTIONS FICA, FED, STATE, ETC. | NET WAGES PAID FOR WEEK | HOURLY FRINGE BENEFITS PAID TO BENEFIT PARTY, PLAN, FUND OR PROGRAM | NAME OF BENEFIT PARTY, PLAN, FUND, OR PROGRAM |
| | | | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |
| | | OT | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | |

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 _____ AND ENDING THE _____ DAY OF _____
 (MONTH) (YEAR) (MONTH) (YEAR)

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



**BUREAU OF LABOR AND INDUSTRIES
PREVAILING WAGE RATE UNIT
800 N.E. OREGON ST., #32
PORTLAND, OR 97232
PHONE: (503) 731-4709
FAX: (503) 731-4606**

PUBLIC WORK CONTRACT FEE INFORMATION FORM

(For use by contractors in complying with ORS 279.357)

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. The minimum fee is \$100; the 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:** () _____

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) 731-4709
FAX: (503) 731-4606

PUBLIC WORK CONTRACT FEE ADJUSTMENT FORM

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

(As required by ORS 279.375 and OAR 839-016-0210)

CONTRACTORS: Complete and mail this form to BOLI at the above address after completion of the public work 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. Documentation of the final contract price may consist of change orders or other contract documents substantiating the amount of the contract. The prevailing wage rate fee of .001 (1/10th of 1%) shall be applied to the final contract price, with credit taken for fees already submitted. The contractor must submit any additional fee payable to BOLI with the adjustment form or requests for refund if applicable. **NO ADDITIONAL FEE IS REQUIRED TO BE PAID, AND REFUNDS WILL NOT BE MADE, FOR RECONCILED AMOUNTS OF LESS THAN \$100.00.**

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

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

PROJECT NAME: _____

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

AGENCY AWARDED CONTRACT: _____

DATE AWARDED: _____

FINAL CONTRACT AMOUNT: _____
(Include all change orders and adjustments to the contract price)

FINAL FEE DUE: _____
(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 Amount: | - 300,000.00 | Initial Fee Paid: | - 300.00 |
| Total Adjustment: | \$ 100,000.00 | Additional Amount Due: | \$ 100.00 |

(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 the Oregon Prevailing Wage Rate Law, 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: Prevailing Wage Rate Unit
Wage and Hour Division, Room 1160
Bureau of Labor and Industries
800 NE Oregon Street #32
Portland, OR 97232
Telephone: (503) 731-4723
Fax: (503) 731-4606



PLANNED PUBLIC IMPROVEMENT SUMMARY

FISCAL YEAR: _____

(Name of State or Local Government Agency)

PAGE ____ OF ____

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

ORS 279.023 requires 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 the agency that the agency plans to fund in the budget period, identifying each improvement by name and estimating the total on-site construction costs. The list shall also contain a statement as to whether the agency intends to perform the construction by a private contractor. If the agency intends to perform construction work using the agency's own equipment and personnel on a project estimated to cost more than \$125,000, the agency must also show that its decision conforms to the state's policy that public agencies make every effort to construct public improvements at the least cost to the public agency. Public agencies are required to keep and preserve a full, true and accurate account of the costs of performing the work, including all engineering and administrative expenses, and the cost, including investment costs, of any equipment used.

This form (WH-118) may be used to list planned public improvements. Form WH-119 (Capital Improvement Project Cost Comparison Estimate) may be used to report the agency's least cost analysis.

Completed forms should be mailed to: Prevailing Wage Rate Unit
Wage and Hour Division
Bureau of Labor and Industries
800 N.E. Oregon St., # 32
Portland, OR 97232



CAPITAL IMPROVEMENT PROJECT COST COMPARISON ESTIMATE

_____ (Name of State or Local Government Agency)

DEPARTMENT: _____

PROJECT NAME: _____

PROPOSED YEAR: _____

FUND: _____

PROJECT DESCRIPTION: _____

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: _____

The above-named agency has determined that this project can be performed at the least cost by: the Agency Contractor (check one)

(Signature of Agency Official)

ORS 279.023 requires 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 the agency that the agency plans to fund in the budget period, identifying each improvement by name and estimating the total on-site constructions costs. The list shall also contain a statement as to whether the agency intends to perform the construction by a private contractor. If the agency intends to perform construction work using the agency's own equipment and personnel on a project estimated to cost more than \$125,000, the agency must also show that its decision conforms to the state's policy that public agencies make every effort to construct public improvements at the least cost to the public agency. Public agencies are required to keep and preserve a full, true and accurate account of the costs of performing the work, including all engineering and administrative expenses, and the cost, including investment costs, of any equipment used.

Form WH-118 (Planned Public Improvement Summary) may be used to list planned public improvements. This form (WH-119) may be used to report the agency's least cost analysis.

Completed forms should be mailed to:

Prevailing Wage Rate Unit
Wage and Hour Division
Bureau of Labor and Industries
800 N.E. Oregon St., # 32
Portland, OR 97232

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 Bids. 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 QUALITY ASSURANCE

2.1 QUALIFICATIONS

- A. CONTRACTOR shall have a minimum of 5 year's experience on construction projects of the size and type contemplated.
- B. CONTRACTOR shall have successfully completed at least two pump stations of the size and type contemplated.

PART 3 SEQUENCE OF OPERATIONS

3.1 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. Do not make connections between existing work and new work until necessary inspection and tests have been completed on the new work and it is found to conform in all respects to the requirements of the Contract Documents.
- B. Work on existing structures and facilities shall be performed on a schedule and in a manner that will permit the existing facility to operate continuously.

3.2 SHUTDOWN OF EXISTING OPERATIONS OR UTILITIES

- A. Continuous operation of the OWNER's existing sewer system is of critical importance.
- B. Connections to existing services or utilities, or other work that requires the temporary shutdown of any existing operations or utilities shall be planned in

detail with appropriate scheduling of the work and coordinated with the OWNER or ENGINEER. The approved schedule for shutdown or restart shall be indicated on the CONTRACTOR's Progress Schedule, and advance notice shall be given in order that the OWNER or ENGINEER may witness the shutdown, tie-in, and startup.

- C. All materials and equipment (including emergency equipment) necessary to expedite the tie-in shall be on hand prior to the shutdown of existing services or utilities.

3.3 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. Request approval 7 working days in advance of the time that interruption of the existing system is required.

PART 4 SITE CONDITIONS

4.1 SITE INVESTIGATION AND REPRESENTATION

- 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, river stages, 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.
- B. The CONTRACTOR further acknowledges satisfaction as to character, quality, and quantity of surface and subsurface materials to be encountered from his inspection of the site and from reviewing any available records of exploratory work furnished by the OWNER or included in these Documents. Failure by the CONTRACTOR to become acquainted with the physical conditions of the site and all the available information will not relieve the CONTRACTOR from responsibility for properly estimating the difficulty or cost of successfully performing the work.
- C. The CONTRACTOR warrants that as a result of examination and investigation of all the aforesaid data, the CONTRACTOR can perform the work in a good and workmanlike manner and to the satisfaction of the OWNER. The OWNER assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract,

and (2) the Contract expressly provides that the responsibility therefor is assumed by the OWNER.

PART 5 INFORMATION ON SITE CONDITIONS

5.1 BIDDER'S SUBSURFACE INVESTIGATION

- A. Prospective bidders are invited, at their own expense, to make subsurface investigations, by boring or test-hole excavation, as may be desirable, provided, however, that such work be scheduled by appointment with the OWNER.

5.2 UTILITIES

- A. Known utilities and structures adjacent to or expected to be encountered in the work are shown on the Drawings. The locations shown are taken from existing records; however, it is expected that there may be some discrepancies and omissions in the locations and quantities of utilities and structures shown. Those shown are for the convenience of the CONTRACTOR only, and no responsibility is assumed by either the OWNER or the ENGINEER for their accuracy or completeness.
- B. The following is a list of the major utilities serving the work area indicating the name and telephone number of the responsible authority of the various utilities which should be notified if conflicts or emergencies arise during the progress of the work:

| Name of Utility | Responsible Authority | Telephone No. |
|------------------------|------------------------------|----------------------|
| All | One-Call Utility Location | 1-800-332-2344 |
| Electrical | PGE | 503-463-6188 |
| Gas | NW Natural | 1-800-422-4012 |
| Telephone | GTE Northwest | 1-800-483-5100 |
| Water | City of Newberg | 503-537-1205 |
| Owner | City of Newberg | 503-554-8881 |
| Engineer | Southwood Engineering | 541-929-2533 |

5.3 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

- A. Where the CONTRACTOR's operations could cause damage or inconvenience to railway, telegraph, telephone, television, power, oil, gas, water, sewer, or irrigation systems, the operations shall be suspended until all arrangements

necessary for the protection of these utilities and services have been made by the CONTRACTOR.

- B. Notify all utility offices which are affected by the construction operation at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.
- C. The CONTRACTOR shall be solely and directly responsible to the OWNER and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.
- D. Neither the OWNER nor its officers or agents shall be responsible to the CONTRACTOR for damages as a result of the CONTRACTOR's failure to protect utilities encountered in the work.
- E. In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.
- F. In the event the CONTRACTOR encounters water service lines that interfere with trenching, he may, by obtaining prior approval of the property owner, Water Department, or Fire Department as applicable, and the ENGINEER, cut the service, dig through, and replace the entire service with similar and equal materials at the CONTRACTOR's expense. The entire service between existing joints must be replaced. No couplers or unions will be allowed.
- G. The CONTRACTOR shall replace, at the CONTRACTOR's own expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents or ordered by the ENGINEER.

5.4 INTERFERING STRUCTURES

- A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. The completeness and accuracy of information shown cannot be guaranteed, and it is presented simply as a guide to avoid known possible difficulties.

- B. Protect underground and aboveground existing structures from damage, whether or not they lie within the limits of the easements obtained by the OWNER. Where such existing fences, gates, barns, sheds, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the CONTRACTOR's own expense. Notify the ENGINEER of any damaged underground structure, and make repairs or replacements before backfilling.
- C. Without additional compensation, the CONTRACTOR may remove and replace in a condition as good as or better than original, such small miscellaneous structures as fences, mailboxes, and signposts that interfere with the CONTRACTOR's operations.

5.5 FIELD RELOCATION

- A. During the progress of construction, it is expected that minor relocations of the work will be necessary. Such relocations shall be made only by direction of the ENGINEER. If existing structures are encountered which prevent the construction, and which are not properly shown on the Drawings, notify the ENGINEER before continuing with the construction in order that the ENGINEER may make such field revisions as necessary to avoid conflict with the existing structures. If the CONTRACTOR shall fail to so notify the ENGINEER when an existing structure is encountered, and shall proceed with the construction despite this interference, it shall be at the CONTRACTOR's own risk.

PART 6 TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

6.1 TEMPORARY WATER

- A. Water is available at the project sites. All water used during construction will be paid for by the OWNER.

6.2 TEMPORARY ELECTRIC POWER

- A. Electric power is available at the Charles Street and Andrew Street Pump Station sites. All electrical power used at these sites during construction and recorded on the OWNER's existing meters will be paid for by the OWNER.

6.3 SANITARY FACILITIES

- A. The CONTRACTOR shall provide and maintain sanitary facilities for CONTRACTOR's employees and subcontractors' employees that will comply with the regulations of the local and state departments of health and as directed by the ENGINEER.

6.4 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 purposes without the written permission of the OWNER or lessee.
- B. Delicate instruments and materials subject to vandalism shall be placed under locked cover and, if necessary, provided with temperature control as recommended by the manufacturer.

PART 7 SAFETY AND CONVENIENCE

7.1 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.

7.2 SAFETY EQUIPMENT

- A. The CONTRACTOR, as part of his safety program, shall maintain at CONTRACTOR's 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, including, but not limited to, surface irregularities or unramped grade changes in pedestrian sidewalk or walkway, and trenches or excavations in roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work.
- C. The performance of all work and all completed construction, particularly with respect to ladders, platforms, structure openings, scaffolding, shoring, lagging, machinery guards and the like, shall be in accordance with the applicable governing safety authorities.

- D. During construction, the CONTRACTOR shall construct and at all times maintain satisfactory and substantial temporary chain link fencing, solid fencing, railing, barricades or steel plates, as applicable, at all openings, obstructions, or other hazards. All such barriers shall have adequate warning lights as necessary, or required, for safety.

7.3 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.

7.4 SAFE ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS

- A. Authorized representatives of the Oregon State Department of Environmental Quality, Oregon State Board of Health, and other government officials shall at all times have safe access to the work, and the CONTRACTOR shall provide proper facilities for such access and inspection.

7.5 TRAFFIC MAINTENANCE AND SAFETY

- A. Comply with all rules and regulations of the state, county, and city authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by express permission of the OWNER or other agency, such as the State or County, having jurisdiction over the roadway. Conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by installing approved signs, barricades, and lights where necessary for the safety of the public. The convenience of the general public and residents near the construction areas, and the protection of persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.
- B. Where traffic will pass over trenches after they are backfilled and before they are paved, the top of the trench shall be maintained in a condition that will allow normal vehicular traffic to pass over. Temporary access driveways must be provided where required. Cleanup operations shall follow immediately behind backfilling and the worksite shall be kept in an orderly condition at all times.

- C. When flaggers and guards are required by regulation or when deemed necessary for safety, they shall be furnished with approved orange wearing apparel and other regulation traffic-control devices.

7.6 TRAFFIC CONTROL

- A. Traffic control on all rights-of-ways shall meet the requirements of the current edition (including all amendments) of the Manual on Uniform Traffic Control Devices for Streets and Highways published by the U.S. Department of Transportation Federal Highway and Administration as adopted by the State of Oregon, and all State of Oregon Supplements.

7.7 PROTECTION OF PROPERTY

- A. Protect stored materials, cultivated trees and crops, and other items located adjacent to the proposed work. Notify property owners affected by the construction at least 48 hours in advance of the time construction begins. During construction operations, construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to his residence or place of business for a period exceeding 8 hours, unless the CONTRACTOR has made special arrangements with the affected persons.

7.8 USE OF EXPLOSIVES

- A. The use of explosives will not be allowed.

7.9 FIRE PREVENTION AND PROTECTION

- A. The CONTRACTOR shall perform all work in a fire-safe manner. The CONTRACTOR shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The CONTRACTOR shall comply with applicable federal, state, and local fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

7.10 ACCESS FOR POLICE, FIRE, AND POSTAL SERVICE

- A. Notify the fire department and police department before closing any street or portion thereof. No closing shall be made without the OWNER's approval. Notify said departments when the streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without special written permission from the fire department. Conduct operations with the least interference to fire equipment access, and at no time prevent such access.

- B. The CONTRACTOR shall leave a night emergency telephone number or numbers with the police department, so that contact may be made easily at all times in case of barricade and flare trouble or other emergencies.
- C. Maintain postal service facilities in accordance with the requirements of the U.S. Postal Service. Move mailboxes to temporary locations designated by the U.S. Postal Service, and at the completion of the work in each area, replace them in their original location and in a condition satisfactory to the U.S. Postal Service.

PART 8 PRESERVATION, RESTORATION, AND CLEANUP

8.1 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.
- B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of whether these are on private property, or on state, county, or city rights-of-way. Remove all excavated materials from grassed and planted areas, and leave these surfaces in a condition equivalent to their original condition.
- C. Upon completion of backfilling operations, hand-rake and drag all former grassed and planted areas, leaving all disturbed areas free from rocks, gravel, clay, or any other foreign material and ready, in all respects, for seeding. The finished surface shall conform to the original surface, and shall be free-draining and free from holes, ruts, rough spots, or other surface features detrimental to a seeded area.

8.2 FINISHING OF SITE, BORROW, AND STORAGE AREAS

- A. Upon completion of the project, all areas used by the CONTRACTOR shall be properly cleared of all temporary structures, rubbish, and waste materials and properly graded to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

8.3 REMOVAL OF ROCK FROM FINISHED SURFACES

- A. Remove and dispose of all loose rock and boulders larger than 2-inch diameter occurring on the finished surfaces as a result of the construction operations.

8.4 STREET CLEANUP DURING CONSTRUCTION

- A. Thoroughly clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation. Use self-contained vacuum type sweepers. No flushing will be allowed.

8.5 DUST PREVENTION

- A. Give all unpaved streets, roads, detours, or haul roads used in the construction area an approved dust-preventive treatment or periodically water to prevent dust. Applicable environmental regulations for dust prevention shall be strictly enforced.

PART 9 SUBMITTALS**9.1 GENERAL**

- A. Requirements in this section are in addition to any specific requirements for submittals specified in other sections of these Contract Documents.
- B. Submittals to the OWNER shall be addressed to: City of Newberg, Utilities Division, P.O. Box 970, Newberg Oregon 97132, Attention: Jadene Torrent.
- C. Submitted data shall be fully sufficient in detail for determination of compliance with the Contract Documents.
- D. Review, acceptance, or approval of substitutions, schedules, shop drawings, lists of materials, and procedures submitted or requested by the CONTRACTOR shall not add to the Contract amount, and all additional costs which may result therefrom shall be solely the obligation of the CONTRACTOR.
- E. The OWNER is not precluded, by virtue of review, acceptance, or approval, from obtaining a credit for construction savings resulting from allowed concessions in the work or materials therefor.
- F. It shall not be the responsibility of the OWNER to provide engineering or other services to protect the CONTRACTOR from additional costs accruing from such approvals.
- G. No equipment or material for which listings, drawings, or descriptive material is required shall be installed until the ENGINEER has on hand copies of such approved lists and the appropriately stamped final shop drawings.

- H. The review of drawings by the OWNER and ENGINEER will be limited to general design requirements only, and shall in no way relieve the CONTRACTOR from responsibility for errors or omissions contained therein.
- I. Submittals will be acted upon by the OWNER and ENGINEER as promptly as possible, and returned to the CONTRACTOR not later than the time allowed for review in SHOP DRAWING SUBMITTAL PROCEDURE. Delays caused by the need for resubmittals shall not constitute reason for an extension of Contract time.

9.2 SHOP DRAWING SUBMITTAL PROCEDURE

- A. The CONTRACTOR shall submit five copies to the OWNER for his review, shop drawings, and catalog cuts for fabricated items and manufactured items furnished under this Contract. Shop drawings shall be submitted in sufficient time to allow the OWNER and ENGINEER not less than 10 regular working days for examining the shop drawings.
- B. These shop drawings shall be accurate, distinct, and complete, and shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the Contract Drawings and Specifications.
- C. Shop drawings shall be submitted only by the CONTRACTOR, who shall indicate by a signed stamp on the shop drawings, or other approved means, that the CONTRACTOR has checked and approved the shop drawings, and that the work shown is in accordance with Contract requirements and has been checked for dimensions and relationship with work of all other trades involved. The practice of submitting incomplete or unchecked shop drawings for the ENGINEER to correct or finish will not be acceptable, and shop drawings which, in the opinion of the ENGINEER, clearly indicate that they have not been checked by the CONTRACTOR will be considered as not complying with the intent of the Contract Documents and will be returned to the CONTRACTOR for resubmission in the proper form.
- D. When the shop drawings have been reviewed by the OWNER and ENGINEER, two sets of submittals will be returned to the CONTRACTOR appropriately stamped. If major changes or corrections are necessary, the shop drawing may be rejected and one set will be returned to the CONTRACTOR with such changes or corrections indicated, and the CONTRACTOR shall correct and resubmit the shop drawings in the same manner and quantity as specified for the original submittal, unless otherwise directed by the ENGINEER. If changes are made by the CONTRACTOR (in addition to those requested by the ENGINEER) on the resubmitted shop drawings, such changes shall be clearly explained in a transmittal letter accompanying the resubmitted shop drawings.

- E. The review of such shop drawings and catalog cuts by the OWNER and ENGINEER shall not relieve the CONTRACTOR from responsibility for correctness of dimensions, fabrication details, and space requirements, or for deviations from the Contract Drawings or Specifications, unless the CONTRACTOR has called attention to such deviations in writing by a letter accompanying the shop drawings and the OWNER and ENGINEER approves the change or deviation in writing at the time of submission; nor shall review by the OWNER and ENGINEER relieve the CONTRACTOR from the responsibility for errors in the shop drawings.
- F. The CONTRACTOR agrees that shop drawing submittals processed by the OWNER and ENGINEER do not become Contract Documents and are not Change Orders; that the purpose of the shop drawing review is to establish a reporting procedure and is intended for the CONTRACTOR's convenience in organizing work and to permit the OWNER and ENGINEER to monitor the CONTRACTOR's progress and understanding of the design.

PART 10 CONTRACT CLOSEOUT

10.1 FINAL SUBMITTALS

- A. No Contract will be finalized until all guarantees, bonds, certifications, licenses, and affidavits required for work or equipment as specified are satisfactorily filed with the OWNER.

10.2 RELEASE OF LIENS OR CLAIMS

- A. No Contract will be finalized until satisfactory evidence of release of liens has been submitted to OWNER.

10.3 FINAL CLEANING

- A. At completion of work and immediately prior to final inspection, clean entire project according to the following provisions:
 1. Clean, sweep, and wash pipe and structures provided under the Contract. Leave the structures and site in a complete and finished condition to the satisfaction of the ENGINEER and OWNER.
 2. Should the CONTRACTOR not remove rubbish or debris or not clean the facilities and site as specified above, the OWNER reserves the right to have final cleaning done at the sole expense of the CONTRACTOR.
- B. The CONTRACTOR shall:
 1. Conduct final inspection of exposed interior and exterior surfaces in preparation for substantial completion or occupancy.

2. Repair, patch, and touch up damaged surfaces to match adjacent surfaces.
3. Broom clean or wash paved surfaces; rake clean other surfaces.
4. Remove materials, equipment, and appurtenances not required as part of, or appurtenant to, the completed work.
5. Leave water courses and ditches open and in condition satisfactory to ENGINEER.

10.4 FINAL INSPECTION

- A. After final cleaning and upon written notice from CONTRACTOR that work is completed, ENGINEER will make preliminary inspection with the CONTRACTOR present. Upon completion of preliminary inspection, OWNER will notify CONTRACTOR in writing of particulars in which the completed work is defective or incomplete.
- B. Upon receiving written notice from OWNER, CONTRACTOR shall immediately undertake work required to remedy defects and complete the work to the satisfaction of ENGINEER and OWNER.
- C. After the items as listed in OWNER's written notice are corrected or completed, inform OWNER in writing that required work has been completed. Upon receipt of this notice, OWNER will make final inspection of the project.
- D. Should the OWNER find all work satisfactory at the time of final inspection, CONTRACTOR will be allowed to make application for final payment. Should OWNER still find deficiencies in the work, OWNER will notify CONTRACTOR in writing of deficiencies and will not approve CONTRACTOR's request for final payment until such time as CONTRACTOR has satisfactorily completed the required work.

PART 11 PAYMENT

11.1 GENERAL

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

END OF SECTION

SECTION 01092 ABBREVIATIONS

PART 1 GENERAL

1.1 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

- A. Work specified by reference to the published standard or specification of a government agency, technical association, trade association, professional society or institute, testing agency, or other organization shall meet the requirements or surpass the minimum standards of quality for materials and workmanship established by the designated standard or specification.
- B. Where so specified, products or workmanship shall also meet or exceed the additional prescriptive or performance requirements included within the Contract Documents to establish a higher or more stringent standard of quality than that required by the referenced standard.
- C. Where two or more standards are specified to establish quality, the product and workmanship shall meet or exceed the requirements of the most stringent.
- D. Where both a standard and a brand name are specified for a product in the Contract Documents, the proprietary product named shall meet or exceed the requirements of the specified reference standard.
- E. Copies of standards and specifications of technical societies:
 - 1. Copies of applicable referenced standards have not been bound in these Contract Documents. Where copies of standards are needed by the CONTRACTOR, obtain a copy or copies directly from the publication source and maintain in an orderly manner at the site as Work site records, available to the CONTRACTOR's personnel, Subcontractors, OWNER, and ENGINEER.

1.2 ABBREVIATIONS

- A. Abbreviations for trade organizations and government agencies: Following is a list of construction industry organizations and government agencies to which references may be made in the Contract Documents, with abbreviations used.
 - 1. AA Aluminum Association
 - 2. AABC Associated Air Balance Council
 - 3. AAMA American Architectural Manufacturers Association
 - 4. AASHTO American Association of State Highway and Transportation Officials

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| 5. | ACI | American Concrete Institute |
| 6. | AFBMA | Anti-Friction Bearing Manufacturers' Association |
| 7. | AGA | American Gas Association |
| 8. | AGMA | American Gear Manufacturers' Association |
| 9. | AI | Asphalt Institute |
| 10. | AISC | American Institute of Steel Construction |
| 11. | AISI | American Iron and Steel Institute |
| 12. | AITC | American Institute of Timber Construction |
| 13. | ALS | American Lumber Standards |
| 14. | AMA | Acoustical Materials Association |
| 15. | AMCA | Air Movement and Control Association |
| 16. | ANSI | American National Standards Institute |
| 17. | APA | American Plywood Association |
| 18. | API | American Petroleum Institute |
| 19. | APWA | American Public Works Association |
| 20. | AREA | American Railway Engineering Association |
| 21. | ARI | Air Conditioning and Refrigeration Institute |
| 22. | ASA | American Standards Association |
| 23. | ASAE | American Society of Agricultural Engineers |
| 24. | ASCE | American Society of Civil Engineers |
| 25. | ASHRAE | American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. |
| 26. | ASNT | American Society for Nondestructive Testing |
| 27. | ASME | American Society of Mechanical Engineers |
| 28. | ASTM | American Society for Testing and Materials |
| 29. | AWI | Architectural Wood Work Institute |
| 30. | AWPA | American Wood Preservers' Association |
| 31. | AWPB | American Wood Preservers Bureau |
| 32. | AWPI | American Wood Preservers' Institute |
| 33. | AWS | American Welding Society |
| 34. | AWWA | American Water Works Association |
| 35. | BHMA | Builders Hardware Manufacturers' Association |
| 36. | CBMA | Certified Ballast Manufacturers' Association |
| 37. | CDA | Copper Development Association |
| 38. | CGA | Compressed Gas Association |
| 39. | CIPRI | Cast Iron Pipe Research Institute |
| 40. | CISPI | Cast Iron Soil Pipe Institute |
| 41. | CMAA | Crane Manufacturers' Association of America |
| 42. | CRSI | Concrete Reinforcing Steel Institute |
| 43. | CS | Commercial Standard |
| 44. | CSA | Canadian Standards Association |
| 45. | CSI | Construction Specifications Institute |
| 46. | CTSS | Caltrans Standard Specification |
| 47. | EJCDC | Engineers Joint Contract Documents' Committee |
| 48. | ETL | Engineering Test Laboratories |

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| 49. | FAA | Federal Aviation Administration |
| 50. | FCC | Federal Communications Commission |
| 51. | FEMA | Federal Emergency Management Agency |
| 52. | FGMA | Flat Glass Marketing Association |
| 53. | FM | Factory Mutual |
| 54. | Fed. Spec. | Federal Specifications |
| 55. | FS | Federal Specification |
| 56. | GA | Gypsum Association |
| 57. | HI | Hydraulic Institute |
| 58. | HMI | Hoist Manufacturers' Institute |
| 59. | ICBO | International Conference of Building Officials |
| 60. | ICEA | Insulated Cable Engineers' Association |
| 61. | IEEE | Institute of Electrical and Electronics Engineers, Inc. |
| 62. | IES | Illuminating Engineering Society |
| 63. | IFI | Industrial Fasteners Institute |
| 64. | ISA | Instrument Society of America |
| 65. | ISO | Insurance Service Office |
| 66. | JIC | Joint Industry Conferences of Hydraulic Manufacturers |
| 67. | MIA | Marble Institute of America |
| 68. | Mil. Sp. or MIL | Military Specification |
| 69. | MS | Military Specifications |
| 70. | MMA | Monorail Manufacturers' Association |
| 71. | NAAMM | National Association of Architectural Metal Manufacturers |
| 72. | NACE | National Association of Corrosion Engineers |
| 73. | NBHA | National Builders' Hardware Association |
| 74. | NEBB | National Environmental Balancing Bureau |
| 75. | NEC | National Electrical Code |
| 76. | NECA | National Electrical Contractor's Association |
| 77. | NEMA | National Electrical Manufacturers' Association |
| 78. | NESC | National Electric Safety Code |
| 79. | NFPA | National Fire Protection Association |
| 80. | NHLA | National Hardwood Lumber Association |
| 81. | NHPMA | Northern Hardwood and Pine Manufacturer's Association |
| 82. | NLMA | National Lumber Manufacturers' Association |
| 83. | NRCA | National Roofing Contractors Association |
| 84. | NSF | National Sanitation Foundation Testing Laboratory |
| 85. | NSPE | National Society of Professional Engineers |
| 86. | NTMA | National Terrazzo and Mosaic Association |
| 87. | NWWDA | National Wood Window and Door Association |
| 88. | OECI | Overhead Electrical Crane Institute |
| 89. | OSHA | Occupational Safety and Health Act (both Federal and State) |

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| 90. | PCI | Prestressed Concrete Institute |
| 91. | PEI | Porcelain Enamel Institute |
| 92. | PPI | Plastic Pipe Institute |
| 93. | PS | Product Standards Section-U.S. Department of Commerce |
| 94. | RMA | Rubber Manufacturers' Association |
| 95. | SAE | Society of Automotive Engineers |
| 96. | SCPRF | Structural Clay Products Research Foundation |
| 97. | SDI | Steel Deck Institute |
| 98. | SDI | Steel Door Institute |
| 99. | SIGMA | Sealed Insulating Glass Manufacturing Association |
| 100. | SJI | Steel Joist Institute |
| 101. | SMACNA | Sheet Metal and Air Conditioning Contractors National Association |
| 102. | SPI | Society of the Plastics Industry |
| 103. | SSPC | Steel Structures Painting Council |
| 104. | SWI | Steel Window Institute |
| 105. | TEMA | Tubular Exchanger Manufacturers' Association |
| 106. | TCA | Tile Council of America |
| 107. | UBC | Uniform Building Code |
| 108. | UFC | Uniform Fire Code |
| 109. | UL | Underwriters Laboratories Inc. |
| 110. | UMC | Uniform Mechanical Code |
| 111. | US | U.S. Bureau of Standards |
| 112. | USBR | U.S. Bureau of Reclamation |
| 113. | WCLIB | West Coast Lumber Inspection Bureau |
| 114. | WWPA | Western Wood Products Association |

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02555
ASPHALT CONCRETE PAVEMENT

PART 1 GENERAL

1.1 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Standard of Testing Materials (ASTM):
 - a. D1559-89, Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus.
 - b. D2041-91, Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.
 - c. E699-79, Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee (1984).

1.2 DEFINITIONS

- A. Combined Aggregate: All mineral constituents of an asphalt concrete mix, including mineral filler and separately sized aggregates.
- B. Standard Specifications: Standard Specifications used herein shall mean the 1996 Edition of the Oregon Department of Transportation (ODOT) Standard Specifications for Highway Construction including the 1996 Supplemental.

1.3 SUBMITTALS

- A. Shop Drawings: Job-mix formula for pavements.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Temperature:
 1. Do not apply asphalt materials or place asphalt mixes when ground temperature is lower than 50 degrees F, air temperature is lower than 40 degrees F, or application surface is wet.
 2. Measure ground and air temperature in shaded areas away from heat sources or wet surfaces.

PART 2 PRODUCTS**2.1 BASE COURSE ROCK**

- A. As specified for 1-1/2-inch base aggregate in Section 02630 of the Standard Specifications.

2.2 AGGREGATE

- A. As specified in Section 02680 of Standard Specification for hot plant mix bituminous pavement.

2.3 TACK COAT

- A. Emulsified asphalt, Type CS5-1 conforming to Section 02710 of Standard Specifications.

2.4 ASPHALT CONCRETE MIXTURE

- A. Asphalt Concrete: As specified in Section 00743.12 of the Standard Specifications.

2.5 ASPHALT CEMENT

- A. Asphalt cement to be used in the asphalt concrete mixture shall be Grade PBA-2 or PBA-5 as specified in Section 02710 of the Standard Specifications.

2.6 SOURCE QUALITY CONTROL

- A. The CONTRACTOR shall submit the job mix formula at least 10 days prior to start of paving.
- B. Job mix formula shall meet the requirements of Section 00743.13(1)a.

PART 3 EXECUTION**3.1 GENERAL**

- A. Application Equipment: In accordance with Section 00743 of Standard Specifications.
- B. Traffic Control: Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt. Maintain at least one-way traffic at all times.
- C. Traffic Control: CONTRACTOR shall be solely responsible for traffic control and for meeting all federal, state, and local requirements for such.

3.2 CONTROL OF LINE AND GRADE

- A. Provide and maintain intermediate control, independent of the underlying base to meet finish surface grades and minimum thickness.

3.3 CONSTRUCTION OF BASE COURSE

- A. General: Complete each lift in advance of laying succeeding lift to provide required results and adequate inspection.
- B. Base Course:
 - 1. Maximum Completed Lift Thickness: 6 inches.
 - 2. Completed Course Total Thickness: 12 inches.
 - 3. Lightly blade and roll surface until thoroughly compacted.
 - 4. Provide water as necessary to achieve compaction and to prevent loss of fines during processing.
 - 5. Blade or broom surface to maintain true line, grade, and cross section.
- C. Compaction: Compact each layer of base course until density of 95 percent of maximum density has been achieved as determined by AASHTO T99-86.

3.4 TACK COAT

- A. Do not apply more tack coat than necessary for the day's paving operation.
- B. Application: Apply tack coat uniformly to clean dry surfaces. Avoid overlapping of applications. Touch up missed or lightly coated surfaces and remove excess tack coat.
- C. Application Rate: Minimum 0.05-gallon to maximum 0.15-gallon of asphalt (residual if diluted emulsified asphalt) per square yard of surface area.

3.5 ASPHALT CONCRETE PAVEMENT PLACEMENT

- A. Lay asphalt concrete over prepared base in two equal lifts to a total compacted thickness of 4 inches.
- B. Collect and dispose of segregated aggregate from raking process. Do not scatter material over finished surface.
- C. Apply tack coat to pavement surface prior to placing succeeding pavement lift.

3.6 PAVEMENT OVERLAY

- A. Place and compact asphalt concrete in one or more layers.

- B. Place the first layer to include widening of pavement and leveling of irregularities in the surface of adjacent existing pavement.
- C. Place layers so final wearing layer is of uniform thickness and meets grades and cross-sections shown.

3.7 JOINTS

- A. Offset edge of each layer a minimum of 6 inches so joints shall not be directly over those in underlying layer.
- B. Offset longitudinal joints in roadway pavements, so longitudinal joints in wearing layer coincides with pavement centerlines and lane divider lines.
- C. Form transverse joints by cutting back on previous day's run to expose full vertical depth of layer.

3.8 COMPACTION

- A. Roll until roller marks are eliminated and density of 92 percent of measured maximum density determined in accordance with ASTM D2041-91 is obtained.

3.9 TOLERANCES

- A. Conduct measurements for conformity with crown and grade immediately after initial compression. Correct variations immediately by removal or addition of materials and by continuous rolling.
- B. Tolerance Measurements:
 - 1. Completed Surface of Top or Wearing Layer: Uniform texture, smooth, and uniform to crown and grade.
 - 2. Completed surface shall not vary more than 1/8-inch from lower edge of 10-foot straightedge placed on surface parallel to centerline.
 - 3. Transverse slope of completed surface shall not vary more than 1/4-inch in 10 feet from the rate of transverse slope shown.
 - 4. Finished grade shall not vary more than 0.02 feet.
- C. Correct deviations in excess of specified tolerances by addition of asphalt concrete mixture to low places or removal of material from high places.
- D. Wearing surface may be removed and replaced to achieve a satisfactory finish surface, if surface of completed pavement deviates by more than twice the specified tolerances.

3.10 FIELD QUALITY CONTROL

- A. General: CONTRACTOR shall conduct density testing as deemed necessary.
- B. Field Density Tests:
 - 1. Measured with properly operating and calibrated nuclear density gauge.
 - 2. Maximum Density: Determined in accordance with ASTM D2041-91, using a Sample of mix taken prior to compaction from the same location as the density test Sample.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

SPECIFICATIONS

SECTION 02900 LANDSCAPING

PART 1 GENERAL

1.01 SUMMARY

A. Description

1. This Work consists of providing landscaping and as appurtenances shown on the Contract Drawings and as specified.
2. The Work of this Section consists of:
 - a. Excavation as needed to install specified materials and meet specified requirements.
 - b. Cleaning, loosening, and preparation of sub-grade and finish grade in areas to be planted and seeded.
 - c. Provision of plants, seed, anti-desiccant, herbicides, fertilizer, and staking materials.
 - d. All other materials, work, equipment, and incidentals needed to provide the landscaping indicated and shown.
3. In this specification and on the planting drawing, planting areas are referred to as being a "Type" of planting area. While many requirements for the various types of planting areas are the same, specific requirements and treatments differ. The following describes the most salient characteristics of each area type.
 - a. Type III plantings are shrub and ground cover areas where bark mulch is to be provided, and where unless otherwise indicated, a 6 inch deep layer of imported topsoil is to be provided.
 - b. Type V planting areas are where seeded lawn is to be provided. In these areas where installation occurs from October 1st to May 1st, sod rather than seed shall be provided unless otherwise approved by the Engineer. Where sod is installed instead of seed, these areas shall be treated as Type VI areas.

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1.02 RELATED SECTIONS

- A. 02810 - Landscape Irrigation

1.03 REFERENCE STANDARDS

- A. American Public Works Association Oregon Chapter, Standard Construction Specifications, as amended 1996 (APWA).
- B. Oregon Department of Transportation (ODOT) Standard Specifications for Highway Construction as amended 1998.

1.04 OTHER REFERENCES

| <u>Sponsor</u> | <u>Number</u> | <u>Subject</u> |
|----------------|---------------|---|
| | | Official Seed Analysis of North America |
| ANSI | Z 60.1 | Nursery Stock |
| AASHTO | T 88 | Particle Size Analysis of Soil |

1.05 SUBMITTALS

- A. Submittals shall be made in accordance with the General Specification requirements, except as modified herein.
- B. The following shall be submitted 10 calendar days maximum after the date given in the Notice to Proceed:
 - 1. Proof of having secured all plant material and seed mix. Proof shall constitute copies of purchase orders and written confirmation of receipt and acceptance of order by Supplier. Include the size of plants at time of submission and a statement guaranteeing they will meet specified size at the time of installation.
 - 2. Pictures of each type of plant material showing a single example of a plant of the minimum size, character, and quality proposed to be provided at the time of installation. Engineer will review to determine acceptability.
- C. The following shall be submitted 7 calendar days minimum before beginning landscape work.

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1. 1/4 cubic foot of imported topsoil proposed for use throughout the Project. Submit name, address, and phone number of Supplier along with the sample. Submit with the sample a soil laboratory's analysis of the organic content percentage and soil composition. Include amendment recommendations from soil lab.
2. 1/4 cubic foot of bark mulch proposed for use throughout the Project. Submit name, address, and phone number of Supplier along with sample.
3. 1/4 cubic foot of 3/4 inch crushed gravel as indicated.
4. A schedule indicating dates, areas, and types of work to be performed. Once schedule is accepted, revise as work schedule changes, and submit revised schedule to Engineer at least one week prior to affected dates.

D. The following shall be submitted at observation for installation acceptance:

1. Schedule for maintenance work as specified herein.
2. "As built" Plans for landscape work.

E. The following shall be submitted as requested:

1. Delivery tickets, receipts, materials, packages, weekly reports, and other items as requested by Engineer to verify amount and type of materials supplied.
2. Other items as requested by Engineer to verify compliance with Contract requirements.

1.06 QUALITY CONTROL

A. Qualifications

1. The landscaping work shall be performed by a single firm specializing in landscape and irrigation work. Landscape and landscape irrigation work shall be performed by the same firm. The firm shall have a current license as a Landscape Contractor from the State of Oregon with at least 5 years experience with transit related objects.
2. Plant materials shall conform to the following:

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- a. Furnish plants that are healthy, first-class representatives of their species or variety, free from disease and insect pests. The top growth shall be well developed, free of disfiguring knots, sun scalds, bark abrasions, wind or frost injury or any other objectionable features. All plants shall be nursery grown, unless otherwise shown or specified.
- b. Furnish plants that conform to the applicable requirements on the current issue of "American Standards for Nursery Stock", published by the American Association of Nurserymen. When a conflict exists between the above publication and the specifications, the specifications will prevail.
- c. Acclimate plant materials to northwest conditions. All container-grown, and balled and burlapped (B&B) plant materials acquired for fall planting shall be outdoors, at the location north of the 42nd Latitude (Oregon-California border), 3 months prior to the October 15th fall planting date.
- d. Plants of larger size may be provided at no additional cost if acceptable to the Engineer, and if sizes of root balls are increased proportionally.
- e. Label at least one plant in fifty (maximum) of each type with a securely attached waterproof tag bearing legible designation of botanical and common name.
- f. Where formal arrangements or consecutive order of plants are shown, select stock for uniform height and spread.
- g. Engineer may inspect plants at any time. Plants found defective or in any other way short of specified quality will be rejected. Rejected plants shall be removed from Project Site and replaced with acceptable materials immediately and at no change to the Contract price.
- h. Evergreen trees which have multiple leaders, which have been sheared, or which lack natural form are not acceptable.

A. Topsoil

1. Topsoil may be inspected by the Engineer at any time both prior to and after placement. Topsoil found not meeting specifications or not matching the sample provided will be rejected. Rejected topsoil shall be removed and replaced with acceptable topsoil shall be removed and replaced with acceptable topsoil at no cost to the Owner. Plants affected by topsoil removal may be required by the Engineer to be replaced by new materials.

SPECIFICATIONS

1.07 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping

1. Packaged materials shall be delivered in original unopened containers showing weight, analysis, and name of manufacturer. Materials shall be protected from damage and deterioration during delivery and while stored at the site.
2. Trees, shrubs, and ground cover shall be delivered in containers or with firmly wrapped root balls. They shall not be pruned prior to delivery unless approved by Engineer. Plants shall not be bent or bind-tied in such a manner as to damage bark, break branches, or alter the natural shape.
3. Plant materials shall be shipped to the site in covered trailers or with tarpaulin coverings over the entire plant to protect from wind and other damage during transportation. Any evidence of damage during transport will result in rejected plant material.

B. Storage and Protection

2. Plant materials shall be delivered only after preparation for planting has been completed and shall be planted immediately after acceptance by Engineer. If planting is delayed more than 4 hours after delivery, plants shall be set in shade, protected from weather and mechanical damage, and roots kept moist. Plants shall be protected at all times from mechanical, environmental damage, and watered as needed to keep root balls moist.
3. Plants shall not be stored on site. Quantities of plant materials which cannot be installed in the course of the work day shall not be delivered to the site. Plants which have been delivered to the site and which at the end of the work day have not been installed shall be removed from the site.
4. Other materials shall be stored on site only as approved by Engineer and only in approved areas.
 - a. All storage areas shall be kept neat, clean, and safe.
 - b. Storage of plants on site may be allowed at the discretion of the Engineer upon request from the Contractor. The Contractor shall submit written description of watering source and method, means for containing and protection of plant materials, and procedure for care and maintenance of the plant material proposed for on-site storage. Submit the request a minimum of 14 calendar days prior to plant delivery. Plants in storage determined by the Engineer to not be receiving proper care or to be unacceptable shall be removed and replaced by acceptable material.

SPECIFICATIONS

1.08 PROJECT CONDITIONS

A. Existing Conditions

1. The location of underground utilities and other improvements shall be determined prior to beginning work. The work shall be performed in a manner which will avoid damage and with due consideration for surrounding areas, plantings or structures.
2. Grades and elevations shall be examined to determine conditions of work area and the Work shall proceed only after unsatisfactory conditions have been corrected.
3. During work, when conditions detrimental to plants are encountered, such conditions shall be corrected before proceeding with planting. Special care shall be taken to observe and note any adverse drainage conditions.

B. Environmental Conditions

1. Materials shall be planted or installed only during normal planting season for each type of planting and only when conditions are suitable.
2. Planting and soil preparation shall not be permitted during the following conditions:
 - a. When the temperature is less than 35°F or greater than 90°F.
 - b. When soil in the planting area is saturated, frozen, or dry.
 - c. When wind velocities are greater than 30 mph.
 - d. All seeding shall be completed between April 1 and October 15. This excludes erosion control seeding which shall be done as specified and as to meet jurisdictional requirements.
 - e. Installation of shrubs and ground cover shall be completed between March 15 and December 15 unless otherwise directed or approved by the Engineer.

1.09 SEQUENCING AND SCHEDULING

- A. Planting shall commence and be completed as rapidly as portions of the site become available.
- B. Planting shall begin only in areas where final grades are established and fine grading has been completed. After planting and before mulching, areas shall be fine graded, smoothed and sloped to drain.
- C. Planting shall be started only in areas where the irrigation system is complete and fully operational as per Section 02810.

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- D. Planting in areas without irrigation shall start at the discretion of the Engineer and that coordination of all trades is satisfactory.

1.10 WARRANTY

- A. Plant materials that die, show unsatisfactory growth or lack of vigor, are in an unhealthy condition or become disfigured shall be removed and replaced.
- B. Repairs or replacements shall be made within 5 Days of notification, unless otherwise approved by Engineer.
- C. Prior to Final Acceptance, plant replacement shall be made with plants which comply with requirements shown on Plans or in Specifications.
- D. After Final Acceptance and prior to the expiration of the warranty period, replacements shall be furnished which are of the same size as surrounding, like materials.
- E. Landscape work shall be warranted from installation and until Final Acceptance for all causes and problems.
- F. After final Acceptance, landscape work shall be warranted for a period of 1 year. Plant materials should be warranted against defects, unsatisfactory growth, and death. Defects resulting from abuse or damage by others is not covered in warranty.
- G. Plant materials which are replaced under warranty shall have an extended warranty period of one year starting from the time of replanting.

PART 2 PRODUCTS

2.01 TOPSOIL

- A. Topsoil, where specified, is not available on-site and shall be imported.
- B. Imported topsoil shall be fertile, friable, natural loam, free of subsoil, clay lumps, brush, weeds, litter, gravel, stones, roots, or other extraneous or harmful materials. Topsoil shall be obtained from local sources having soil similar to that found in the Project Area. Topsoil shall be obtained only from natural, well drained sites, and not from bogs or marshes.
- C. If during the course of excavation the Contractor encounters material that meets the specifications for topsoil, then the material shall be stockpiled. Prior to stockpiling, the materials shall be selected and sorted to meet the specified requirements.
 - 1. Topsoil selected shall meet the requirement of AASHTO T 88 and shall be a fertile, loamy, natural surface soil consisting of sands, silts, clay, and organic matter in combination and free from substances toxic to plant growth, noxious weeds, roots, refuse, sticks, and lumps. When tested according to AASHTO T 88, topsoil shall conform to the following:

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| Sieve Analysis Particle Size Range | Percentage by Weight |
|---|---------------------------------|
| Larger than 2" | 0 |
| 2" - 0.75" | 0 - 5 |
| 0.75" - 0.187" (No. 4 sieve) | 0 - 20 |

Of the fraction passing the No. 4 sieve, excluding organic material, the topsoil shall conform to the following materials:

| Hydrometer Analysis Particle Size Range | Percentage by Weight |
|--|---------------------------------|
| 0.187" - 0.003" (Sand) | 5 - 70 |
| 0.003" - 0.00008" | 20 - 80 |
| Less than 0.00008" (Clay) | 5 - 30 |

2. Topsoil stockpiled from the excavation shall become the property of the Contractor.

2.02 FERTILIZERS

- A. General - Provide fertilizers of standard commercial manufacture and grade. Furnish fertilizer, including plant tablets, in standard, unopened, moisture-proof containers and in dry condition. Granular or pelletized forms shall be free from lumps and caking.

- B. Each container shall be labeled with the quality compliance certificate according to ODOT 00165.60 that includes the container mass, the percentage of each ingredient, and the source of each component in the mixture.

Fertilizers shall conform to all State and Federal regulations and shall be subject to testing by the State Department of Agriculture.

- D. Apply fertilizers as shown, specified or directed.

- E. Inorganic 22-16-8

1. Inorganic fertilizer 22-16-8 shall analyze 22% nitrogen, 16% available phosphoric acid, 8% soluble potash, and include a minimum of 2% sulfur. The fertilizer shall contain not less than 30% available water-insoluble nitrogen derived by incorporating one of the following:

- a. A minimum 400kg of urea formaldehyde per Mg of fertilizer which has a minimum Activity Index (AI) of 40. The AI will be determined by the Association of Official Agricultural Chemists method.
- b. A minimum of 250 kg of Isobutylidene Diurea (IBDU) per Mg of fertilizer.

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1. Inorganic 5-4-3

- a. Inorganic fertilizer 5-4-3 shall analyze 5% nitrogen, 4% available phosphoric acid, and 3% soluble potash. Derived as follows:

1. Four-fifths of nitrogen shall be from Hynite Tankage, 90% of which shall be cold water insoluble with the AI of 50. One-fifth nitrogen shall be from sulphate pf ammonia.
2. The 4% available phosphorous shall be from 18% superphosphate.
3. The 3% available potash shall be fro muriate of potash.

b. Plant tablets 20-10-5

1. Plant tablets 20-10-5 or approved equal, may be used instead of granular fertilizer.
2. Plant tablets shall be controlled-release with a minimum one year release period. Chemical formulation, rates and use shall be as specified or approved.
3. Plant tablets "Gro Power" or approved equal.

2.03 SOIL CONDITIONERS

- A. General - Soil Conditioners are for modifying soil structure, as distinguished from plant foods and mulch. Soil conditioner shall be approved b the Engineer and be free of noxious weeds, living plants, and rhizomes, and substances detrimental to plant life.
- B. Provide soil conditioners from one of the following:
1. Spent mushroom growing compost.
 2. Processed and composted mint plant residue (mint manure).
 3. Peat moss according to ODOT 03110.40(d).
 4. Well-rotted pea vines
 5. An approved, commercially manufactured, soil conditioner made of composted sewage sludge amended with organic and inorganic materials.
 6. An approved, commercially manufactured, soil conditioner made from composted yard debris, amended with inorganic materials.

2.04 SOIL AMENDMENTS

- A. Soil amendments shall be either gypsum, dolomite lime, or a ground lime which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Ground lime shall be fine enough so that at least 50% will pass a 150 micrometer sieve, and at least 98% will pass a 850 micrometer sieve.

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B. Planting Area Topsoil and Amendments

1. Type III planting areas shall be provided with the following mix of amendments:
 - a. Topsoil: 6 inches (minimum) depth over entire indicated area and additional as needed to provide a 3% minimum surface gradient for drainage.
 - b. Organic Amendment: 6 cubic yards per 1,000 sq. feet.
 - c. Fertilizer: 5-3-1 at 150 lbs. per 1,000 sq. feet.
2. Type V planting areas shall be provided with the following mix of amendments:
 - a. Topsoil: 6 inch (minimum) depth and additional as needed to meet grades and provide a 3% minimum surface gradient for drainage.
 - b. Organic Amendment: 4 cubic yards per 1,000 sq. feet.
 - c. Lime: 50 - 70 lbs. per 1,000 sq. feet. Provide amount as needed to form a soil pH in the range of 6.0 - 7.0.
 - d. Gypsum: 40 lbs. per 1,000 sq. feet.
3. Type VI planting areas shall be provided with the same amendments as specified for Type V planting areas. Additionally, a ½ inch layer of organic amendment shall be provided as specified.
4. Type VII planting areas shall be provided with the following mix amendments:
 - b. Topsoil: As needed to provide contaminated soil replacement and to provide a well draining gradient and provide a smooth transition into contiguous areas.
 - c. Organic Amendment: 4 cubic yards per 1,000 sq. feet.

C. Plant Pit Backfill

1. Provide the following materials as fill for the planting hole around the tree and shrub rootballs.
 - a. Excavated soil as needed to fill hole.
 - b. Fertilizer: 'Osmocate', 10-10-10 fertilizer at manufacturer's recommended rate.

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D. Blended Backfill Mix

1. Provide the following mix of materials as backfill for planting pockets, treewell or plaza trees.
 - a. Imported Topsoil: Three-part (by volume).
 - b. Organic Amendment: One part (by volume).
 - c. Fertilizer: 'Osmocate', 10-10-10, per manufacturer's recommendation.

2.05 MULCH MATERIAL

- A. General - Provide mulch material free of noxious weed seeds and plants and contains no substance detrimental to plant life. The kind of mulch material(s) acceptable for use will be as shown, specified, or approved.
- B. Bark
 1. Bark mulch shall be ground, shredded or broken particles from the bark of fir, pine, or hemlock trees and free of harmful bacteria, disease spores, pests and substances toxic to plant growth.
 2. The mulch shall be the standard trade size known as "medium bark mulch". Submit a 7 kg sample to the Engineer for visual inspection and approval at least 7 calendar days before delivery to the project. The approved sample will be used as reference for acceptability of material used in the work.

2.06 EROSION CONTROL MATTING

A. Jute Matting

1. Jute matting shall consist of a uniform, open, plain weave of single jute yarn. The yarn shall be of loosely-twisted construction and shall not vary in thickness by more than one half of its normal diameter. The weave shall provide openings of about 650 mm².
2. Furnish the matting in widths of 1140 mm or more, continuous lengths of not less than 45 m, and weigh not less than 0.5 kg/m².
3. Use staples of 2.69 mm or heavier steel wire which is bent to a U-shaped 50 mm wide. Staples shall not be less than 250 mm long unless the Engineer allows a shorter length for hardpan soil conditions.

B. Alternate Matting Material

1. Submit any proposed alternate material with specifications, costs and manufacturer's literature to the Engineer for Consideration. Alternate material may be used only if allowed.

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2.07 PLANT MATERIAL

A. Trees

1. Each tree shall possess top and root growth typical to the variety. Trees with central leaders shall have a straight trunk and be well-branched, and symmetrical. Trees having a damaged or missing leader, multiple leaders or Y-crotches will be rejected. Sheared conifer trees will be rejected.
2. Seedling Trees will be designated by the age and class numbers, such as 2-0, which show the number of seasons grown in a nursery seed-bed followed by the number of seasons grown in a transplant bed. Provide the age and class number certification for all seedlings planted.
3. Trees shall be of height and caliper scheduled or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Single stem trees shall be provided except where special forms are shown or listed.
4. Trees shall be balled and burlapped (B&B).
5. Container grown trees will be acceptable in lieu of balled and burlapped trees subject to specified limitations for container grown stock.
6. Street trees shall have a minimum height of 6 feet-6 inches to the lowest branch.

B. Shrubs, Vines and Groundcovers

1. Shrubs shall be well-formed and possess the top and root growth typical to the variety.
2. Shrubs shall be of the height shown or listed and with not less than minimum number of canes required by ANSI Z60.1 for type and height of shrubs and vines required.
3. Shrubs shall be balled and burlapped (B&B).
4. Container grown shrubs will be acceptable in lieu of balled and burlapped deciduous shrubs subject to specified limitations for container grown stock.
5. Vines shall be container grown.
6. Ground cover shall be plants established and well rooted in removable containers, and without less than minimum number of and length of runners required by ANSI Z60.1 for the pot size indicated on the Drawings.

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- C. Container-Grown Plants shall have been transplanted into a container long enough for new fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container. Container-grown plant material which is rootbound will be rejected. Furnish vine and ground cover plants in individual containers unless otherwise specified.
- D. Collected Plants, if permitted, or specified for use, shall conform to all appropriate quality, grade and class requirements of the current issue of "American Standards for Nursery Stock".
- E. Grass Sod
 - 1. Grow grass sod on agricultural land that is cultivated specifically for turf sod. Sod shall be free of weeds, disease, nematodes, and insects. Sod shall be mature and not less than 10 months old.
 - 2. Submit seed mixtures for sod for approval at least 7 calendar days before use on the project. Furnish a quality compliance certificate, according to ODOT 00165.6, from the sod grower certifying the sod meets mixture requirements. The sod will not be inspected at the source.
 - 3. Machine cut sod to uniform thickness of 16 mm or more, excluding top growth and thatch. Broken pieces and torn or uneven ends will not be accepted. Install sod within 36 hours after harvest.
 - 4. Provide sod as grown by Oregon Turf Farms, J & B Sod Farms, or approved alternate.
 - 5. Shovel cut exposed edge.
- F. Turf Seed
 - 1. Provide fresh, clean, new-crop seed, free of weed, seeds, with tolerance for and germination established by Official Seed Analysts of North America.
 - 2. Lawn seed (Area A) shall be "Pro-Time 303" seed mix, as supplied by Hobbs & Hopkins of Portland, Oregon, consisting of 35% Gator Perennial Rye, 50% Regal Perennial Rye, and 15% Enjoy Chewing Fescue, or approved equal.
 - 3. Lawn (Area B) seed shall be "Po-Time 303DX" seed mix, as supplied by Hobbs & Hopkins of Portland, Oregon, consisting of 50% Elka Perennial Ryegrass, 30% Essence Perennial Rye Grass and 20% Enjoy Chewings Fescue.
 - 4. Lawn (Area C) seed shall be "Po-Time 755 seed mix, as supplied by Hobbs & Hopkins of Portland, Oregon, consisting of 80% Elka Perennial Ryegrass, 20% Small Flowers & Clover.

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5. The following elements, thoroughly blended, shall be provided in areas where seeding is indicated.
 - a. Seed: As specified and indicated on drawing.
 - b. Fertilizer: 20-10-10 formula, with 50% of nitrogen in slow release form, granular commercial fertilizer, applied at 400 lbs. per acre for lawn areas and 200 lbs. per acre for rough seed areas.
 - c. Wood Cellulose Fiber: Dyed green, and applied at 2,000 lbs. per acre.
 - d. Commercial Binder (tackifier): At 50 lbs. per acre. Approved products include J-TAC R-2400, "M" binder, Soil-Seal or approved equal.
 - e. Water as needed.
6. Seed Type and Rate
 - a. Lawn Seed: The specified type of lawn seed shall be applied at 6 lbs. per 1,000 sq. feet.

2.08 BARE-ROOT, BALLED AND BURLAPPED PLANTS

- A. Furnish container-grown or (B&B) plants, unless otherwise specified. Balling and burlapping shall conform to the standards of the "American Standards for Nursery Stock". Root balls shall be firm, intact and held solidly together by a fibrous root system. Root balls shall consist of only the earth in which the plant has been grown. "Made" balls will be rejected. Root balls shall be securely wrapped with jute burlap or other wrapping material not harmful to plants.
- B. Bare-root (B.R.) deciduous plants may be used if requested in writing and written approval is given. Approval of bare-root shrubs shall be subject to conditions determined by the Engineer.
- C. All bare-root plants material shall have dormant buds at the time of planting.

2.09 LABELING AND PROTECTION

- A. Provide a state inspection certificate for all plant materials. In addition provide a shipping certificate for each load or lot of plant material that contains the following information:
 1. Date of shipment.
 2. Name of nursery where grown.
 3. Name of plants. (Including all names as specified in the contract.)
 4. Number of plants.

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5. Grade of plants. (Verifying that plants conform to the specifications.)
6. Size. (Height, runner length, caliper, etc., as required.)

B. Provide labels showing the plant's horticultural name as follows:

1. On at least one plant in a group of the same species.
2. On each plant of individual species plantings.

2.10 INSPECTION OF PLANTS

A. Plants shall be subject to inspection at any place and time. The City will make no inspection of the plant material at the source except as it may elect.

B. Plants will be inspected after arrival at the project and before planting. Do not plant materials until such inspection is made. The presence of noxious weeds in the soil accompanying plants or at the nursery source shall be cause for rejection of any or all plants from that source. Replace plants not conforming to the specifications with specified plants at the Contractor's expense. Approval of plants for a project, either at the source, or before planting and final inspection, shall not be considered as final acceptance.

2.11 SUBSTITUTION OF PLANTS

A. Furnish a list of nursery sources for specified plants within 7 calendar days after the execution of the contract. This list shall verify that all specified plant material has been located and is available for use on the project. No substitutions of plant material will be permitted unless written evidence is submitted that a specified plant can not be obtained and has been unobtainable since the execution of the contract. If substitution is permitted, it will be by written approval of the nearest acceptable variety, size and grade.

2.12 ACCESSORIES

A. Tree Staking Materials

1. Vertical stakes shall be 2" x 2" x 8' (minimum) sound new fir, or hemlock, free of knots and other defects. Stain stakes Dark Walnut in color.
2. Tree ties shall be "Cinch-Ties", "Gro-Straight" or equal tree ties in lengths required to protect tree trunks from damage.
3. Wire shall be No. 12 gauge galvanized iron, 2-strand twisted, pliable wire.

B. Tree Guying Material

1. Anchors shall be 36" Maxwell or approved equal.

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2. Wires and tree ties shall be same as for staking with galvanized turnbuckle, centered in wire line.
- C. Anti-desiccant shall be an emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plant, "Wiltpru" or approved alternative.
- D. Bark mulch shall be fine-ground hemlock bark.
- E. Gravel mulch, 3/4 inch, cleaned, no fines, gray crushed.
- F. Root Control Barrier, when noted.
 1. "Bio Barrier"
 2. "Root Buster"
 3. "Deep Root"
 4. Or approved equal.
- G. Perforated Drain Pipe, when noted.
 1. 4 inch ADS N-12 with sock as manufactured by ADS, Washougal, Washington.
- H. Steel Landscape Edging, when noted.
 1. 3/16 inch by 4 inch steel edging, black painted finish as manufactured by Ryerson Inc., Portland, Oregon.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Site shall be examined for conditions that might adversely affect execution, permanence, quality of work and survival of plantings. All problems shall be reported to Engineer. Problems shall be corrected prior to beginning work in the area.
- B. Field measurements shall be taken of landscape areas to determine if differences occur between Plans and actual ground dimensions. The Engineer shall be notified prior to proceeding with Work.
- C. Grades and slopes of landscaped areas shall be provided to ensure positive drainage (minimum acceptable slope 2%, unless shown otherwise) and shall be accepted by the Engineer prior to commencing work.
- D. The Work required under this section shall begin after conditions are satisfactory. Beginning of work in an area denotes that the Contractor accepts all conditions of that area and the ramifications thereof.

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3.02 PROTECTION

- A. All new and existing landscape work, improvements, and materials shall be protected from damage due to Landscape Contractor's operations, by other trades, and Contractors and trespassers. Protection shall be maintained from time of installation until Final Acceptance.
- B. Adjacent property and site improvements shall be protected from damage. Portions damaged under this Contract shall be treated, repaired, or replaced at no cost to Owner.
- C. Sprinkler heads, area drains, catch basins and other ground level site improvements not extending more than 6 inches above finish grade shall be securely marked or flagged.

3.03 PREPARATION

- A. Planting Area Subgrade Preparation
- B. Existing soil and debris shall be excavated and disposed of off site, as needed to place indicated volumes of imported topsoil and amendments.
- C. All construction debris, weeds, contaminated subsoil, concrete, and other extraneous materials shall be removed and disposed of prior to placement of any backfill mix, topsoil, amendments, and planting. Volume of extracted material shall be replaced with imported topsoil as needed.
- D. Except in Type I areas and areas where existing tree roots would be damaged, the subgrade shall be ripped, tilled and loosened to a depth of 8 inches prior to placing topsoil and amendment.
- E. Subgrade shall be graded to form an even surface.
- F. Spray, kill, and remove all weed growth prior to subgrade and finish grade preparation and again prior to planting.
- G. In sloping areas, ripping and tilling shall be done parallel with the contours.
- H. Subgrade preparation shall be complete prior to the preparation of planting areas as specified herein. All weeds shall be spray killed and removed.
- I. Existing understory shall remain and no clearing, spraying, or removal will take place in Type VII areas.
- J. Planting Area Top Grade Preparation
 - 1. Type III
 - a. Spread a 3 inch deep layer of topsoil over the area to be prepared. Till into the subgrade to form a thorough mixture of subgrade and imported topsoil at least 6 inches deep.

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- b. Spread remainder of topsoil, then the organic amendment and fertilizer. Till as needed to form a thoroughly blended soil mixture at least 6 inches deep.

2. Type V

- a. Prior to preparation of top grade, the subgrade soils shall be cleaned of all rock, gravel, other debris, and contaminated soils to form a clean subgrade soil at least 6 inches deep.
- b. After preparation of top grade, should soils in these areas be contaminated with rock, gravel, or any other debris, the contaminated area shall be excavated to a depth of 6 inches (minimum) below finish grade. The excavated area shall be filled to finished grade with a thoroughly blended mix of 1/3 organic amendment (by volume), 2/3 imported topsoil, and fertilizer as indicated for the blended backfill soil mix.
- c. Spread a 3 inch deep layer of topsoil over the areas to be prepared. Till into the subgrade to form a thorough mixture of subgrade and imported topsoil at least 6 inches deep.
- d. Spread the remainder of the topsoil, fertilizer, and the organic amendment evenly over the area. Till as needed to form a thoroughly blended layer 6 inches (minimum) deep.
- e. Spread the lime and gypsum and till into the top 3-4 inches of soil to blend thoroughly.
- f. Shovel cut exposed edge.

K. Surface Grading

1. Landscape areas, shall be brought to a smooth, even grade, sloped to provide positive drainage to edge of beds and drains for all areas. Minimum surface slope shall be 2%.
2. Gradual slope changes and rounding at changes in slope shall be graded to provide smooth and gradual transitions.
3. Areas shall be graded to provide a finished grade of the planting beds 2 inches below the top of the curbs and walls and finish surfaces of contiguous pavement areas for shrub and gravel cover areas. The lawn areas shall be held down 1 inch below top of curb.

L. Plant Layout

1. The location of trees, shrubs, and ground cover areas shall be marked in field prior to excavating for plants. The Engineer shall be contacted to arrange for review of locations. Adjustments in locations shall be made as directed.
2. Site furnishings related to planting are to be coordinated with Engineer.

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M. Excavation of Plant Pits

1. Planting holes shall be excavated with vertical sides and with bottom slightly raised in middle. Subsoil in sides of the excavation shall be loosened.
2. Holes shall be excavated as follows:
 - c. For trees, two times width and depth of the size of the rootball. For trees in grates, holes shall be dug as shown.
 - d. For shrubs, two times width and depth of the size of rootball.
 - e. For ground cover, slightly wider and the same depth as the container.
3. Excess excavated, unamended subsoil shall be disposed of and not used in plant pit backfill. Such materials shall not be spread over planting bed in Type III and V planting areas.
4. Plant pit shall be filled with water and the water allowed to percolate out prior to planting. If plant pits hold water for an extended period or otherwise indicate poor subsurface drainage, Engineer shall be notified prior to planting.

3.04 INSTALLATION

A. Weeding

1. Prior to planting, spray kill and remove all weed growth in planting beds and turf areas where indicated.

B. Planting Trees and Shrubs

1. Containers, wire baskets, and twine shall be completely removed. Burlap shall be removed from top and sides of root balls.

C. Plants shall be set plumb and at the center of excavations with the top of the root ball at or above adjacent finished grade. The exception to this being trees planted in tree grate covered pits. These shall be installed 4 inches below the bottom of the grate.

D. Backfill shall be placed around sides of ball, tamped, and each layer worked to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, fill shall be watered thoroughly before placing remainder. Remainder of backfill shall be placed and shall be watered again.

E. Install root control barrier per manufacturer's recommendation.

F. Anti-desiccant shall be applied using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage. If deciduous trees or shrubs are moved in full leaf, they shall

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be sprayed with anti-desiccant at nursery before moving, and sprayed again 2 weeks after planting.

- G. Excessively pruned, misformed or damaged stock shall be removed and replaced.
- H. Trees and shrubs shall be pruned, thinned out and shaped as directed by the Engineer, in accordance with standard horticultural practices. Leaders shall not be pruned. Crossing, injured, or dead branches shall be removed. Shrubs shall be pruned to retain natural character.
- I. Trees shall be guyed and staked immediately.
- J. Tree Planted in Non-Irrigated Areas
 - 1. Existing understory locations shall be installed with a minimum impact to existing plant material. Remove existing plant material only in direct impact with proposed tree well. Contractor to exercise diligence in the case of existing plant material. All material damaged shall be restored to existing condition/grade.
 - 2. Shrub planting in existing understory locations shall be installed with a minimum impact to existing plant material.
- K. Lawn and Rough Seeding
 - 1. Slurry mix, with seed, shall be thoroughly blended with water using equipment specifically designed for hydroseed application. Mixing shall be continued until ingredients are blended into a homogeneous slurry suitable for hydraulic application.
 - 2. Area to be planted shall be moistened prior to hydroseed application. Maintain areas in a moist condition until after seed has sprouted and become well rooted. Soggy conditions shall not be created.
 - 3. Slurry shall be uniformly applied to all areas shown. Rate of application shall be as needed to obtain the specified seed sowing rate.
 - 4. Lawn and rough seed areas where seed fails to thrive shall be reworked, regraded, and reseeded as needed to achieve satisfactory growth and coverage.
- L. Planting Ground Cover
 - 1. Ground cover shall be spaced as indicated on the Plans using triangular spacing unless otherwise directed.
 - 2. Holes shall be large enough to allow for spreading of roots and backfilling with planting soil. Soil shall be worked around roots to eliminate air basins.

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M. Steel Landscape Edge

1. Install per detail and manufacturers recommendations. Minimum 7 stakes per 16 foot section, minimum 8 stakes per 20 foot section, per Plans and details. Completed layout of edging to be approved by the Engineer.

3.05 FIELD QUALITY CONTROL

- A. A complete and up-to-date set of Specifications and Plans shall be maintained at the Work Site when work is in progress.
- B. The Engineer may inspect plant materials at place of growth or at site for compliance with requirements for genus, species, variety, size, and quality. The Engineer retains right to reject unsatisfactory or defective materials at the growing grounds, at any time during progress of work and through the warranty period. Rejected plant materials shall be removed immediately and acceptable replacements provided within 5 Days or otherwise directed by Engineer.
- C. Site furnishing related planting shall be approved by Engineer.

3.06 ADJUSTING

- A. Proper adjustment and timing of irrigation systems shall be maintained as needed to provide adequate water for all plantings. Contractor is responsible for such adjustment.

3.07 CLEANING

- A. The work and storage areas shall be kept in a clean and orderly condition, and debris removed daily.
- B. All paved surfaces and structures shall be kept clean and free of soil, mulch, leaves, and debris related to Work under this Section. Walks, paved areas, walls, and structures shall be washed down, daily if necessary, to keep free of soil and mulch.

3.08 PROTECTION

- A. All landscape work and material shall be protected from damage due to landscape operations, operations by other Contractors and trades, trespassers and site users. Protection shall be maintained from the beginning of work until Final Acceptance. Damaged work shall be treated, repaired or replaced, as directed.
- B. Work area shall be kept in safe a safe condition, barriers shall be erected, excavations shall be covered, and other measures shall be taken as necessary to protect the general public and workers on this Project.

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3.09 OBSERVATION AND ACCEPTANCE

- A. Three working days notice shall be given to the Engineer prior to any requested date for observations or field direction. Time will be scheduled in accordance with the Engineer's schedule on or as closely about the requested date as possible. It is the Contractor's responsibility to provide notice and assure all inspections are held and approvals are in place before proceeding with further work.
- B. Observations may not be segmented as sections of work are completed. The Contractor will submit a half size plan indicating, by station point, the extent (or segment) of the work area to be observed. Work will be observed for portions of the work area only if acceptable to the Engineer.
- C. When observed work and materials do not comply with requirements or meet Engineer's approval, rejected items shall be replaced or repaired promptly. Corrections shall be completed within 5 Days of notice unless otherwise approved by the Engineer, including repair and replacement of items affected by corrective work. When damage endangers public safety or improvements, or damage affects traffic, action shall be taken immediately to make the area safe and prevent further damage and disruption of traffic. Repairs shall be made within a time schedule set forth by Engineer. Specified maintenance and other work shall be continued until re-observed and found to be acceptable by Engineer.
- D. Prior to observations for installation acceptance, landscape work shall be observed by the Contractor and Engineer. The following observation points must be accepted prior to proceeding on to the next stage of the landscape work:
 - 1. Upon completion of sub-grade preparation work.
 - 2. Upon completion of top grade preparation, just prior to seeding and planting.
 - 3. Upon completion of the marking out of the layout and location of plants, prior to the actual plant installation.
- E. Upon completion of all landscape installation work, the Engineer, upon request from the Contractor, will observe the site to determine if installation is accepted.
- F. Ninety Days (minimum) following installation acceptance, the Engineer, upon request of the Contractor, will observe the site to determine Final Acceptance.
- G. Observation for Final Acceptance will be held upon Contractor's request. At that time, all plants shall be in good condition, seeded areas fully established, mulch at full depth and in place, areas are clean and weed free, and all areas smooth and properly graded. If the Engineer's observations do not find these conditions, maintenance and care shall continue until all shortcomings are resolved, all required corrections made, and the Project is inspected and found acceptable. Should shortcomings be found, the 90 day (minimum) period indicated above in paragraph F shall be extended until acceptance is given by Engineer.

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- H. Another observation will be conducted at the end of the first year extended warranty period, if any, to determine acceptance or rejection. At the end of this time, if the Engineer notes shortcomings in the condition of the landscape and irrigation improvements, the maintenance shall be extended, at no additional cost to the Owner until all shortcomings are corrected and the areas are observed and found acceptable to the Engineer.

- I. Fees for normal inspection and tests shall be included in the Contract. The cost of additional observations and tests required because of defective work or ill-timed notices shall be borne by the Contractor at the rate of \$75 per hour, at no cost to the Owner.

PART 4 PAYMENT

4.01 LANDSCAPING

- A. Payment for the work in this section will be included as part of the unit price bid amount stated in the Bid Schedule.

END OF SECTION

**SECTION 03301
REINFORCED CONCRETE**

PART 1 GENERAL

1.1 SUBMITTALS

A. Shop Drawings:

1. Reinforcing steel in accordance with CRSI 1990 Manual of Standard Practice and ACI SP.
2. Curing compound data.
3. Complete data on the concrete mix, including aggregate gradations and admixtures, in accordance with ASTM C94.

B. Quality Control Submittals:

1. Manufacturer's application instructions for curing compound.
2. Ready-mix delivery tickets for each truck in accordance with ASTM C94.

1.2 QUALITY ASSURANCE

- A. Formwork: Unless otherwise specified, follow the recommendations of ACI 347.
- B. Concrete and Reinforcement: Unless otherwise specified, meet the requirements of ACI 301 and 318/318R.
- C. Hot Weather Concreting: Conform to ACI 305R.
- D. Cold Weather Concreting: Conform to ACI 306R.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Do not place Concrete when the ambient temperature is below 40 degrees F or approaching 40 degrees F and air temperature less than 40 degrees F for the first 7 days, without special protection to keep Concrete above 40 degrees F.

PART 2 PRODUCTS

2.1 CONCRETE

- A. Ready-mixed meeting ASTM C94, Option A.
- B. Portland Cement: ASTM C150, Type I or Type II.

C. Admixtures:

1. Air-Entraining: ASTM C260.
2. Water-Reducing: ASTM C494, Type A or D.
3. Fly Ash: ASTM C618, Class C or F.

D. Mix Design:

1. Minimum Allowable 28 day Compressive Field Strength: 3,000 psi when cured and tested in accordance with ASTM C31 and C39.
2. Coarse Aggregate Size: 1-1/2 inches and smaller.
3. Slump Range: 3 to 5 inches.
4. Air Entrainment: Between 3 and 6 percent by volume.
5. Water Reducers: Use in concrete without plasticizers.

E. Mixing: Minimum 70 and maximum 270 revolutions of mixing drum. Nonagitating equipment is not allowed.

2.2 REINFORCING STEEL

A. Deformed Bars: ASTM A615, Grade 60.

2.3 ANCILLARY MATERIALS

A. Nonshrink Grout:

1. Color: To match concrete.
2. Manufacturers and Products:
 - a. Master Builder Co., Cleveland, OH; Master Flow 928.
 - b. Euclid Chemical Co., Cleveland, OH; Hi-flow Grout.

B. Curing Compound:

1. Material: Solvent based containing chlorinated rubber solids in accordance with ASTM C309, with additional requirement that the moisture loss not exceed 0.030 gram per centimeter squared per 72 hours.
2. Manufacturers and Products:
 - a. Master Builders Co.; Masterkure CR.
 - b. Euclid Chemical Co.; Euco Super Floor Coat.

PART 3 EXECUTION**3.1 FORMWORK****A. Form Materials:**

1. Use hard plastic finished plywood for exposed areas, and new shiplap or plywood for unexposed areas.
2. Earth cuts may be used for forming footings.

B. Form Ties:

1. Fixed conical or spherical type inserts that remain in contact with forming material and allow for dry packing of form tie holes.
2. Ties shall withstand pressures and limit deflection of forms to acceptable limits.
3. Wire ties are not acceptable.

C. Construction:

1. In accordance with ACI 347.
2. Make joints tight to prevent escape of mortar and to avoid formation of fins.
3. Brace as required to prevent distortion during concrete placement.
4. On exposed surfaces locate form ties in uniform pattern or as shown.
5. Construct so ties remain embedded in the wall with no metal within 1-inch of concrete surface when forms, inserts, and tie ends are removed.

D. Form Removal:

1. Remove after concrete has attained 28 day strength, or approval is obtained in writing from ENGINEER.
2. Remove forms with care to prevent scarring and damaging the surface.

3.2 PLACING REINFORCING STEEL**A. Unless otherwise specified, place reinforcing steel in accordance with CRSI Recommended Practice for Placing Reinforcing Bars.****B. Splices and Laps:**

1. Top Bars: Horizontal bars placed such that 12 inches of fresh concrete is cast below in single placement.
2. Horizontal wall bars are considered top bars.
3. Lap top bars 42 diameters or minimum 24 inches.
4. Lap all other bars 30 diameters or minimum 18 inches.

5. Tie splices with 18-gauge annealed wire as specified in CRSI Standard.

3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301.
- B. Prior to placing concrete, remove water from excavation and debris and foreign material from forms. Check reinforcing steel for proper placement and correct discrepancies.
- C. Before depositing new concrete on old concrete, clean surface using sandblast or bushhammer or other mechanical means to obtain a 1/4-inch rough profile.
- D. Place concrete as soon as possible after leaving mixer, without segregation or loss of ingredients, without splashing forms or steel above, and in layers not over 2 feet deep. Place within 1-1/2 hours after adding cement to mix.

3.4 COMPACTION

- A. Vibrate concrete as follows:
 1. Apply approved vibrator at points spaced not farther apart than vibrator's effective radius.
 2. Apply close enough to forms to vibrate surface effectively but not damage form surfaces.
 3. Vibrate until concrete becomes uniformly plastic.
 4. Vibrator must penetrate fresh placed concrete and into previous layer of fresh concrete below.

3.5 FINISHING

- A. Floor Slabs and Tops of Walls:
 1. Screed surfaces to true level planes.
 2. After initial water has been absorbed, float with wood float and trowel with steel trowel to smooth finish free from trowel marks.
 3. Do not absorb wet spots with neat cement.
- B. Unexposed Slab Surfaces: Screed to true surface, bull float with wood float, and wood trowel to seal surface.
- C. Tolerances: Floors shall not vary from level or true plane more than 1/4-inch in 10 feet when measured with a straightedge.
- D. Exterior Slabs and Sidewalks:
 1. Bull float with wood float, wood trowel, and lightly trowel with steel trowel.

2. Finish with broom to obtain nonskid surface.
3. Finish exposed edges with steel edging tool.
4. Mark walks transversely at 5-foot intervals with jointing tool.

3.6 FINISHING AND PATCHING FORMED SURFACES

- A. Cut out honeycombed and defective areas.
- B. Cut edges perpendicular to surface at least 1-inch deep. Do not feather edges. Soak area with water for 24 hours.
- C. Patch with shotcrete or low pressure mortar.
- D. Finish surfaces to match adjacent concrete.
- E. Keep patches damp for minimum 7 days or spray with curing compound to minimize shrinking.
- F. Fill form tie holes with Nonshrink Grout.

3.7 PROTECTION AND CURING

- A. Protect fresh concrete from direct rays of sunlight, drying winds, and wash by rain.
- B. Use curing compound to cure slabs and walls. Cure formed surfaces with curing compound applied in accordance with manufacturer's directions as soon as forms are removed and finishing is completed.

3.8 FIELD TESTS

- A. Evaluation of Concrete Field Strength: In accordance with ACI 318/318R.

PART 4 PAYMENT

4.1 GENERAL

- A. Payment for the work in this Section will be included as part of the lump sum bid amount stated in the Proposal.

END OF SECTION

SECTION 05500
METAL FABRICATIONS AND CASTINGS

PART 1 GENERAL

1.1 SUBMITTALS

A. Shop Drawings:

1. Metal fabrications, including welding and fastener information.
2. Specific instructions for concrete anchor installation, including drilled hole size, preparation, placement, procedures, and instructions for safe handling of anchoring systems.

B. Quality Control Submittals:

1. Adhesive Anchors:
 - a. Manufacturer's product description and installation procedures.
 - b. Current test data or ICBO evaluation report.
 - c. Adhesive Anchor Installer Certification.
2. Welder/welding operator qualifications.

1.2 QUALITY ASSURANCE

A. Qualifications:

1. Adhesive Anchor Installers: Trained and certified by manufacturer.
2. Welder/Welding Operator: In accordance with AWS D1.1-96 (Annex E), AWS B2.1-84 (App. A), or ASME BPVC SEC IX-95 (Form QW-484).

1.3 DELIVERY, STORAGE, AND HANDLING

A. Preparation for Shipment:

1. Insofar as practical, factory assemble items specified herein.
2. Package and clearly tag parts and assemblies that are of necessity shipped unassembled, in a manner that will protect materials from damage, and facilitate identification and field assembly.

B. Storage of Adhesive:

1. Store adhesive cartridges on pallets or shelving in a covered storage area.
2. Control storage temperature in accordance with manufacturer's written instructions.

3. Dispose of cartridges if shelf life has expired.

PART 2 PRODUCTS

2.1 GENERAL

- A. Unless otherwise indicated, meet the following requirements:

| <u>Item</u> | <u>ASTM Reference</u> |
|--|--|
| Steel Shapes and Plates | A36 REV B-93 |
| Stainless Steel: | |
| Bars | A276-92, AISI Type 316 |
| Shapes | A276-92, AISI Type 304 |
| Steel Plate, Sheet, and Strip | A167-92b, AISI Type 316 |
| Bolts and Threaded Rods | A193-92, AISI Type 316, B8MN, B8M2, or B8M3 |
| Nuts | A194-92a, AISI Type 316, B8MN, B8M2, or B8M3 |
| Aluminum, Structural Shapes and Plates | B209 and B308, Alloy 6061-T6 |

2.2 CONCRETE AND MASONRY ANCHORS

- A. General:

1. AISI Type 316 stainless steel.
2. Current evaluation and acceptance reports by ICBO or other similar code organization.

- B. Adhesive Anchors:

1. Anchor Rod:
 - a. Stainless steel threaded rod, diameter as shown.
 - b. Length as required to provide minimum depth of embedment.
 - c. Clean and free of 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 System (HIT C-100).
 - f. Ackerman Johnson Fastening Systems, Inc., Addison, IL; Poly-All PAC-24 Epoxy.
 - g. Unitex, Kansas City, MO; Pro-Poxy 300.

2.3 ACCESS COVERS

- A. Access covers shall be provided by the OWNER and installed by CONTRACTOR.

2.4 FABRICATION

- A. Materials: Use steel shapes unless otherwise noted.
- B. Fabrication:
 - 1. Fabricate as shown on Drawings and in accordance with ASTM A385-80.
 - 2. Welding:
 - a. Weld connections and grind exposed welds smooth. When required to be watertight, make welds continuous.
 - b. Steel:
 - 1) Meet requirements of AWS D1.1-96 for techniques of welding employed, appearance, quality of welds made, and the methods of correcting defective work.

- 2) Meet visual acceptance standards of AWS D1.1-96, paragraph 8.15.1.
 - 3) Complete welding before applying finish.
 - c. Aluminum: Meet requirements of AWS D1.2-90.
 3. Use fasteners as shown or scheduled.
 4. Grind cut edges smooth and straight.
- C. Finish: For aluminum items to be embedded in concrete, coat with wash primer (0.4 MDFT) and bituminous paint (10 MDFT).
- D. Accessories: Furnish as required for a complete installation. Fasten by welding or with stainless steel bolts or screws.
- E. Aluminum:
1. Fabricate in accordance with AA 30-86 and manufacturers' recommendations as approved.
 2. Grind smooth sheared edges exposed in finished work.

PART 3 EXECUTION

3.1 INSTALLATION OF METAL FABRICATIONS

A. General:

1. Install metal fabrications plumb or level, accurately fitted, free from distortion or defects.
2. Install rigid, substantial, and neat in appearance.
3. Install manufactured products in accordance with manufacturer's recommendations.
4. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
5. Field weld components indicated.
6. Perform field welding in accordance with AWS D1.1-96.
7. Obtain ENGINEER approval prior to site cutting or making adjustments not scheduled.

B. Erection Tolerances:

1. Maximum Offset from True Alignment: 1/4-inch.

3.2 CONCRETE AND MASONRY ANCHORS

- A. Begin installation only after concrete or masonry to receive anchors has attained design strength.

- B. Do not install an anchor closer than six times its diameter to an edge of concrete or masonry or closer than twelve diameters to another anchor, unless shown otherwise.
- C. Install in accordance with manufacturer's instructions.
- D. Use only drill type and diameter recommended by anchor manufacturer. Clean hole of debris and dust with brush and compressed air.
- E. Do not install when temperature of concrete is below 40 degrees F or above 100 degrees F.

3.3 ACCESS COVERS

- A. Install in accordance with manufacturer's instructions.
- B. Accurately position prior to placing concrete, such that covers are flush with floor surface.
- C. Protect from damage resulting from concrete placement. Thoroughly clean exposed surfaces of concrete spillage to obtain a clean, uniform appearance.

3.4 ELECTROLYTIC PROTECTION

- A. Aluminum:
 - 1. Where embedded in concrete, protect surfaces with wash primer (0.4 MDFT) and bituminous paint (10 MDFT).
 - 2. Allow coating to dry before installation of the material.
 - 3. Protect coated surfaces during installation.
 - 4. Should coating become marred, prepare and touch up in accordance with paint manufacturer's written instructions.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 07300
FIBERGLASS COVERS AND GRATING**

PART 1 GENERAL

1.1 WORK OF THIS SECTION

- A. This section includes the design, fabrication, and installation of the fiberglass covers.

1.2 SUBMITTALS

A. Shop Drawings:

1. Complete catalog information, descriptive literature, specifications and identification of material of construction.
2. Shop drawings showing inside and outside dimensions.
3. Grating: Show dimensions, weight, size, and location of connections to adjacent grating, supports, and other Work.
4. Manufacturer's installation instructions.

PART 2 PRODUCTS

2.1 VALVE VAULT COVER CONSTRUCTION

- A. Furnish corrosion-resistant fiberglass cover for the Andrew Street Pump Station Valve Vault.
- B. Cover shall be hinged two-piece split lid mating pairs with waterproof seal.
- C. Hinge pins and padlocking device shall be stainless steel.
- D. Cover shall be suitable for mounting on a 67-inch inside diameter vertical steel pipe with 0.25-inch wall thickness.
- E. Color for cover exterior shall be Lilly Gel Coat Color No. 2-0008.
- F. Manufacturers:
1. Hydronix (503/659-6230).
 2. Or equal.

2.2 GRATING

A. General:

1. 100 psf minimum, unless otherwise shown.
2. Maximum Deflection: 1/4-inch, unless otherwise shown.
3. Depth and width of grating bars shall be determined by grating manufacturer based on span lengths shown on the Drawings.

B. Molded Type:

1. Nonskid grit affixed to top of bar surface or a concave, meniscus top to all bars, providing skid resistance.
2. Load bars in both directions with equal stiffness.
3. Square mesh, 1-1/2-inch maximum spacing.

C. Pultruded Type:

1. Main bars joined by cross bars secured in holes drilled in main bars.
2. Cross bars, with 6-inch maximum spacing, shall mechanically lock main bars in position such that they prevent movement.
3. Intersections: Bond using adhesive as corrosive-resistant as pultrusion resin.
4. Main Bar Ends: Minimum bearing support width of 1-1/2 inches.
5. Skid-Resistant Surface: Grit adhesively bonded, manufacturer's standard.
6. Provide extra stiffness around openings.

D. Hold Down Clamps: Same material as grating.

E. Manufacturers:

1. Fibergrate Corp., Dallas, TX.
2. IKG/Borden, Clark, NJ.
3. Morrison Molded Fiberglass Co., AFC Division, Chatfield, MN, or Bristol Division, Bristol, VA.
4. International Grating, Inc., Houston, TX.
5. Chemgrate Corp., Woodinville, WA.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Covers shall be installed in accordance to manufacturer's instructions.
- B. Use stainless steel mounting hardware.

3.2 GRATING

- A. Anchor grating securely to supports to prevent displacement.
- B. Install each grating section such that it is easily removable.
- C. Clearance (Grating to Vertical Surfaces): 1/4-inch (plus or minus 1/8-inch tolerance).

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 09902
PAINTING****PART 1 GENERAL****1.1 ABBREVIATIONS**

| | |
|--------|---|
| ANSI | American National Standards Institute |
| AWWA | American Water Works Association |
| FRP | Fiberglass Reinforced Plastic |
| HC1 | Hydrochloric Acid |
| MDFT | Minimum Dry Film Thickness |
| MDFTPC | Minimum Dry Film Thickness Per Coat |
| mil | Thousandths of an Inch |
| MIL-P | Military Specification - Paint |
| NACE | National Association of Corrosion Engineers |
| OSHA | Occupational Safety and Health Act |
| PSDS | Paint System Data Sheet |
| SFPG | Square Feet Per Gallon |
| SFPGPC | Square Feet Per Gallon Per Coat |
| SP | Surface Preparation |
| SSPC | Steel Structures Painting Council |

1.2 SUBMITTALS**A. Product Data: Furnish the following:**

1. Data Sheets:
 - a. For each paint system used herein, furnish a Paint System Data Sheet (PSDS), Technical Data Sheets, and paint colors available (where applicable) for each product used in the paint system, except for products applied by equipment manufacturers. A sample PSDS form is appended to the end of this section.
 - b. Submit required information on a system-by-system basis.
 - c. Also provide copies of paint system submittals to the coating applicator.
 - d. Indiscriminate submittal of manufacturer's literature only is not acceptable.

1.3 PAINT DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in unopened containers that plainly show, at time of use, designated name, date of manufacture, color, and manufacturer.
- B. Store paints in a protected area that is heated or cooled to maintain temperature range recommended by paint manufacturer.
- C. Shipping:
 - 1. Where precoated items are to be shipped to the jobsite, protect coating from damage. Batten coated items to prevent abrasion.
 - 2. Use nonmetallic or padded slings and straps in handling.
 - 3. Items will be rejected for excessive damage.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply paint in extreme heat, temperatures below 40 degrees F, nor in dust, smoke-laden atmosphere, damp or humid weather.
- B. Do not perform abrasive blast cleaning whenever relative humidity exceeds 85 percent, nor whenever surface temperature is less than 5 degrees F above dewpoint of ambient air. Strictly adhere to coating manufacturer's recommendations.

1.5 WARRANTY

- A. The CONTRACTOR and coating manufacturer shall jointly and severally warrant to the OWNER and guarantee the work under this section against defective workmanship and materials for a period of 1 year commencing on the date of final acceptance of the work.

PART 2 PRODUCTS

2.1 PAINT AND COATINGS MANUFACTURERS

- A. The letter code will be found following the generic descriptions of materials outlined in the Specifications. General office addresses are given; contact them for information regarding their representative nearest the project site.
 - 1. MANUFACTURER CODE A - COATINGS MANUFACTURERS (Able to supply most heavy-duty industrial coatings and architectural paints):
 - a. Ameron Protective Coatings, Brea, CA.
 - b. Carboline Coatings Company, St. Louis, MO.
 - c. Devoe & Raynolds, Louisville, KY.
 - d. Porter-International, Louisville, KY.

- e. Valspar Corporation, Azusa, CA.
- 2. **MANUFACTURER CODE B - PAINT MANUFACTURERS** (Able to supply most architectural and institutional paints):
 - a. Ameritone, Long Beach, CA.
 - b. Fuller/O'Brien Paint Company, San Francisco, CA.
 - c. Benjamin Moore Paints, New York, NY.
 - d. Pratt & Lambert, Inc., Buffalo, NY.
 - e. Sherwin Williams, Cleveland, OH.

2.2 PAINT MATERIALS

- A. Products shall comply with federal, state, and local requirements limiting the emission of volatile organic compounds. Specific information may be secured through the local office of the Air Pollution Control Officer.
- B. **Materials Including Primer and Finish Coats:** Produced by same paint manufacturer.
- C. **Thinners, Cleaners, Driers, and Other Additives:** As recommended by paint manufacturer of the particular coating.
- D. **Paint products as follows are listed according to their approximate order of appearance in the paint systems. The letter designating the manufacturer code refers to Article PAINT AND COATINGS MANUFACTURERS.**

| Product | Definition |
|---|--|
| Polyamide, Anti-Corrosive, Epoxy Primer | Converted epoxy primer containing rust-inhibitive pigments MANUFACTURER CODE: A |
| Coal-Tar Epoxy | Amine or polyamide type; 70% volume solids minimum, suitable for immersion service MANUFACTURER CODE: A |
| Bituminous Paint | Single-component, coal-tar pitch based MANUFACTURER CODE: A |
| Polyurethane Enamel | Two-component, aliphatic or acrylic based polyurethane; high gloss finish MANUFACTURER CODE: A-B |

2.3 COLORS

- A. Provide as selected by OWNER.

- B. Formulate with colorants free of lead, lead compounds, or other materials which might be affected by presence of hydrogen sulfide or other gas likely to be present at the project.

2.4 TESTING GAUGES

- A. Furnish a magnetic type dry film thickness gauge, to test coating thickness specified in mils, as manufactured by:
 - 1. Nordson Corp., Anaheim, CA, Mikrotest.
 - 2. Or equal.

PART 3 EXECUTION

3.1 GENERAL

- A. Surface Preparation Inspection:
 - 1. Inspect and provide substrate surfaces prepared in accordance with these Specifications and the printed directions and recommendations of paint manufacturer whose product is to be applied.
 - 2. Provide ENGINEER minimum 3 days' advance notice prior to start of surface preparation work or coating application work.
 - 3. Perform such work only in presence of ENGINEER, unless ENGINEER grants prior approval to perform such work in ENGINEER's absence.
- B. For coatings subject to immersion, obtain full cure for completed system. Consult coatings manufacturer's written instructions for these requirements. Do not immerse coating for any purpose until completion of curing cycle.
- C. The intention of these Specifications is for existing and new, interior and exterior metal and submerged metal surfaces to be painted, whether specifically mentioned or not.
- D. Do not apply paint in temperatures exceeding manufacturer's recommended maximum or minimum allowable, or in dust, smoke-laden atmosphere, damp or humid weather.
- E. Do not perform abrasive blast cleaning whenever relative humidity exceeds 85 percent, or whenever surface temperature is less than 5 degrees F above dewpoint of ambient air.

3.2 SURFACES NOT REQUIRING PAINTING

- A. Unless otherwise stated herein or shown, the following areas or items will not require painting:
1. Concrete and masonry surfaces.
 2. Nonferrous and corrosion-resistant ferrous alloys such as copper, bronze, monel, aluminum, chromium plate, atmospherically exposed weathering steel, and stainless steel, except where:
 - a. Required for electrical insulation between dissimilar metals.
 - b. Aluminum and stainless steel are embedded in concrete or masonry, or aluminum is in contact with concrete or masonry.
 3. Nonmetallic materials such as glass, PVC, wood, porcelain, and plastic (FRP) except as required for architectural painting or color coding.
 4. Prefinished electrical and architectural items such as motor control centers, switchboards, switchgear, panelboards, transformers, disconnect switches, acoustical tile, cabinets, elevators, building louvers, wall panels, etc.; color coding of equipment is required.
 5. Nonsubmerged electrical conduits attached to unpainted concrete surfaces.
 6. Items specified to be galvanized after fabrication unless specified elsewhere or subject to immersion.
 7. Insulated piping and/or insulated piping with jacket will not require exterior coating, except as required for architectural painting or color coding.

3.3 PROTECTION OF MATERIALS NOT TO BE PAINTED

- A. Remove, mask, or otherwise protect hardware, lighting fixtures, switchplates, aluminum surfaces, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not intended to be painted.
- B. Provide drop cloths to prevent paint materials from falling on or marring adjacent surfaces.
- C. Protect working parts of mechanical and electrical equipment from damage. Mask openings in motors to prevent paint and other materials from entering.
- D. Mask openings in motors to prevent paint and other materials from entering the motors.

3.4 APPLICATION SAFETY

- A. Perform painting in accordance with recommendations of the following:
1. Paint manufacturer's instructions.
 2. NACE, contained in the publication, Manual for Painter Safety.

3. Federal, state, and local agencies having jurisdiction.

- B. CONTRACTOR will be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. Safety provisions will conform to U.S. Department of Labor, Occupational Safety and Health Act, any equivalent state law, and all other applicable federal, state, county, and local laws, ordinances, and codes.
- C. CONTRACTOR will comply with all safety training requirements promulgated or required for this project.

3.5 PAINT MIXING

- A. Keep paint materials sealed when not in use.
- B. Where more than one coat of a material is applied within a given system, alternate color to provide a visual reference that the required number of coats have been applied.

3.6 FIELD SANDBLASTING

- A. Perform sandblasting for items and equipment where specified and as required to restore damaged surfaces previously shop or field blasted and primed. Materials, equipment, procedures shall meet requirements of Steel Structures Painting Council.

3.7 PREPARATION OF SURFACES

- A. Metal Surface Preparation:
1. General:
 - a. Conform to current Steel Structures Painting Council (SSPC) Specifications as follows:
 - 1) Solvent Cleaning: SP 1.
 - 2) Hand Tool Cleaning: SP 2.
 - 3) Power Tool Cleaning: SP 3.
 - 4) White Metal Blast Cleaning: SP 5.
 - 5) Commercial Blast Cleaning: SP 6.
 - 6) Brush-Off Blast Cleaning: SP 7.
 - 7) Pickling: SP 8.
 - 8) Near-White Blast Cleaning: SP 10.
 - 9) Power Tool Cleaning to Bare Metal: SP 11.
 - b. Where OSHA or EPA regulations preclude standard abrasive blast cleaning, wet or vacu-blast methods may be required. Follow

coatings manufacturers' recommendations for wet blast additives and first coat application.

- c. Hand tool clean areas that cannot be cleaned by power tool cleaning.
2. Blast Cleaning Requirements:
 - a. Comply with applicable federal, state, and local, air pollution and environmental control regulations for blast cleaning and disposition of spent aggregate and debris.
 - b. Alternatives to standard abrasive blast cleaning methods subject to ENGINEER review.

3.8 APPLICATION OF PAINT

A. General:

1. Inspection: Schedule with ENGINEER in advance for cleaned surfaces and all coats prior to succeeding coat.
2. Apply coatings in accordance with paint manufacturer's recommendations. Allow sufficient time between coats to assure thorough drying of previously applied paint.

B. Shop Primed or Factory Finished Surfaces:

1. Inspection: Schedule with ENGINEER in advance for shop primed or factory finished items delivered to jobsite for compliance with Specifications.
2. Hand or power sand areas of chipped, peeled, or abraded coating, feathering the edges. Follow with a spot primer using specified primer.
3. Prior to application of finish coats, clean shop primed surfaces free of dirt, oil, and grease and apply mist coat of specified primer, 1-mil dry film thickness.
4. After welding, prepare and prime holdback areas as required for specified paint system. Apply primer in accordance with manufacturer's instructions.

C. Manufacturer Applied Paint Systems:

1. Repair abraded areas on factory finished items in accordance with the equipment manufacturer's directions.
2. Carefully blend repaired areas into original finish.

D. Film Thickness:

1. Coverage is listed as either total minimum dry film thickness in mils (MDFT) or the spreading rate in square feet per gallon (SFPG). Per coat determinations are listed as MDFTPC or SFPGPC.

2. Number of Coats: Minimum required irrespective of coating thickness. Additional coats may be required to obtain minimum required paint thickness, depending on method of application, differences in manufacturers' products, and atmospheric conditions.
3. Maximum film build per coat shall not exceed coating manufacturer's recommendations.
4. Film Thickness Measurements of Coated Surfaces:
 - a. Perform with properly calibrated instruments.
 - b. Recoat and repair as necessary for compliance with the Specifications.
 - c. All coats will be subject to inspection by ENGINEER and coating manufacturer's representative.
5. Give particular attention to edges, angles, flanges, and other similar areas, where insufficient film thicknesses are likely to be present, and ensure proper millage in these areas.
6. Thickness Testing:
 - a. After repaired and recoated areas have dried sufficiently, final tests will be conducted by the ENGINEER.
 - b. Measure coating thickness specified in mils with a magnetic type dry film thickness gauge as specified.
 - c. Check each coat for correct millage. Do not make measurement before a minimum of 8 hours after application of coating.

E. Damaged Coatings, Pinholes, and Holidays:

1. Feather edges and repair in accordance with recommendations of paint manufacturer.
2. Apply finish coats, including touchup and damage-repair coats, in a manner which will present a uniform texture and color-matched appearance.

F. Unsatisfactory Application:

1. If item has improper finish color or insufficient film thickness, clean and top coat surface with specified paint material to obtain specified color and coverage. Obtain specific surface preparation information from coating manufacturer.
2. Hand or power sand visible areas of chipped, peeled, or abraded paint, and feather the edges. Follow with primer and finish coat in accordance with the Specifications. Depending on extent of repair and appearance, a finish sanding and topcoat may be required.
3. Evidence of runs, bridges, shiners, laps, or other imperfections shall be cause for rejection.
4. Repair defects in coating system per written recommendations of coating manufacturer.

5. Leave all staging up until ENGINEER has inspected surface or coating. Replace staging removed prior to approval by ENGINEER.

3.9 CLEANUP

- A. Place cloths and waste that might constitute a fire hazard in closed metal containers or destroy at the end of each day.
- B. Upon completion of the work, remove staging, scaffolding, and containers from the site or destroy in a legal manner.
- C. Completely remove paint spots, oil, or stains upon adjacent surfaces and floors and leave entire job clean.

3.10 PROTECTIVE COATINGS SYSTEMS

- A. System No. 2 Submerged Metal - Domestic Sewage:

| Surface Prep. | Paint Material | Min. Coats, Cover |
|---|---|-------------------|
| Abrasive Blast, or Centrifugal Wheel Blast (SP 5) | Prime in accordance with manufacturer's recommendations | |
| | Coal-Tar Epoxy | 2 coats, 16 MDFT |

- B. System No. 5 Exposed Metal - Mildly Corrosive:

| Surface Prep. | Paint Material | Min. Coats, Cover |
|--|--|-------------------|
| Abrasive Blast, or Centrifugal Wheel Blast (SP 10) | Polyamide, Anti-Corrosive Epoxy Primer | 1 coat, 2.5 MDFT |
| | Polyurethane Enamel | 1 coat, 3 MDFT |

- C. System No. 27 Aluminum and Dissimilar Metal Insulation:

| Surface Prep. | Paint Material | Min. Coats, Cover |
|----------------------|------------------|-------------------|
| Solvent Clean (SP 1) | Wash Primer | 1 coat, 0.4 MDFT |
| | Bituminous Paint | 1 coat, 10 MDFT |

3.11 PAINT APPLICATION SCHEDULE

- A. Unless otherwise shown or specified in these Specifications, paint or coat the work in accordance with the following application schedule. In the event of

discrepancies or omissions in the following, request clarification from the ENGINEER before starting work in question.

- B. System No. 2 Submerged Metal - Domestic Sewage: Use on the following items or areas:
 - 1. Exterior steel wall of Andrew Street valve vault.
 - 2. Ductile iron piping inside wet wells.

- C. System No. 5 Exposed Metal - Mildly Corrosive: Use on the following items or areas:
 - 1. Exposed metal surfaces, piping, and valves, new and existing located inside valve vaults.
 - 2. Interior steel walls of Andrew Street valve vault.
 - 3. Steel wall on west side of Charles Street valve vault.

- D. System No. 27 Aluminum and Dissimilar Metal Insulation: Use on concrete embedded aluminum surfaces and aluminum surfaces in contact with concrete.

PART 4 PAYMENT

4.1 GENERAL

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

4.2 SUPPLEMENTS

- A. The supplements listed below, following "END OF SECTION," are a part of this Specification.
 - 1. Paint System Data Sheet.

END OF SECTION

PAINT SYSTEM DATA SHEET

Attached products' Technical Data Sheet (if applicable) to this sheet for each paint system submittal.

| | | |
|-----------------------------------|--|----------------------------|
| Paint System Number (from Spec.): | | |
| Paint System Title (from Spec.): | | |
| Coatings Supplier: | | |
| Representative: | | |
| Surface Preparation: | | |
| Paint Material (Generic) | Product Name/Number (Proprietary) | Min. Coats Coverage |
| | | |
| | | |
| | | |

SECTION 11306
INSTALLATION OF OWNER FURNISHED SUBMERSIBLE PUMPS

PART 1 GENERAL

1.1 SCOPE

- A. This section covers the work necessary to inspect, protect, store, assemble, and install, complete and ready for operation, the OWNER furnished submersible pumps and accessories.

PART 2 PRODUCTS

2.1 EQUIPMENT INFORMATION

- A. The purchase specifications for the OWNER furnished submersible pumps are available from the OWNER on request. One copy of the shop drawings detailing equipment to be supplied will be furnished to the CONTRACTOR. Listed below is a brief description of OWNER furnished equipment for each of three pump stations:

1. Duplex pumps complete with motors.
2. Mix flush valves for one pump in each pump station.
3. Mating cast iron 4-inch discharge connection.
4. Type 316 stainless steel double guide rails with anchoring brackets.
5. Power cables.
6. Type 316 stainless steel lifting chains, 12-feet in length.
7. Access covers.
8. MultiTrode duplex pump controllers with Probe conductive level sensors, including mounting bracket and control cable.
9. Leakage sensors for sensing presence of water in the oil and stator housing.
10. Float switch for redundant high level alarm.
11. Grip-Eye Systems for pump removal.

2.2 INCIDENTAL MATERIALS

- A. Furnish all incidental materials such as bolts and lubricants as shown and as required for the operation of the equipment installed under this Section.

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.

3.4 FIELD QUALITY CONTROL

- A. Functional Test: Conduct on each pump.
 - 1. Alignment: Test complete assemblies for correct rotation, proper alignment and connection, and quiet operation.
 - 2. Removal: Remove and reinstall pumps to demonstrate proper installation of guide rails, base support, and hatch opening.

3.5 RESPONSIBILITY OF EQUIPMENT SUPPLIER

- A. The Supplier has contracted to provide 1 person-day (travel time excluded) per pump station for inspection, consultation during functional testing and startup, and operator training.

PART 4 PAYMENT**4.1 GENERAL**

- A. Payment for the work in this Section will be included as part of the lump sum bid amount stated in the Proposal.

END OF SECTION

**SECTION 15068
DUCTILE IRON PIPE AND FITTINGS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section covers the work necessary for furnishing and installing the ductile iron pipe and fittings for the pump discharge piping, complete.

PART 2 PRODUCTS

2.1 JOINTS

- A. Pipe joints shall be flanged joints, except where specifically shown or detailed otherwise.
- B. Fitting joints shall be flanged ends, except where specifically shown or detailed otherwise.

2.2 FLANGED DUCTILE IRON FITTINGS

- A. Flanged fittings shall conform to ANSI B16.1 and shall be faced and drilled 125-pound ANSI. The fittings shall be 125 psi rated working pressure and cement-mortar lined to same thickness specified for pipe.

2.3 FLANGED COUPLING ADAPTORS

- A. Manufacturers and Products:
 - 1. Smith-Blair; Series 912.
 - 2. Dresser Industries, Inc.; Style 127.

2.4 GASKETS

- A. Gasket material for flanged joints in ductile iron pipe shall be cloth-inserted sheet rubber gaskets conforming to AWWA C207 and ANSI B16.21, 1/8-inch thick. The gasket shall be full-cut, with holes to pass bolts. Gasket material shall be free from corrosive alkali or acid ingredients.

2.5 BOLTS

- A. Ductile iron or corten bolts shall be used on all mechanical joints and flanged joints below grade. All bolts above grade shall be Type 316 stainless steel, Grade 8.

2.6 DUCTILE IRON PIPE

- A. Ductile iron pipe shall be centrifugally cast of 60-42-10 iron and shall conform to ANSI A21.51 or AWWA C151. Thickness class shall be 50. The pipe shall be cement-mortar lined and seal coated in accordance with ANSI A21.4.

2.7 MANUFACTURER

- A. All pipe and fittings shall be by a domestic manufacturer.

2.8 HANDLING

- A. Handle the pipe so as to prevent injury to the coating and lining. Place no pipe or other material inside any other pipe at any time after it has been coated.

2.9 MODULAR MECHANICAL SEAL

- A. Type: Interconnected synthetic rubber links shaped and sized to continuously fill annular space between pipe and wall sleeve opening.
- B. Fabrication: Assemble interconnected rubber links with ASTM A276-94, Type 316 stainless steel bolts, nuts, and pressure plates.
- C. Size: According to manufacturer's instructions for the size of pipes shown to provide a watertight seal between pipe and wall sleeve opening, and to withstand a hydrostatic head of 40 feet of water.
- D. Manufacturer: Thunderline Link-Seal.

PART 3 EXECUTION**3.1 EXAMINATION**

- A. Verify size, material, joint types, elevation, horizontal location, and pipe service of existing pipelines to be connected to new pipelines or new equipment.
- B. Inspect size and location of structure penetrations to verify adequacy of wall pipes, sleeves, and other openings.

3.2 PREPARATION

- A. Notify ENGINEER at least 2 weeks prior to field fabrication of pipe or fittings.

- B. Inspect pipe and fittings before installation, clean ends thoroughly, and remove foreign matter and dirt from inside.
- C. Damaged Coatings and Linings: Repair using original coating and lining materials in accordance with manufacturer's instructions.

3.3 INSTALLATION-GENERAL

- A. Join pipe and fittings in accordance with manufacturer's instructions, unless otherwise shown or specified.
- B. Remove foreign objects prior to assembly and installation.
- C. Flanged Joints:
 - 1. Install perpendicular to pipe centerline.
 - 2. Bolt Holes: Straddle vertical centerlines, aligned with connecting equipment flanges or as shown.
 - 3. Use torque-limiting wrenches to ensure uniform bearing and proper bolt tightness.
- D. Couplings:
 - 1. General:
 - a. Install in accordance with manufacturer's written instructions.
 - b. Before coupling, clean pipe holdback area of oil, scale, rust and dirt.
 - 2. Application:
 - a. Metallic Piping Systems: Flexible couplings, transition couplings, and flanged coupling adapters.

3.4 HYDROSTATIC TESTS

- A. All piping shall be hydrostatically tested under normal operating conditions after pump and piping installations are completed.
- B. All piping and joints shall be visually inspected during normal operation of the newly installed pumps.
- C. All leaks detected shall be repaired and the test repeated until no leakage is detected.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 15070
PVC PIPE AND FITTINGS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section covers the Work necessary for furnishing and installing the PVC pipe and fittings for the raw sewage force main.

PART 2 PRODUCTS

2.1 PIPE

- A. PVC pipe shall be Schedule 40, Type I, Grade I or Class 12454-B conforming to ASTM D1784-92 and ASTM D1785-93.

2.2 FITTINGS

- A. PVC fittings shall be Schedule 40, socket-weld type conforming to ASTM D2466-94 and ASTM D2467-93.

2.3 JOINTS

- A. Pipe joints shall be solvent socket-weld type.

2.4 SOLVENT CEMENT

- A. Solvent cement shall be as recommended by pipe and fitting manufacturer conforming to ASTM D2564-93.

2.5 IMPORTED GRANULAR MATERIAL FOR PIPE BASE AND TRENCH BACKFILL

- A. Use crushed rock with a maximum size of 3/4-inch, uniformly graded from coarse to fine.

2.6 MANUFACTURER

- A. All pipe and fittings shall be by a domestic manufacturer.

PART 3 EXECUTION

3.1 PREPARATION OF TRENCH

- A. Grade: Grade the bottom of the trench by hand to the line and grade to which the pipe is to be laid, with proper allowance for pipe thickness and for pipe

base when specified or indicated. Before laying each section of the pipe, check the grade and correct any irregularities found.

- B. Imported Granular Material for Pipe Base: Provide imported granular material for pipe base under all pipe. Place granular base for pipe in the trench to a minimum depth of 4 inches. Grade the top of the base to the bottom of the pipe ahead of pipe laying for the full width of the trench. Base shall provide a firm support along entire pipe length.
- C. Removal of Water: Provide and maintain ample means and devices at all times to remove and dispose of all water entering the trench excavation during the process of pipe laying.

3.2 LAYING

- A. Handling Material: Provide and use proper implements, tools, and facilities for the safe and proper prosecution of the work. Lower all pipe, fittings, and appurtenances into the trench, piece by piece, by means of a crane, slings, or other suitable tools or equipment, in such a manner as to prevent damage to the pipeline materials. Do not drop or dump pipeline materials into the trench.
- B. Cleaning Pipe and Fittings: Wipe the ends of pipe and fittings clean of all dirt, grease, and foreign matter.
- C. Cutting Pipe: Cut pipe for inserting fittings in a neat and workmanlike manner without damaging the pipe and so as to leave a smooth end at right angles to the axis of the pipe.
- D. Unsuitable Conditions for Laying Pipe: Do not lay pipe in water or when, in the opinion of the ENGINEER, trench conditions are unsuitable.

3.3 IMPORTED GRANULAR MATERIAL

- A. Import and place imported granular material as hereinbefore specified.
- B. Imported granular material shall be used for the full depth of the pipe trench. This material shall be placed, in a manner approved by the ENGINEER, simultaneously on both sides of pipe in lifts not to exceed 6 inches. Each lift shall be compacted with mechanical vibrating or impact tampers as required to prevent subsequent settlement.

3.4 HYDROSTATIC TESTS

- A. Make pressure and leakage tests on all newly installed pipe. Furnish all necessary equipment and material, make all taps in the pipe as required, and conduct the tests. The ENGINEER will monitor the tests.

- B. Furnish the following equipment and materials for the tests:

| Amount | Description |
|--------|--|
| 2 | Graduated containers |
| 2 | Pressure gauges |
| 1 | Hydraulic force pump |
| | Suitable hose and suction pipe as required |

- C. Conduct the tests after the trench has been backfilled or partially backfilled with the joints left exposed for inspection, or when completely backfilled, as permitted by the ENGINEER. Where any section of pipe is provided with concrete reaction blocking, do not make the pressure test until at least 5 days have elapsed after the concrete thrust blocking is installed. If high-early cement is used for the concrete thrust blocking, the time may be cut to 2 days.
- D. Conduct the pressure test in the following manner, unless otherwise approved by the ENGINEER: After the trench has been backfilled or partially backfilled as hereinbefore specified, fill the pipe with water, expelling all air during the filling. The test pressure shall be 50 psi.
1. Duration: The duration of each pressure test shall be 2 hours, unless otherwise directed by the ENGINEER.
 2. Procedure: Slowly fill the pipe with water and allow to stand for 24 hours. Expel all air from the pipe. Apply and maintain the specified test pressure by continuous pumping if necessary for the entire test period. The test pressure shall be calculated for the point of lowest elevation, or as specified by the ENGINEER. The pump suction shall be in a barrel or similar device, or metered so that the amount of water required to maintain the test pressure may be measured accurately.

3. Leakage: Leakage shall be defined as the quantity of water necessary to hold the specified test pressure for the duration of the test period. No pipe installation will be accepted if the leakage is greater than the number of gallons per hour as determined by the following formula:

$$L = \frac{ND \sqrt{P}}{7400}$$

In the above formula:

- L = Allowable leakage, in gallons per hour
 N = Number of joints in the length of pipe tested
 D = Nominal diameter of pipe, in inches
 P = Test pressure during the leakage test, in pounds per square inch
4. Correction of Excessive Leakage: Should any test of pipe laid disclose leakage greater than that allowed, locate and repair the defective joints or pipe until the leakage of a subsequent test is within the specified allowance.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 15100
VALVES AND OPERATORS**

PART 1 GENERAL

1.1 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American National Standards Institute (ANSI):
 - a. B16.1, Cast Iron Pipe Flanges and Flanged Fittings.
 - b. C111/A21.11, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
2. American Water Works Association (AWWA):
 - a. C508, Standard for Swing-Check Valves for Waterworks Service, 2 in. Through 24 in. NPS.
 - b. C550, Protective Epoxy Interior Coatings for Valves and Hydrants.

1.2 SUBMITTALS

A. Shop Drawings:

1. Product data sheets for make and model.
2. Complete catalog information, descriptive literature, specifications, and identification of materials of construction.

B. Quality Control Submittals: Operation and maintenance manual.

PART 2 PRODUCTS

2.1 GENERAL

- A. Plug valves to include operating nut, wrench, and accessories for a complete operation.
- B. Valves to be suitable for intended service. Renewable parts not to be of a lower quality than specified.
- C. Valves same size as adjoining pipe.
- D. Valve ends to suit adjacent piping.
- E. Valve to open by turning counterclockwise.

2.2 MATERIALS

- A. Brass and bronze valve components and accessories that have surfaces in contact with water to be alloys containing less than 16 percent zinc and 2 percent aluminum.
- B. Approved alloys are of the following ASTM designations:
 - 1. B61, B62, B98 (Alloy UNS No. C65100, C65500, or C66100), B139 (Alloy UNS No. C51000), B584 (Alloy UNS No. C90300 or C94700), B164, B194, and B127.
 - 2. Stainless steel Alloy 18-8 may be substituted for bronze.

2.3 FACTORY FINISHING

- A. Epoxy Lining and Coating:
 - 1. In accordance with AWWA C550 unless otherwise specified.
 - 2. Either two-part liquid material or heat-activated (fusion) material except only heat-activated material if specified as "fusion" or "fusion bonded" epoxy.
 - 3. Minimum 7-mil dry film thickness except where limited by valve operating tolerances.
- B. Exposed Valves: Coat valves the same as coating on connecting pipe.

2.4 VALVES

- A. Plug Valves: Nonlubricated type rated 175 psig CWP, drip-tight shutoff with pressure from either direction, cast iron body with flanged ends in accordance with AWWA C606 for rigid joints. Plug cast iron with round or rectangular port of no less than 80 percent of connecting pipe area and coated with Buna-N or Hycar, seats Type 316 stainless steel or nickel, stem bearing self-lubricating stainless steel or reinforced Teflon, stem seal multiple V-rings, U-cups, or O-rings of nitrile rubber, grit seals on stem. Provide with wrench lever manual operator.
 - 1. Manufacturers and Products:
 - a. DeZurik; Series 100.
 - b. Keystone; Ballcentric.
- B. Check Valves:
 - 1. Swing Check Valves:
 - a. AWWA C508, flanged end, cast iron body, bronze mounted valve, solid bronze hinges, stainless steel hinge shaft.

- b. Valve rated 175-pound cold water, nonshock. Valve fitted with adjustable outside lever and spring.
 - c. Manufacturers and Products:
 - 1) M & H Valve; Style 59, 159, or 3259.
 - 2) American-Darling; No. 50 Line.
- C. Flap Valve: Hub end, iron body, fully bronze mounted with bronze hinge pin and seat.
- 1. Manufacturers and Products:
 - a. Waterman.
 - b. Clow; No. F-3016.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Flange Ends:
 - 1. Flanged valve bolt holes shall straddle vertical centerline of pipe.
 - 2. Clean flanged faces, insert gasket and bolts, and tighten nuts progressively and uniformly.
- B. Valve Orientation: Install operating stem vertical when valve is installed in horizontal runs of pipe having centerline elevations 4 feet 6 inches or less above finished floor, unless otherwise shown.

3.2 TESTS AND INSPECTION

- A. Valve may be either tested while testing pipelines, or as a separate step.
- B. Test that valves open and close smoothly with operating pressure on one side and atmospheric pressure on the other, in both directions for two-way valve and applications.
- C. Count and record number of turns to open and close valve; account for any discrepancies with manufacturer's data.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 16005
ELECTRICAL**

PART 1 GENERAL

1.1 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. American National Standards Institute (ANSI):
 - a. C80.1, Rigid Steel Conduit-Zinc Coated.
 - b. Z55.1, Gray Finishes for Industrial Apparatus and Equipment.
 2. National Electrical Contractor's Association, Inc. (NECA): 5055, Standard of Installation.
 3. National Electrical Manufacturers Association (NEMA):
 - a. AB 1, Molded Case Circuit Breakers and Molded Case Switches.
 - b. ICS 2, Standard for Industrial Control Devices, Controllers, and Assemblies.
 - c. PB 1, Panelboards.
 - d. TC 2, Electrical Plastic Tubing (EB) and Conduit (EPC-40 and EPC-80)
 - e. TC 3, PVC Fittings for Use with Rigid PVC Conduit and Tubing
 - f. WD 1, General Requirements for Wiring Devices.
 - g. 250, Enclosures for Electrical Equipment (1,000 Volts Maximum).
 4. National Fire Protection Association (NFPA): 70, National Electrical Code (NEC).
 5. Underwriters Laboratories, Inc. (UL):
 - a. 651, Standard for Safety Schedule 40 and 80 PVC Conduit.

1.2 SECTION INCLUDES

- A. This Section covers the work necessary for complete electrical systems. Furnish materials, labor, and equipment in accordance with these Specifications and the accompanying Drawings.

1.3 INSPECTION OF THE SITE AND EXISTING CONDITIONS

- A. Verify all scaled dimensions prior to construction.
- B. Before submitting a bid, visit the site and become familiar with all existing conditions which will, in any way or manner, affect the work required under this Contract. No subsequent increase in Contract cost will be allowed for additional work required because of the CONTRACTOR's failure to fulfill this requirement.

1.4 RESPONSIBILITY

- A. The CONTRACTOR shall be responsible for:
1. Complete systems in accordance with the intent of these Contract Documents.
 2. Furnishing and installing all incidental items not actually shown or specified, but which are required by good practice to provide complete functional systems.
 3. Verifying actual locations of all equipment that requires power and control circuit connections as shown on the Drawings.
 4. De-energizing, disconnecting, and removing existing electrical equipment and materials as noted on the Drawings.
 5. Obtaining and paying for all construction permits and licenses.
 6. Paying all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening Bids.

1.5 INTENT OF DRAWINGS

- A. Electrical plan drawings are diagrammatic and show only general locations of equipment, devices, and raceway, unless specifically dimensioned. The CONTRACTOR shall be responsible for the complete raceway system. Provide as a minimum what is shown on the Drawings, and provide additional raceway, devices, fittings, boxes, etc., needed to fit the equipment size and/or configuration as supplied subject to the approval of the ENGINEER and at the CONTRACTOR's own expense.
- B. In general, where the background on electrical Drawings has been screened, the area screened is existing and not in this Contract, unless otherwise noted. Work under this contract is shown heavier by contrast.
- C. In general, screened equipment and materials are existing to be reused.
- D. Details are typical for all locations which apply regardless of whether a callout is shown on the Drawing or not.

1.6 DEPARTURES FROM CONTRACT DOCUMENTS

- A. Submit to the ENGINEER in writing details of any necessary, proposed departures from these Contract Documents, and the reasons therefor. Submit such requests as soon as practicable and within 20 days after award of the Contract. Make no such departures without written approval of the ENGINEER.

1.7 SUBSTITUTION OF MATERIALS AND EQUIPMENT

- A. Manufacturers' names and catalog numbers stated herein are intended to indicate the type and quality of equipment or materials desired. Unless substitution is specifically forbidden, proposed alternatives may be submitted for approval.
- B. Make requests for approval of alternatives in writing to the ENGINEER. Provide sufficient material or data to allow evaluation of the proposed alternative and determination of compliance with these Contract Documents. List any proposed deviations from these Contract Documents.

1.8 SUBMITTALS

- A. Provide complete manufacturers' descriptive information and shop drawings for all equipment, material, and devices furnished under this specification Section including arrangement drawings, elementary (schematic) diagrams, interconnection and connection diagrams, etc. Provide five copies for the ENGINEER, CONTRACTOR, and Operation and Maintenance Manuals. Where practical, provide one original copy of all items. On general equipment drawings, clearly indicate those items which are part of the submittal to be reviewed.
- B. Submit complete control and interface schematic drawings. These drawings shall contain diagrams, terminal numbers, device names, tag numbers, control cable conductor colors and numbers, etc., to provide complete identification of the circuits and prove coordination between the equipment.
- C. Shop Drawings:
 - 1. Receptacles.
 - 2. Boxes.
 - 3. Nonfused switch.
 - 4. Coverplates.
 - 5. Conduits.
 - 6. Conductors.
- D. CONTRACTOR shall review, check, and initial all submittals indicating that the submitted items meet the requirements of the Specifications and Drawings.
- E. Review of the submittal information by the ENGINEER is for the convenience of the OWNER and the CONTRACTOR to facilitate the satisfactory acceptance of the work required hereunder. This review shall neither relieve the CONTRACTOR from the responsibility for deviations from the Drawings and Specifications, nor from errors and omissions in the shop drawings or literature. The CONTRACTOR shall obtain ENGINEER's acceptance of submittals before commencing fabrication or installation of any

materials or equipment. Equipment found not meeting the requirements of these Specifications and Drawings shall be removed, repaired, or replaced at the CONTRACTOR's own expense. Review by the ENGINEER is limited to one resubmittal per item. Cost of submittal reviews beyond this limit which are required to obtain acceptance shall be reimbursed to the ENGINEER by the CONTRACTOR.

- F. Contract Closeout: Signed permits indicating Work is acceptable to regulatory authorities with jurisdiction.

1.9 UL COMPLIANCE

- A. Materials manufactured within scope of Underwriters Laboratories shall conform to UL Standards and have an applied UL listing mark.

1.10 OPERATION AND MAINTENANCE MANUALS

- A. Provide three copies of Operation and Maintenance (O&M) Manuals in commercial quality, permanent, three-post binders with durable, cleanable, plastic covers. Where practical, provide one original copy of all items. Each copy shall contain a neatly typewritten table of contents arranged in a systematic order with the CONTRACTOR's name, name of responsible principal, address, and telephone number. The O&M Manuals shall also include:
1. Operation, maintenance, recommended spare parts, and renewal parts information for all equipment furnished under Division 16, ELECTRICAL.
 2. Set of complete, final, as-reviewed and accepted information herein required to be submitted for review following Contract award.
 3. As-built electric circuit, equipment, and installation drawings showing equipment as it was actually installed and connected (include in the final O&M manual drafts).
 4. Index of all equipment suppliers listing current names, addresses, and telephone numbers of those who should be contacted for service, information, and assistance.
 5. As-built Contract Drawings marked with red indelible pencil on one set of Contract Drawings to show all departures from original Drawings and all electrical work revisions; prepare by obtaining new, clean sets of Contract Drawings from ENGINEER and pay all costs for same; field marked as-built drawings shall be initialed by the ENGINEER or his representative (include in the final O&M manual drafts).
 6. All field and factory test results (include in the final O&M manual drafts).
 7. Complete interconnection diagrams between all control devices showing field wiring from numbered terminal to numbered terminal in block diagram format.

8. Use only clean material. File under dividers with heading in accordance with Specification item title.
9. Submit material to ENGINEER for review prior to delivery of the final Operation and Maintenance Manuals to OWNER. Make additions or changes required by the reviewer.

1.11 INSPECTION

- A. Allow materials, equipment, and workmanship to be inspected at any time by the ENGINEER, OWNER, or their representatives. Correct work, materials, or equipment not in accordance with these Contract Documents or found to be deficient or defective in a manner satisfactory to the ENGINEER or OWNER.

1.12 GUARANTEE

- A. Guarantee all materials and workmanship furnished to be free from defect for a period of 1 year after final approval. Defective material and workmanship shall be corrected at the CONTRACTOR's own expense.

PART 2 PRODUCTS

2.1 GENERAL

- A. Products shall comply with all applicable provisions of NFPA 70.
- B. Like Items of Equipment (Nonfused Switches, Etc.): End products of one manufacturer in order to achieve standardization for appearance, operation, maintenance, and spare parts.
- C. Equipment and Devices Installed Outdoors or in Unheated Enclosures: Capable of continuous operation within ambient temperature range of 0 degrees F to 104 degrees F.
- D. Hazardous Areas: Products shall be acceptable to the regulatory authority having jurisdiction for the class, division, and group of hazardous area indicated.
- E. Equipment Finish:
 1. Manufacturer's standard finish color, except where specific color is indicated.
 2. If manufacturer has no standard color, finish equipment in accordance with ANSI Z55.1, No. 61, light gray color.

2.2 SERVICE ENTRANCE

- A. Meet requirements of the local electric utility.

2.3 EQUIPMENT HARDWARE

- A. Hardware for equipment shall be hot-dipped galvanized steel or stainless steel. Zinc or cadmium-plated hardware is not acceptable. Hardware shall include, but not be limited to, door handles, hinges, latches, bolts, nuts, and other items. This provision shall take precedence over hardware provisions specified elsewhere in this Section.

2.4 CONDUIT AND FITTINGS

A. Rigid Galvanized Steel Conduit (RGS):

1. ANSI C80.1.
2. Fittings: Threaded type.
3. Galvanize by hot-dipping process only, including fittings.

B. PVC-Coated Rigid Galvanized Steel (CRS) Conduit:

1. Meet requirements of NEMA RN 1.
2. UL listed for 75 degrees C insulated conductors.
3. Material:
 - a. Conduit: Meet requirements of ANSI C80.1 and UL 6.
 - b. Outside Coating: PVC, factory applied, 40 mils nominal thickness, bonded to the metal outside (bond between steel and PVC shall be equal to, or greater than the tensile strength of the PVC).
 - c. Inside Coating: Urethane, factory applied, 2 mils nominal thickness bonded to the metal inside.
 - d. Manufacturer: Robroy Plasti-Bond Red, OCAL, or equal.

C. Polyvinyl Chloride Conduit (PVC):

1. Rigid, Schedule 40, NEMA TC 2.
2. UL 651 listed for concrete encased, direct burial, concealed and direct sunlight exposed use.
3. UL 651 listed and marked for use with conductors having 90 degrees C insulation.
4. Fittings: NEMA TC 3, for intended use.

2.5 CONDUCTORS

A. Material: Annealed copper.

B. Insulation:

1. No. 8 AWG and Smaller: Type THHN/THWN-2.
2. No. 6 AWG and Larger: Type XHHW-2.

3. Flexible Cord and Cable: Type SO, 600 volts.
- C. Type: 600-volt class, stranded.
- D. Unless noted otherwise, conductor sizes indicated are based on copper conductors at NEC 75 degrees C ampacity. Do not provide conductors smaller than those indicated.
- E. Grounding Conductors:
1. Equipment:
 - a. Provide stranded copper conductors, as indicated on the Drawings or as required by NEC, for equipment grounding.
 - b. Provide conductors with green Type THHN/THWN insulation.

2.6 CONDUCTORS COLOR CODING

- A. For power and 120V control conductors, provide all single conductors with integral insulation pigmentation of the designated colors through No. 8 AWG. Conductors larger than No. 8 AWG shall be provided with color coding by wrapping the conductor at each end and at all accessible locations with colored self-adhesive vinyl tape. Where this method of color coding is used, wrap at least six full overlapping turns of tape around the conductor covering an area 1-1/2 to 2 inches wide at a visible location at all conductor termination and pulling points. Vinyl tape shall be 3M Company No. 35, Plymouth Rubber Company, or equal.
- B. Phase A, B, C implies the direction of positive phase rotation.
- C. Use the following colors:

| System | Conductor | Color |
|---|--|--|
| All Systems | Equipment Grounding | Green |
| 120/240 Volts Single-Phase, 3-Wire | Grounded Neutral Phase A Phase B | White Black Red |
| 240/120 Volts Three-Phase, 4-Wire Delta, Center Tap Grounded on Single-Phase | Grounded Neutral Phase A Phase B (High "Wild" Leg) Phase C | White Black Orange Blue |
| 120V ac Control | Single conductors "Hot" to Contact "Switched" from Contact | Black Purple, Pink, Brown, or Pale Blue |

| System | Conductor | Color |
|-------------------|-------------------|--------|
| 48/24/12V Control | Single conductors | Yellow |

2.7 RECEPTACLES

- A. Receptacle, Ground Fault Interrupter: Duplex, specification grade, tripping at 5 milliamps.
1. Color: Ivory.
 2. Rating: 125 volts, NEMA WD 1, Configuration 5-20R, 20 amps, capable of interrupting 5,000 amps without damage.
 3. Size: For 2-inch by 4-inch outlet boxes.
 4. Standard Model: NEMA WD 1, with screw terminals and provisions for testing.
 5. Manufacturers:
 - a. Pass and Seymour.
 - b. Bryant.
 - c. Leviton.
 - d. Hubbel.

2.8 BOXES

- A. Standard Boxes: NEMA 250, Type 1, minimum 2 inches deep, unless shallower required by structural conditions.
- B. Stainless Steel Box: NEMA 250, Type 4X:
1. Box: 14-gauge, ASTM A240, Type 316 stainless steel, with white enamel painted interior mounting panel.
 2. Cover: Hinged with clamps and provisions for pad locking.
 3. Hardware and Machine Screws: ASTM A167, Type 316 stainless steel.
 4. Manufacturers:
 - a. Hoffman Engineering Co.
 - b. Robroy Industries.
- C. Handhole Concrete Box:
1. Box: Reinforced, cast concrete.
 2. Cover: Cast iron.
 3. Cover Marking: ELECTRICAL, TELEPHONE, or as shown.
 4. Manufacturers:
 - a. Brooks Products Inc.; No. 36/36T.
 - b. Qwikset; W 17.

2.9 NONFUSED SWITCH, INDIVIDUAL, 0 TO 600 VOLTS

- A. NEMA KS 1.
- B. Quick-make, quick-break, motor rated, load-break, heavy-duty (HD) type with external markings clearly indicating ON/OFF positions.
- C. Suitable for use with 75 degrees C wire at full NFPA 70, 75 degrees C ampacity.
- D. Interlock: Enclosure and switch to prevent opening cover with switch in the ON position.
- E. Provide switch with prewired, interlocked receptacle:
 - 1. Switch and enclosure shall satisfy requirements of "A" through "D" above.
 - 2. UL 508 listed ("Industrial Control Equipment" without overcurrent protection).
 - 3. Nonmetallic, gasketed enclosure rated NEMA 4, 4X, and 12; indoor and outdoor, watertight, dust-light, corrosion resistant.
 - 4. Watertight locking cover on receptacle.
 - 5. Matching plug for receptacle,
 - 6. Manufacturers, Switch Ratings and Approved Manufacturer Catalog Numbers:
 - a. Arrow Hart (3/4-30 HP: Disconnect Switch/Receptacle-AH430MI5W; Plug-AH43P5W).
 - b. Hubbell CIRCUIT-LOCK Mechanical Interlock.
 - c. Approved equal.

| Motor HP Range | Receptacle Volts/Phase | Hubbell Switch No. | Hubbell Receptacle No. | Hubbell Plug No. |
|----------------|------------------------|--------------------|------------------------|------------------|
| 3/4 - 2 | 240/1 | HBLMITL | HBL2320SW | HBL2321SW |
| 3 - 10 | 600/3 | HBLMITL | HBL2740SW | HBL2741SW |

2.10 COVER PLATES

- A. Weatherproof Device Plates:
 - 1. Hinged outlet cover/enclosure clearly marked "Suitable For Wet Locations While in Use" and "UL Listed."
 - 2. Gasket between hinged cover and mounting plate/base and between mounting plate/base (enclosure) and mounting surface.
 - 3. Stainless steel mounting screws.
 - 4. Standard clear cover with vertical mount.

5. Manufacturers and Products:
 - a. Taymac Catalog No. 20310C.
 - b. Approved equal.

PART 3 EXECUTION

3.1 GENERAL

- A. Workmanship shall comply with all applicable provisions of NECA 5055.
- B. Install materials and equipment in hazardous areas in a manner acceptable to regulatory authority having jurisdiction for the class, division, and group of hazardous area indicated.
- C. Ground equipment, enclosures, and complete conduit system securely in accordance with applicable sections of NFPA 70.

3.2 PROTECTION DURING CONSTRUCTION

- A. Throughout this Contract, provide protection for materials and equipment against loss or damage. Protect everything from the effects of weather. Prior to installation, store items in clean, dry, indoor, heated locations.

3.3 MATERIAL AND EQUIPMENT INSTALLATION

- A. Follow manufacturer's installation instructions explicitly, unless otherwise indicated. Wherever any conflict arises between manufacturer's instructions, codes, and regulations, and these Contract Documents, follow ENGINEER's decision. Keep copy of manufacturer's installation instructions on the jobsite available for review at all times.

3.4 REMOVAL OR RELOCATION OF MATERIALS AND EQUIPMENT

- A. Where existing materials and equipment are removed or relocated, remove all materials no longer used such as studs, straps, conduits, and wires. Remove or cut off concealed or embedded conduit or other materials and equipment to a point at least 3/4-inch below the finished structural surface. Remove or cutoff underground conduit 1 foot, minimum below finished grade.
- B. Repair affected surfaces to conform to the type, quality, and finish of the surrounding surface in a neat, and workmanlike manner. Utilize skilled craftsmen of the trades involved.

3.5 CUTTING AND PATCHING

- A. Lay out work carefully in advance. Do not cut or notch any structural member or building surface without specific approval of ENGINEER. Carefully carry out any cutting, channeling, chasing, or drilling of walls or other surfaces

required for the installation, support, or anchorage of conduit, or other electrical materials and equipment. Following such work, restore surfaces neatly to original condition. Use skilled craftsmen of the trades involved.

3.6 MOTOR ROTATION

- A. After final service connections are made, check and correct, if necessary, the rotation of all motors.
- B. Coordinate rotation checks with the ENGINEER. Submit a written report to the ENGINEER for each motor verifying that rotation has been checked and corrected.

3.7 CLEANING AND TOUCHUP PAINTING

- A. Keep the premises free from accumulation of waste material or rubbish. Upon completion of work, remove materials, scraps, and debris from premises and from interior and exterior of all devices and equipment. Touch up scratches, scrapes, or chips in interior and exterior surfaces of devices and equipment with finishes matching as nearly as possible the type, color, consistency, and type of surface of the original finish.

3.8 SALVAGED MATERIAL

- A. Unless otherwise indicated, all material required to be removed and salvaged shall become the property of the CONTRACTOR and shall be promptly removed from the site.

3.9 MOTOR STARTER

- A. Field adjust trip settings of motor starter magnetic, trip-only circuit breakers in accordance with manufacturer's instructions.

3.10 BRANCH CIRCUIT PANELBOARD

- A. Add type written circuit directory information to each panelboard circuit directory.

3.11 ELECTRICAL PANEL AND DISCONNECT ENCLOSURE POWER AND SIGNAL WIRING

- A. Restrain control and signal wiring in control panels by plastic ties or ducts.
- B. Arrange wiring neatly, cut to proper length, and remove surplus wire. Install abrasion protection for wire bundles passing through holes or across edges of sheet metal.

- C. Use manufacturer's recommended tool with sized anvil for crimp terminations. No more than one wire may be terminated in a single crimp lug. No more than two lugs may be installed on a single screw terminal.
- D. Do not splice or tap wiring except at device terminals or terminal blocks.

3.12 PROTECTION

- A. Protect enclosures and other equipment containing electrical, instrumentation and control devices, including spare parts, from corrosion through the use of corrosion-inhibiting vapor capsules.
- B. During Work, periodically replace capsules in accordance with capsule manufacturer's recommendations. Replace capsules at Substantial Completion.

3.13 CONDUIT AND FITTINGS

A. General:

1. Do not install crushed or deformed raceways.
2. Avoid trapped raceways in damp and wet locations.
3. Prevent plaster, dirt, or trash from lodging in raceways, boxes, fittings, and equipment during the course of construction. Clear clogged raceways of obstructions.
4. Secure conduits entering cabinets, pull boxes or outlet boxes with galvanized locknuts and bushings, on both sides of box wall.

B. Applications:

1. Exposed Exterior: Type RGS.
2. Direct Buried: Type PVC or PVC-coated RGS as shown on Drawings.
3. Vertical Runs Through Slab: PVC-coated RGS from 12-inch to 2-inch AFG.

C. Penetrations:

1. Seal penetrations with oakum or expandable plastic compound.
2. Provide sleeves and chases where conduits pass through walls. Finish to match adjacent surfaces.

D. Exposed Raceways: Install parallel or perpendicular to walls or structural members.

E. Changes in Direction of Runs:

1. Make with symmetrical bends or cast metal fittings.
2. Bends and offsets shall be made with a hickey or conduit bending machine.

3.14 CONDUCTORS

- A. Conduit system shall be complete prior to installing conductors.
- B. Lubricate prior to drawing into conduit. Lubrication type shall be as approved by conductor manufacturer.
- C. Connections: Pressure type solderless, complete with insulator and security ring.

3.15 BOXES

- A. Support to the structure, independent of conduit attachment.
- B. Boxes installed below grade shall be installed flush with finished grade.
- C. Boxes and covers in paved areas, roadways, or walkways shall be suitable for weights to which they may be subjected.
- D. Box Extensions: Not permitted.

3.16 COVER PLATES

- A. Shall fit tightly to box.
- B. Shall not extend beyond sides of box on surface mounted boxes, unless covers have no sharp corners or edges.

3.17 PROTECTION FOLLOWING INSTALLATION

- A. Protect materials and equipment from corrosion, physical damage, and the effects of moisture on insulation.
- B. Cap conduit runs during construction with manufactured seals.
- C. Close openings in boxes or equipment during construction.

3.18 FIELD QUALITY CONTROL

- A. Voltage Testing:
 - 1. When installation is complete and facility is in operation, check voltage at point of termination of electric utility supply system to project.
 - 2. Check voltage amplitude and balance between phases for loaded and unloaded conditions.
 - 3. Record supply voltage for 24 continuous hours.
 - 4. If unbalance exceeds 1 percent, or if voltage varies throughout the day and from loaded to unloaded conditions more than plus or minus

- 4 percent of nominal, make written request to electric utility to correct condition.
5. If corrections are not made, obtain written statement from a responsible electric utility official that voltage variations and/or unbalance are within their normal standards.
- B. Equipment Line Current:
1. Check line current in each phase for each piece of equipment.
 2. If electric utility makes adjustments to supply voltage magnitude or balance, make line current check after adjustments are made.
- C. Conductors:
1. Perform insulation resistance testing of all power and control circuits with a 500-volt megger.
 2. Prepare a written test report of the results and submit to the ENGINEER prior to final inspection.
 3. Minimum acceptable value for insulation resistance is 1 megohm.
 4. Disconnect equipment that might be damaged by this test. Perform tests with all other equipment connected to the circuit.
- D. Electrical Panel:
1. Perform operational tests.
 2. Verify proper operation of all systems, level set points, and alarm and shutdown functions for all modes of operation.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

PART 5

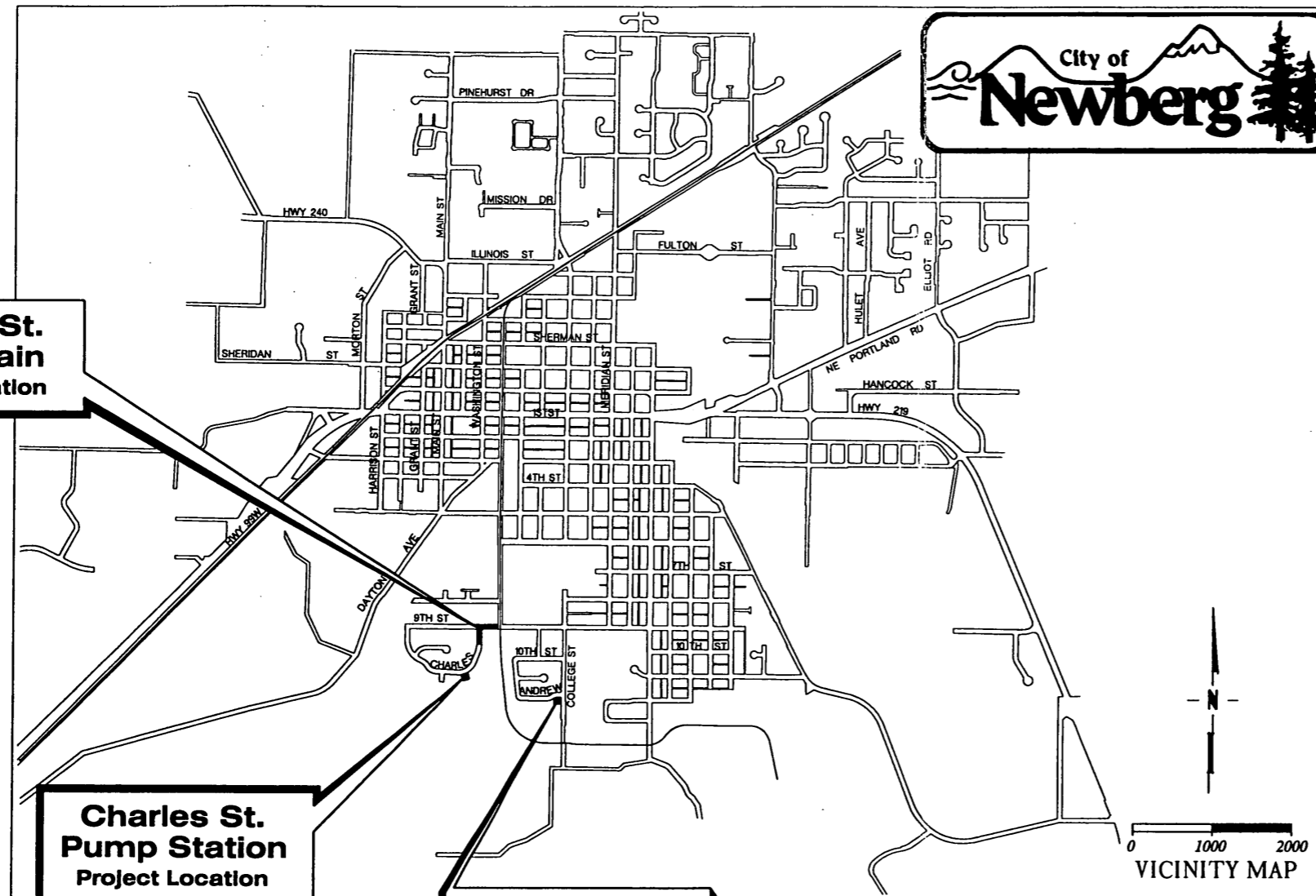
Drawings

The City of Newberg

SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

INDEX TO DRAWINGS

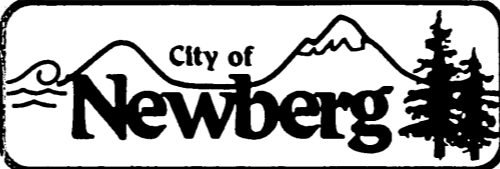
| SHEET NO. | TITLE |
|-----------|--|
| 1 | VICINITY MAP AND INDEX TO DRAWINGS |
| 2 | DESIGN DATA |
| 3 | EXISTING CHARLES STREET SITE PLAN AND SECTION |
| 4 | REVISED CHARLES STREET SITE PLAN |
| 5 | REVISED CHARLES STREET SECTION |
| 6 | CHARLES STREET OVERFLOW PIPE |
| 7 | CHARLES STREET FORCE MAIN EXTENSION |
| 8 | CHARLES STREET FORCE MAIN EXTENSION |
| 9 | CHARLES STREET ELECTRICAL ONE-LINE DIAGRAMS |
| 10 | CHARLES STREET ELECTRICAL ELEVATION AND NOTES |
| 11 | EXISTING ANDREW STREET SITE PLAN AND SECTION |
| 12 | REVISED ANDREW STREET SITE PLAN BELOW GRADE |
| 13 | REVISED ANDREW STREET SITE PLAN AT GRADE |
| 14 | REVISED ANDREW STREET SECTIONS |
| 15 | ANDREW STREET ELECTRICAL ONE-LINE AND CONTROL DIAGRAMS |
| 16 | ANDREW STREET ELECTRICAL ELEVATION AND NOTES |
| 17 | ELECTRICAL LEGEND, ABBREVIATIONS, DETAILS, AND NOTES |
| 18 | ELECTRICAL SCHEMATIC, CONTROL DIAGRAM, AND DETAILS |
| 19 | DETAILS |



**Charles St.
Force Main
Project Location**

**Charles St.
Pump Station
Project Location**

**Andrew St.
Pump Station
Project Location**



DESIGN BY:
**SOUTHWOOD
ENGINEERING
CORPORATION**
3381 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

DRAWN BY:
**NEW TECH
GRAPHICS**
510 3RD ST NW
CORVALLIS, OR
97330
NEW TECH
GRAPHICS (541) 753-9021

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CITY OF NEWBERG, OREGON
**SEWAGE PUMP STATIONS
IMPROVEMENTS AND
FORCE MAIN EXTENSION**

**VICINITY MAP
AND INDEX TO
DRAWINGS**

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RAW SEWAGE PUMP STATION DESIGN DATA

ANDREW STREET PUMP STATION

LOCATION: SOUTHWEST CORNER OF ANDREW AND COLLEGE STREETS

TYPE: DUPLEX SUBMERSIBLE

PUMP TYPE: CONSTANT SPEED NON-CLOG

CAPACITY: 150 GPM @ 43 FT. TDH.

PUMP HP: 7.5 HP EACH, 240 V, 3 PHASE

LEVEL CONTROL: FLYGT MULTITRODE

OVERFLOW POINT: OVERFLOWS FROM 6-INCH OVERFLOW PIPE IN WET PIT, THEN SOUTH 60 FEET INTO A CREEK.

OVERFLOW DISCHARGE: CHEHALEM CREEK/WILLAMETTE RIVER

AVERAGE TIME TO OVERFLOW: 0.5 HOURS @ 41 GPM AVG Q

AUXILIARY POWER TYPE: PORTABLE ENGINE GENERATOR

STORAGE LOCATION: WASTEWATER TREATMENT PLANT

OUTPUT: 40 KW

FUEL TANK CAPACITY: 90 GALLONS/24 HOURS

TRANSFER SWITCH: MANUAL

ALARM TELEMETRY TYPE: CONTROL MICRO SYSTEMS TELESAFE

ANDREW STREET FORCE MAIN

LENGTH, TYPE: 920 FEET, 4-INCH, AC

PROFILE: CONTINUOUSLY ASCENDING; THEN DROPS DOWN BEFORE ENTERING DISCHARGE MANHOLE

DISCHARGE: GRAVITY SEWER MANHOLE

AIR RELEASE VALVE: ONE

VACUUM RELEASE VALVE: NONE

AVERAGE DETENTION: 30 MIN @ AVG Q, 25 MIN @ ULT Q

SULFIDE CONTROL SYSTEM: NONE

CHARLES STREET PUMP STATION

LOCATION: SOUTH SIDE OF CHARLES STREET 700 FEET SOUTH OF THE INTERSECTION OF 9TH AND CHARLES STREETS

TYPE: DUPLEX SUBMERSIBLE

PUMP TYPE: CONSTANT SPEED NON-CLOG

CAPACITY: 150 GPM @ 43 FT. TDH.

PUMP HP: 7.5 HP EACH, 240 V, 3 PHASE

LEVEL CONTROL: FLYGT MULTITRODE

OVERFLOW POINT: OVERFLOWS FROM 6-INCH OVERFLOW PIPE IN MANHOLE IN FRONT OF PUMP STATION, THEN EAST 65 FEET TO A STORM SEWER, THEN SOUTH THROUGH STORM SEWER INTO A CREEK 200 FEET SOUTH OF THE PUMP STATION

OVERFLOW DISCHARGE: CHEHALEM CREEK/WILLAMETTE RIVER

AVERAGE TIME TO OVERFLOW: 4.4 HOURS @ 21 GPM AVG Q

AUXILIARY POWER TYPE: PORTABLE ENGINE GENERATOR

STORAGE LOCATION: WASTEWATER TREATMENT PLANT

OUTPUT: 40 KW

FUEL TANK CAPACITY: 90 GALLONS/24 HOURS

TRANSFER SWITCH: MANUAL

ALARM TELEMETRY TYPE: CONTROL MICRO SYSTEMS TELESAFE

CHARLES STREET FORCE MAIN

LENGTH, TYPE: 995 FEET, 4-INCH, AC

PROFILE: CONTINUOUSLY ASCENDING

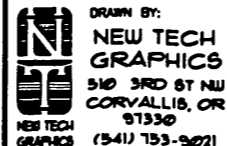
DISCHARGE: GRAVITY SEWER MANHOLE

AIR RELEASE VALVE: NONE

VACUUM RELEASE VALVE: NONE

AVERAGE DETENTION: 33 MIN @ AVG Q, 33 MIN @ ULT Q (DRAINAGE AREA IS AT BUILDOUT)

SULFIDE CONTROL SYSTEM: NONE

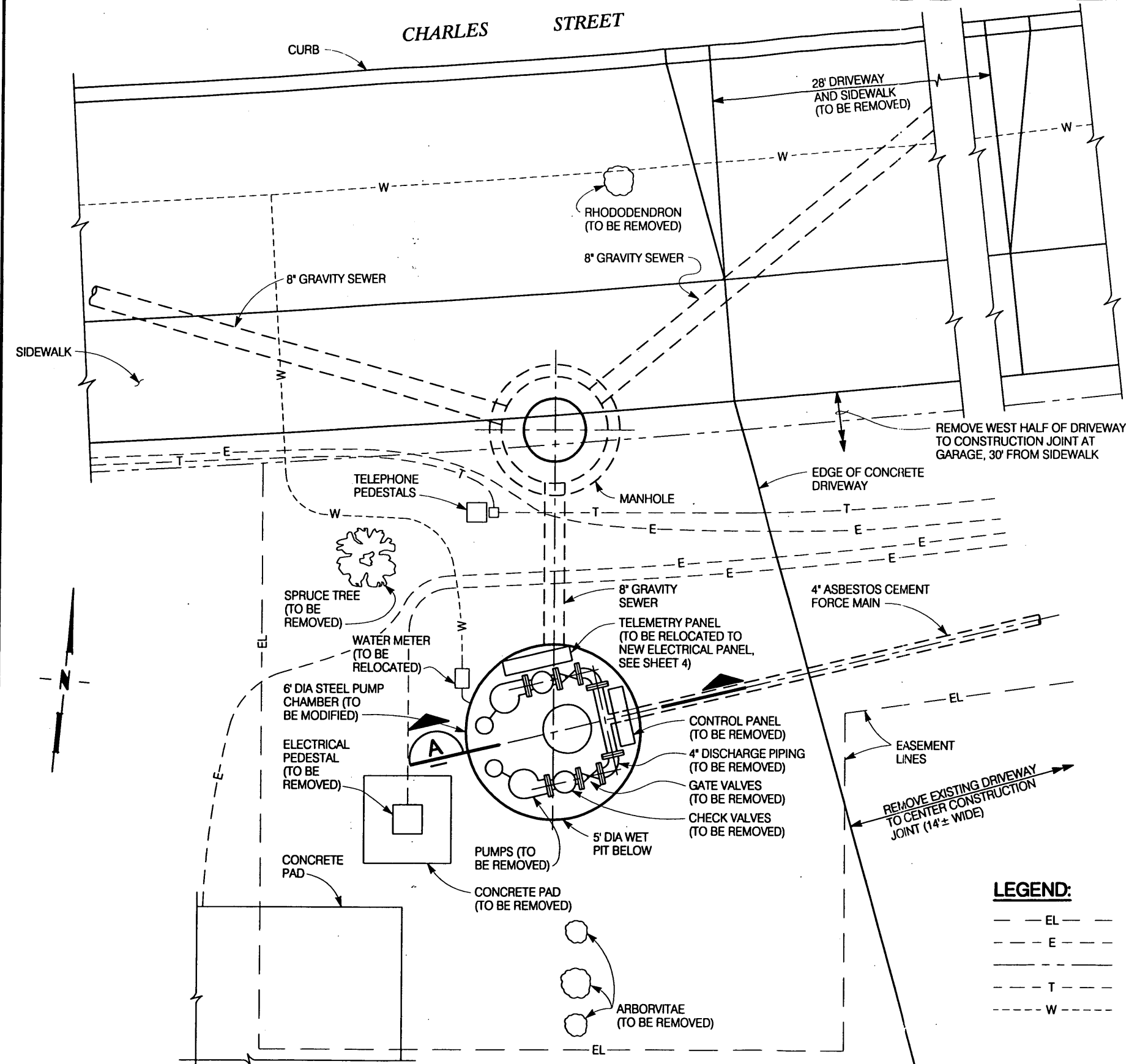


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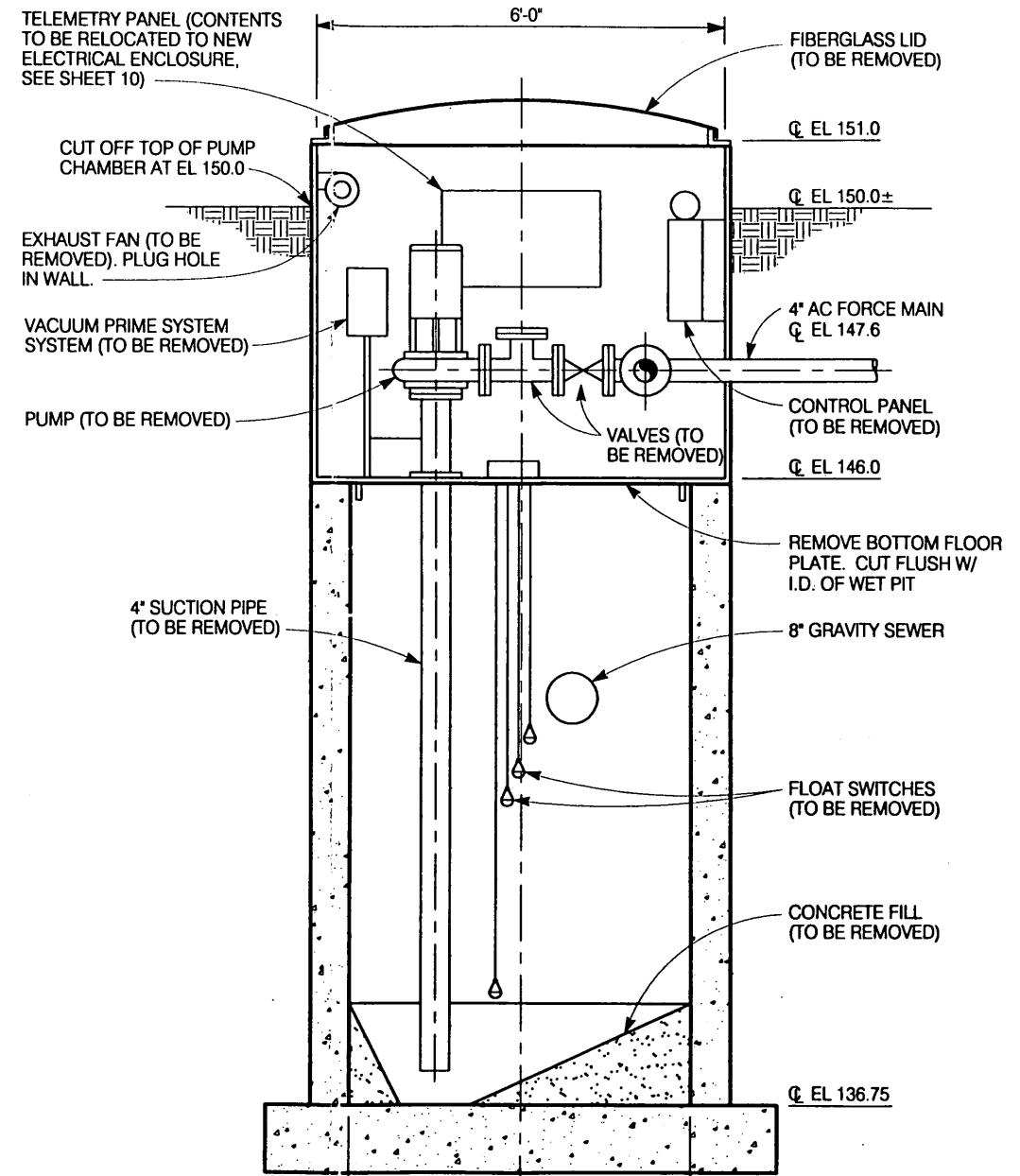
CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS
IMPROVEMENTS AND
FORCE MAIN EXTENSION

DESIGN DATA

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DATE
MAR 2000



EXISTING CHARLES STREET PUMP STATION SITE PLAN
SCALE: 1/4" = 1'-0"



SECTION A
SCALE: 3/8" = 1'-0"

- LEGEND:**
- EL --- EASEMENT LINE
 - E --- ELECTRICAL
 - P --- PROPERTY LINE
 - T --- TELEPHONE
 - W --- WATER



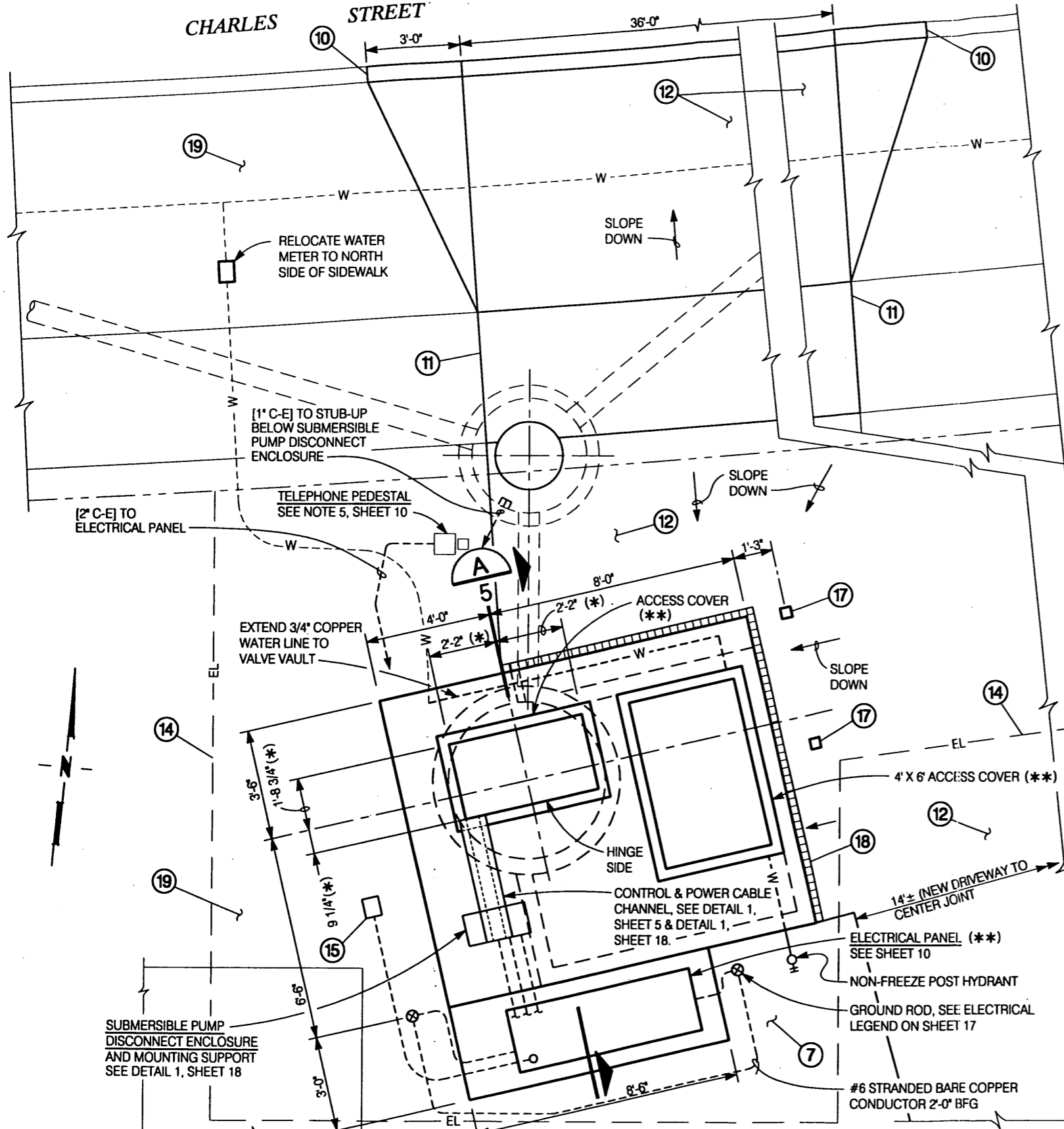
DESIGN BY:
SOUTHWOOD ENGINEERING CORPORATION
3381 SOUTHWOOD DR.
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(541) 929-2533

DRAWN BY:
NEW TECH GRAPHICS
510 3RD ST NW
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

EXISTING CHARLES STREET SITE PLAN AND SECTION



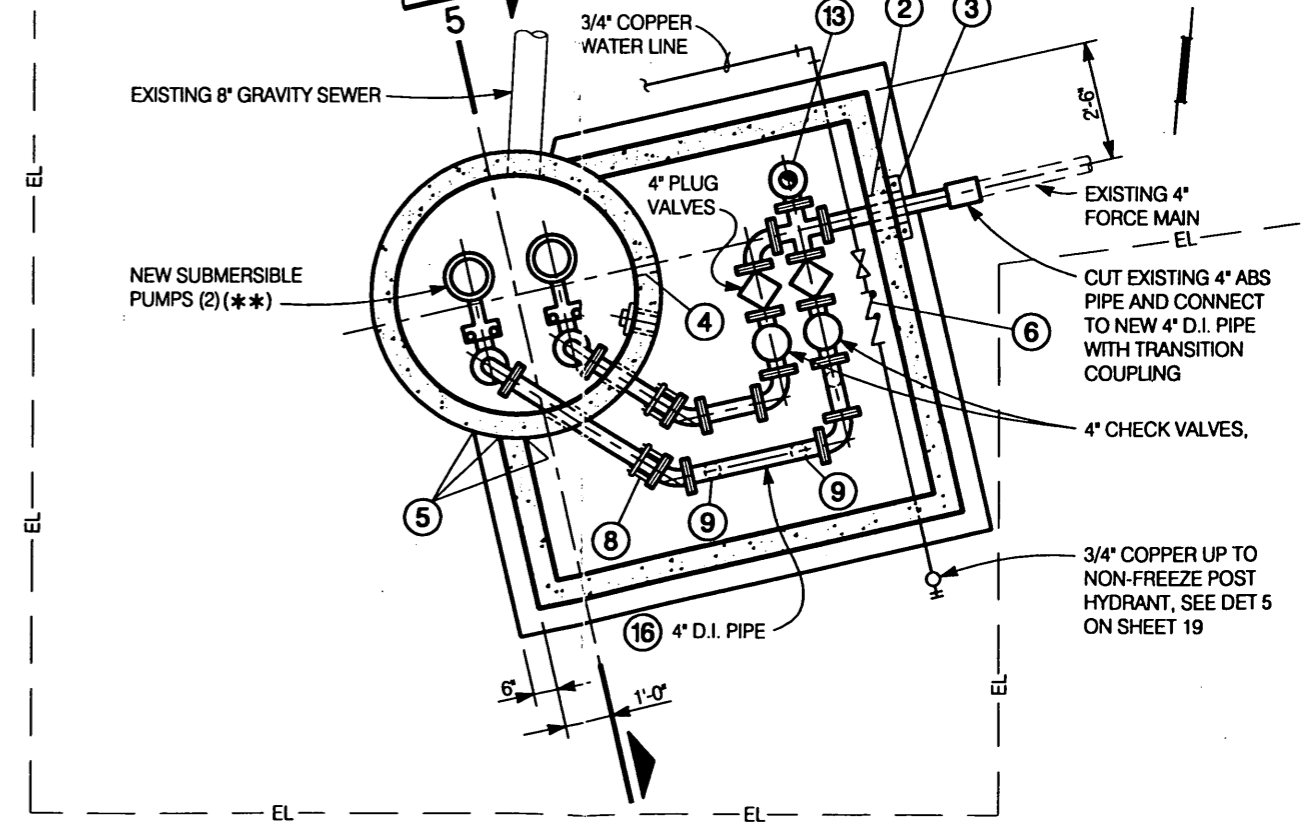
REVISED CHARLES STREET PUMP STATION SITE PLAN
SCALE: 1/4" = 1'-0"

NOTES:

- 1 REFER TO RECOMMENDED SEQUENCE OF CONSTRUCTION ON SHEET 5.
- 2 PROVIDE SLEEVE AROUND EXISTING FORCE MAIN IN VALVE VAULT WALL SO PIPE CAN BE REMOVED AND NEW PIPE INSTALLED WHEN EXISTING PUMP STATION IS TAKEN OUT OF SERVICE. GROUT VOID WITH NON SHRINK GROUT.
- 3 PROVIDE FRICTION CLAMPS ON NEW D.I. PIPE AGAINST WALL FOR THRUST PROTECTION.
- 4 PACK HOLE IN WALL WITH NON SHRINK GROUT AFTER EXISTING FORCE MAIN IS REMOVED.
- 5 PROVIDE POLYURETHANE SEALANT AT JOINT BETWEEN NEW CONCRETE AND EXISTING STRUCTURE.
- 6 RELOCATE EXISTING BACKFLOW PREVENTER FROM EXISTING PUMP STATION AND PROVIDE ISOLATION GATE VALVE. MOUNT ON WALL OF NEW VALVE VAULT AT EL 148.0.
- 7 PROVIDE TOP SOIL AND SEEDED LAWN AROUND EDGE OF CONCRETE SLABS.
- 8 PROVIDE FLANGED COUPLING ADAPTERS WITH THRUST PROTECTION.
- 9 PROVIDE PIPE SUPPORTS (SEE SHEET 19).
- 10 SAW CUT, REMOVE, AND REPLACE CURB FOR NEW DRIVEWAY.
- 11 SAW CUT EXISTING SIDEWALK AND REPLACE WITH 8" THICK CONCRETE SIDEWALK. SEE NOTE 12 FOR REINFORCING.
- 12 CONSTRUCT 8" THICK CONCRETE DRIVEWAY WITH #4 BARS AT 12" EACH WAY CENTERED IN SLAB. PROVIDE 1"-MINUS COMPACTED CRUSHED ROCK, 6" THICK BELOW DRIVEWAY.
- 13 PROVIDE 4" PLUG VALVE IN VERTICAL WITH 2" FIRE HOSE CONNECTION FOR EMERGENCY PUMPING.
- 14 CONTRACTORS WORK AREA SHALL BE RESTRICTED TO WITHIN THE EASEMENT LINES.
- 15 INSTALL ELECTRIC HANDHOLE. SEE NOTE 3 ON SHEET 9.
- 16 ALL PIPING SHALL BE BOLTED WITH SST BOLTS AND NUTS.
- 17 CONSTRUCT REMOVABLE BOLLARDS. SEE DETAIL 6 ON SHEET 19.
- 18 CONSTRUCT 3" GALVANIZED STEEL CHANNEL DRAIN ALONG EDGE OF VALVE VAULT. CONNECT DRAIN TO WET PIT. TOP OF CHANNEL GRATING, EL. 149.8.
- 19 PROVIDE THE FOLLOWING SHRUBS IN LOCATIONS AS DIRECTED BY ENGINEER: (10) ARBORVITAE (THUJA OCCIDENTALIS, EMERALD) 5 GAL CONTAINERS, 4'-5" TALL.
(1) FLOWERING PEAR (PRYUS CHANTICLEER), 6'-8" TALL. PROVIDE BARK MULCH 3 INCHES THICK IN ALL AREAS BEYOND CONCRETE AND WITHIN EASEMENT LINES.

LEGEND:

- (*) REFER TO LEGEND ON SHEET 3.
- (**) VERIFY DIMENSIONS WITH OWNER.
- DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.



PLAN BELOW TOP SLAB
SCALE: 1/4" = 1'-0"



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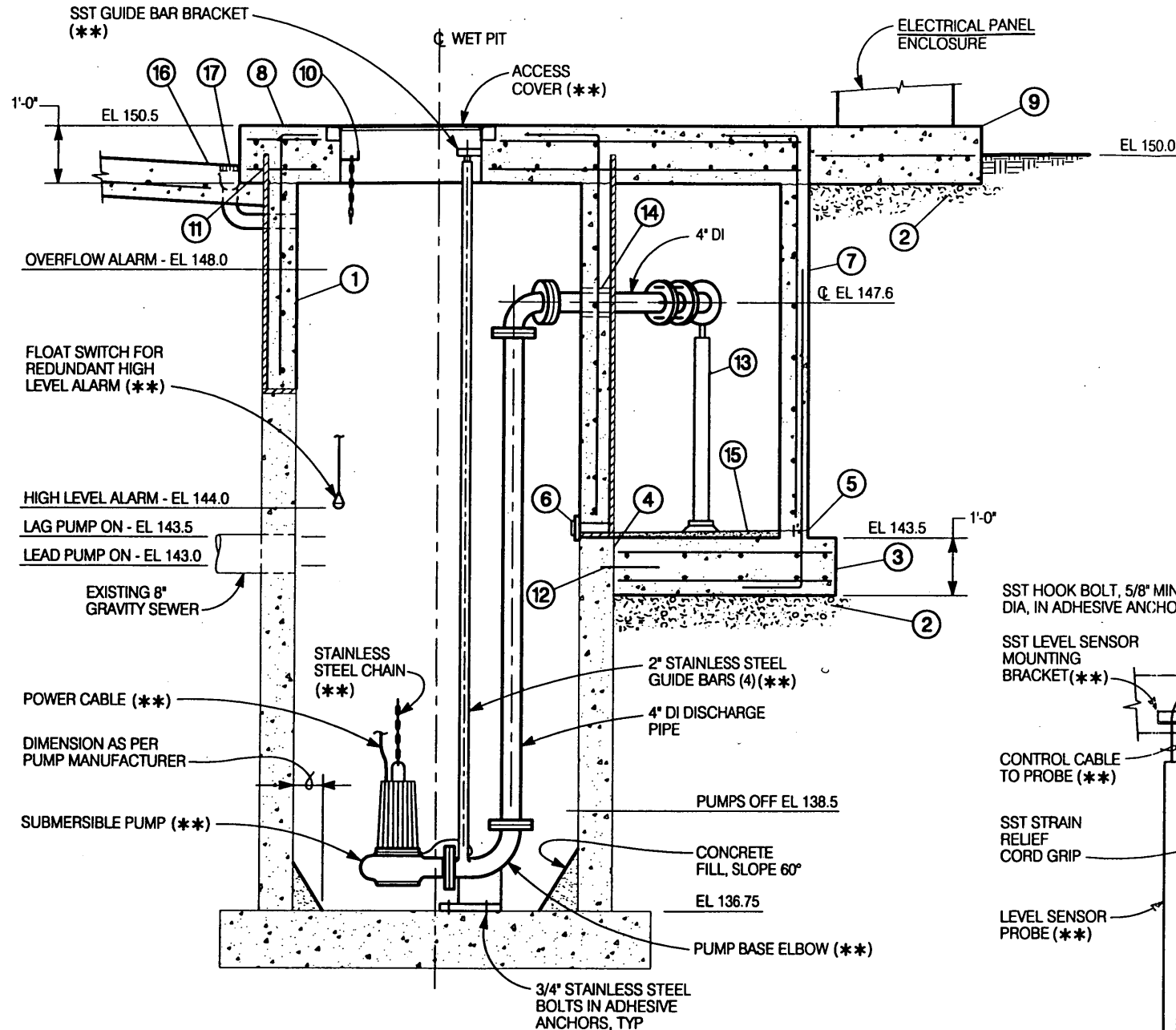
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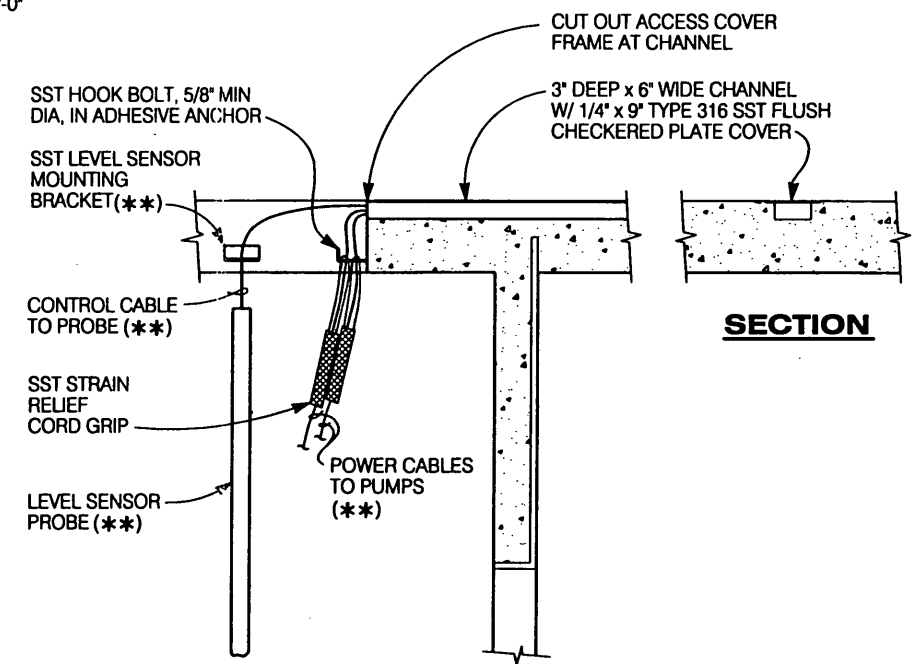
CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

REVISED CHARLES STREET SITE PLAN

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SECTION A
SCALE: 3/8" = 1'-0"
4



DETAIL 1
SCALE: 3/8" = 1'-0"
4, 13

RECOMMENDED SEQUENCE OF CONSTRUCTION

1. EXCAVATE AROUND FORCE MAIN AND CONSTRUCT BOTTOM SLAB AND WALLS OF VALVE VAULT.
2. PLUG OUTLET SEWER IN MANHOLE NORTH OF PUMP STATION. PUMP WASTEWATER FROM MANHOLE USING SEPTIC TANK TRUCK. CONTENTS OF TRUCK SHALL BE DISCHARGED INTO SANITARY SEWER MANHOLE AT 9TH AND BLAINE.
3. CUT EXISTING FORCE MAIN EAST OF PUMP STATION AND INSTALL NEW SECTION OF FORCE MAIN CONTAINING PLUG VALVES.
4. PROVIDE TEMPORARY DUPLEX SUBMERSIBLE PUMPS WITH LEVEL CONTROL SYSTEM IN MANHOLE NORTH OF PUMP STATION. EACH PUMP SHALL HAVE A CAPACITY OF 50 GPM @ 22 FOOT TDH. ONE PUMP SHALL BE REDUNDANT. CONNECT DISCHARGE PIPE TO NEW PIPE IN VALVE VAULT.
5. PERFORM MODIFICATIONS INSIDE EXISTING PUMP STATION. INSTALL NEW PUMPS AND PIPING IN WET PIT AND VALVE VAULT.
6. INSTALL NEW ELECTRICAL EQUIPMENT.
7. CONSTRUCT FORCE MAIN EXTENSION.
8. CONSTRUCT OVERFLOW PIPE.
9. START UP NEW PUMP STATION.

NOTES:

1. CONSTRUCT 6" CONCRETE WALL INSIDE EXISTING PUMP CHAMBER. PROVIDE #4 BARS EACH WAY CENTERED IN WALL. COAT NEW WALL AND EXISTING WET PIT WALLS AS SPECIFIED WITH 80 MILS MINIMUM RAVEN 405 AS MANUFACTURED BY RAVEN LINING SYSTEMS (1-800-324-2810). APPLY COATING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE 1" MINUS COMPACTED CRUSHED ROCK BACKFILL AROUND STRUCTURES AND UNDER SLABS, 6" MINIMUM.
3. CONSTRUCT 12" CONCRETE SLAB WITH #4 BARS AT 12" EACH WAY TOP AND BOTTOM, 2" CLEAR TOP AND 3" CLEAR BOTTOM.
4. THOROUGHLY CLEAN EXISTING WET PIT WALL PRIOR TO PLACING CONCRETE SLAB. PROVIDE POLYURETHANE SEALANT IN CORNER ALONG WALL OF WET PIT AFTER PLACING SLAB.
5. PROVIDE CONSTRUCTION JOINT WITH 6" GALV. STEEL WATER STOP.
6. INSTALL 2" DRAIN THROUGH WALL WITH FLAP GATE IN WET PIT.
7. CONSTRUCT 6" CONCRETE WALLS WITH #4 BARS AT 12" EACH WAY CENTERED IN WALL.
8. CONSTRUCT 12" CONCRETE TOP SLAB WITH #4 BARS AT 12" EACH WAY, TOP AND BOTTOM, 1.5" CLEAR.
9. CONSTRUCT 12" CONCRETE PAD WITH #4 BARS AT 12" EACH WAY CENTERED IN SLAB.
10. PROVIDE 3/8" STAINLESS STEEL "J" BOLTS IN ADHESIVE ANCHORS FOR CONNECTION OF CHAINS.
11. DRILL HOLES IN STEEL SHELL FOR REBAR. COAT REBAR WITH RUBBER TAPE AT HOLE TO AVOID CONTACT WITH STEEL SHELL.
12. PROVIDE 1/2" x 12" THREADED RODS IN ADHESIVE ANCHORS AT 12" SPACING.
13. PROVIDE PIPE SUPPORTS (SEE SHEET 19).
14. PROVIDE PIPE SLEEVE IN WALL AND MODULAR MECHANICAL SEAL WITH STAINLESS STEEL BOLTS AND NUTS.
15. GROUT BOTTOM OF VALVE VAULT AND SLOPE TO DRAIN. GROUT SHALL BE 3/4" THICK AT DRAIN AND 2" THICK ALONG RECTANGULAR WALLS OF VAULT.
16. SEE NOTE 12 ON SHEET 4.
17. SEE NOTE 18 ON SHEET 4.

LEGEND:

(**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

SST STAINLESS STEEL



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PHILOMATH, OR 97378
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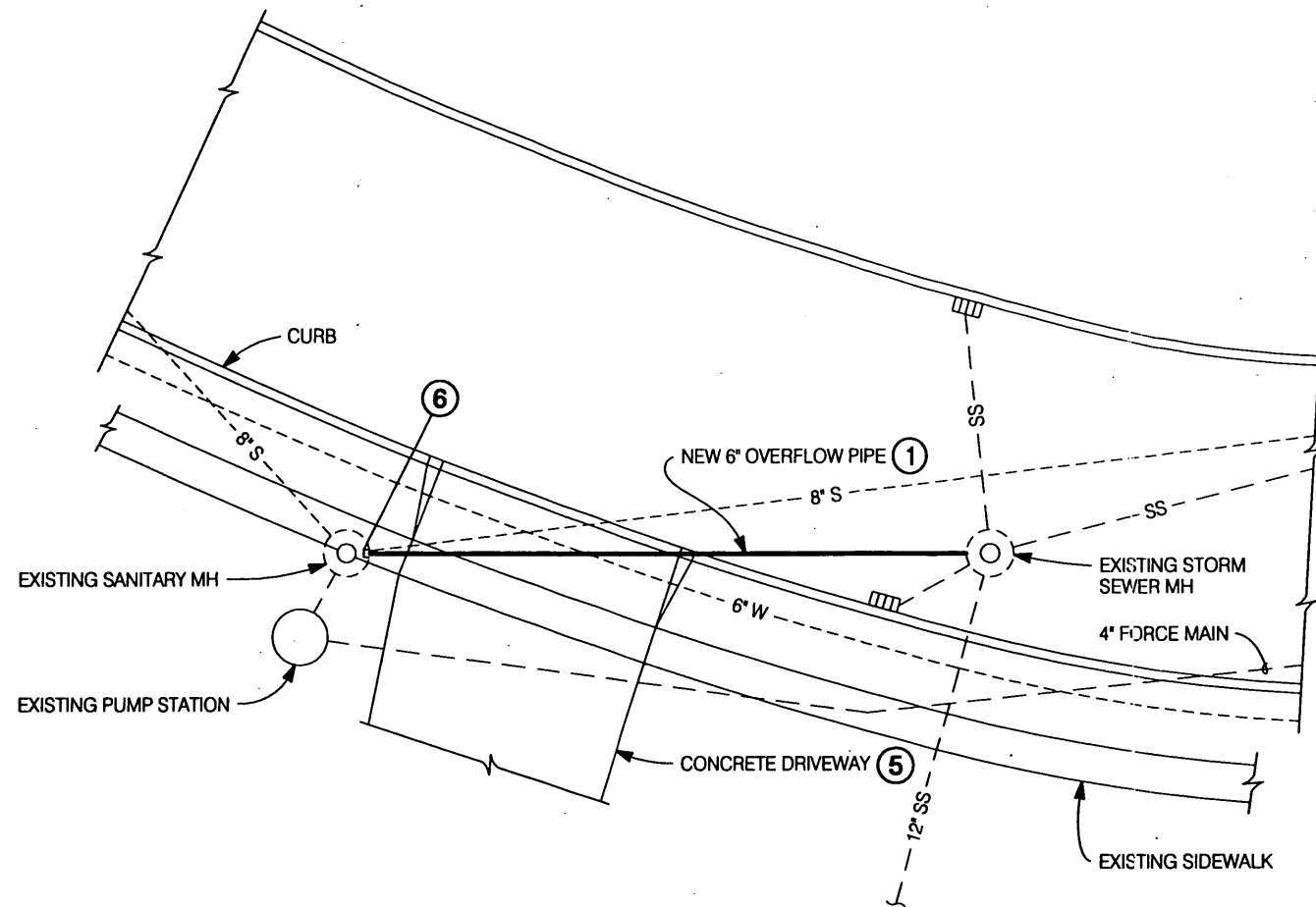
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

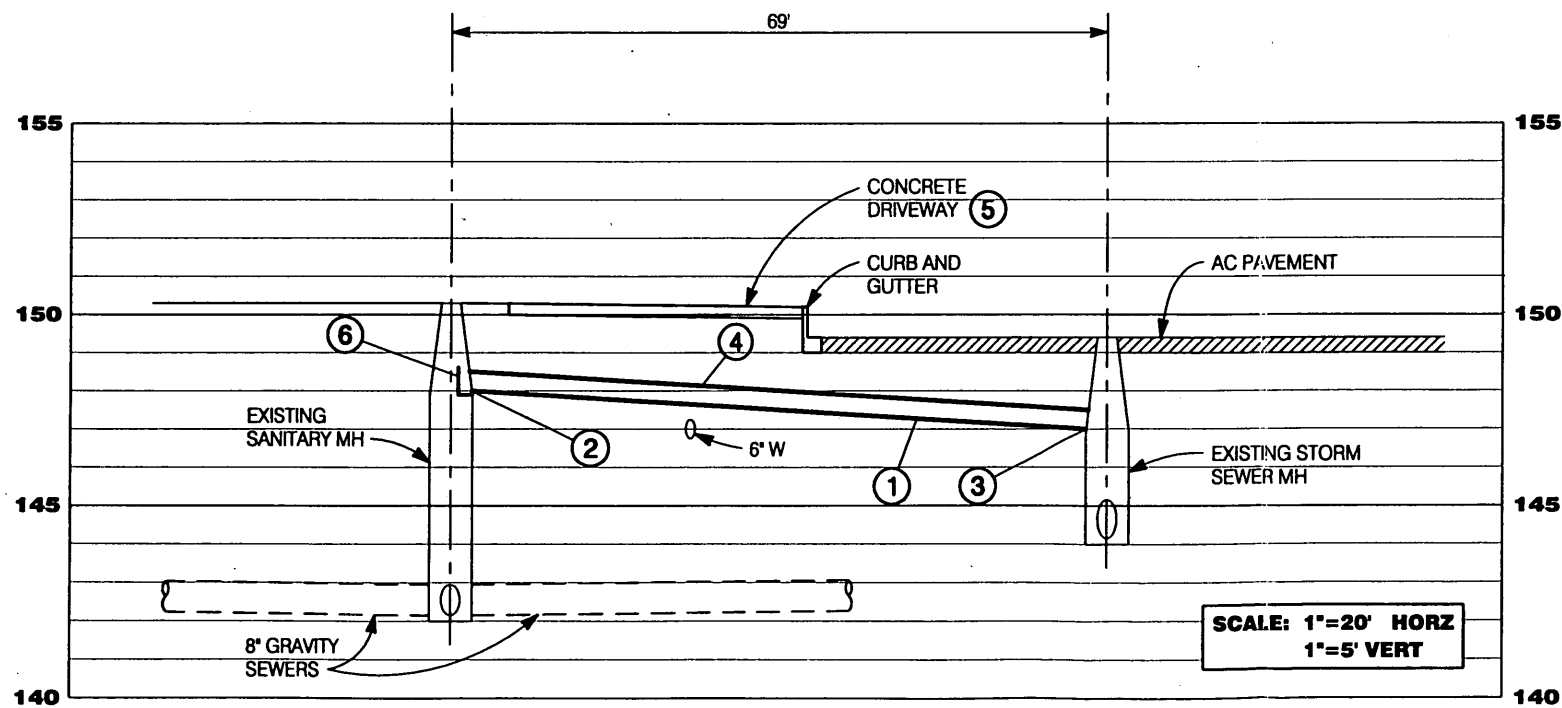
REVISED CHARLES STREET SECTION

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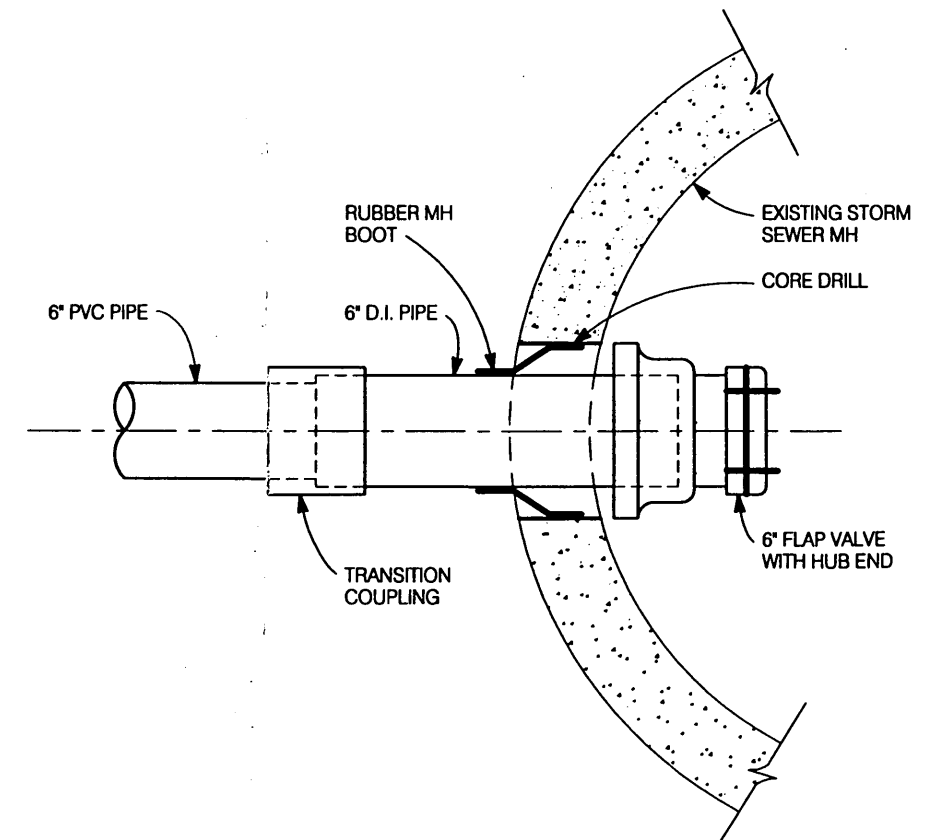


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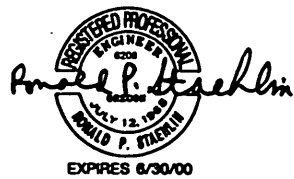
- ① CONSTRUCT 6" PVC OVERFLOW PIPE, TYPE C900. SEE SHEET 19 FOR TRENCH BACKFILL DETAIL.
- ② CORE DRILL EXISTING MANHOLE AND INSTALL 6" PIPE WITH RUBBER MANHOLE BOOT. PIPE INVT. EL. = 148.0.
- ③ CORE DRILL EXISTING MANHOLE AND INSTALL 6" PIPE WITH RUBBER MANHOLE BOOT. PIPE INVT. EL. = 147.0. INSTALL FLAP VALVE OVER END OF PIPE IN MANHOLE. SEE DETAIL 1 ON THIS SHEET.
- ④ INSTALL PIPE SO JOINTS ARE A MINIMUM OF 8 FEET FROM WATER LINE.
- ⑤ REPLACE DRIVEWAY WITH 8" THICK CONCRETE. SEE NOTE 12 ON SHEET 4.
- ⑥ PROVIDE OVERFLOW BOX AT OVERFLOW PIPE. SEE DETAIL 4 ON SHEET 19.





OVERFLOW PIPE PLAN AND PROFILE



DETAIL 1
SCALE: 1" = 1'-0"



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 3381 SOUTHWOOD DR.
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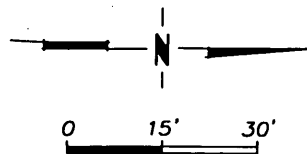
CITY OF NEWBERG, OREGON
**SEWAGE PUMP STATIONS
 IMPROVEMENTS AND
 FORCE MAIN EXTENSION**

**CHARLES STREET
 OVERFLOW PIPE**

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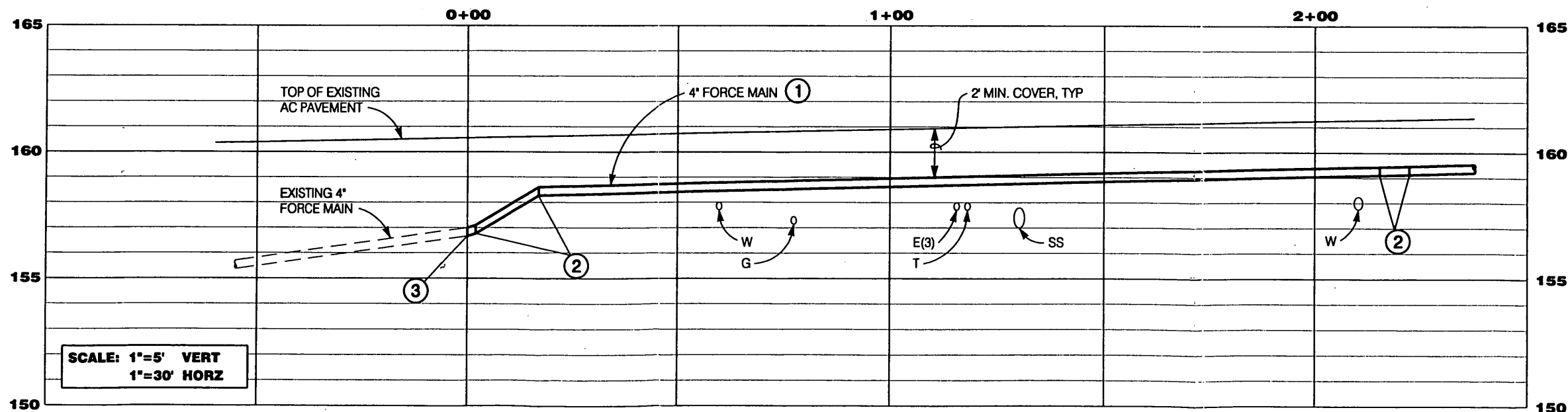
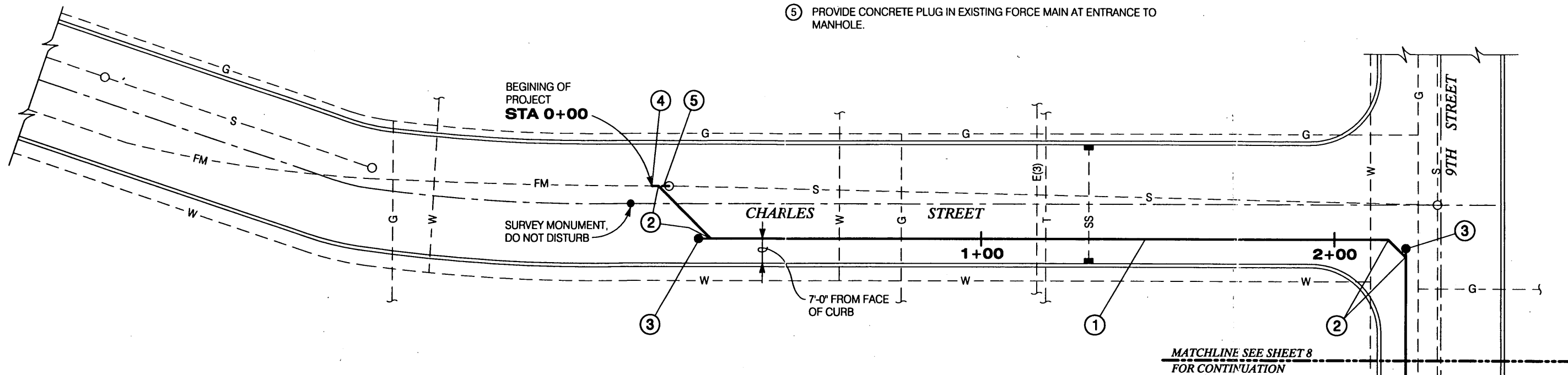
LEGEND:

- E ELECTRICAL
- FM FORCE MAIN
- G GAS
- S SANITARY SEWER
- SS STORM SEWER
- T TELEPHONE
- W WATER



NOTES:

- ① CONSTRUCT 4" SCHED 40 PVC FORCE MAIN. SEE SHEET 19 FOR TRENCH BACKFILL DETAIL. PROVIDE NO. 18 AWG TONE WIRE WITH GREEN COLORED INSULATION IN FORCE MAIN TRENCH.
- ② INSTALL 45° BEND.
- ③ INSTALL CLEANOUT.
- ④ CUT EXISTING 4" ASBESTOS CEMENT FORCE MAIN AND CONNECT TO NEW 4" FORCE MAIN. PROVIDE CONCRETE THRUST BLOCK AGAINST EXISTING MANHOLE.
- ⑤ PROVIDE CONCRETE PLUG IN EXISTING FORCE MAIN AT ENTRANCE TO MANHOLE.
- ⑥ ELEVATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL POT-HOLE UTILITIES 100 FEET AHEAD OF PIPE LAYING OPERATION SO CONFLICTS CAN BE RESOLVED.



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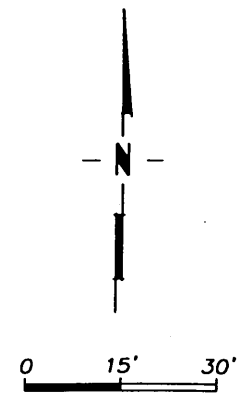
CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

CHARLES STREET FORCE MAIN EXTENSION

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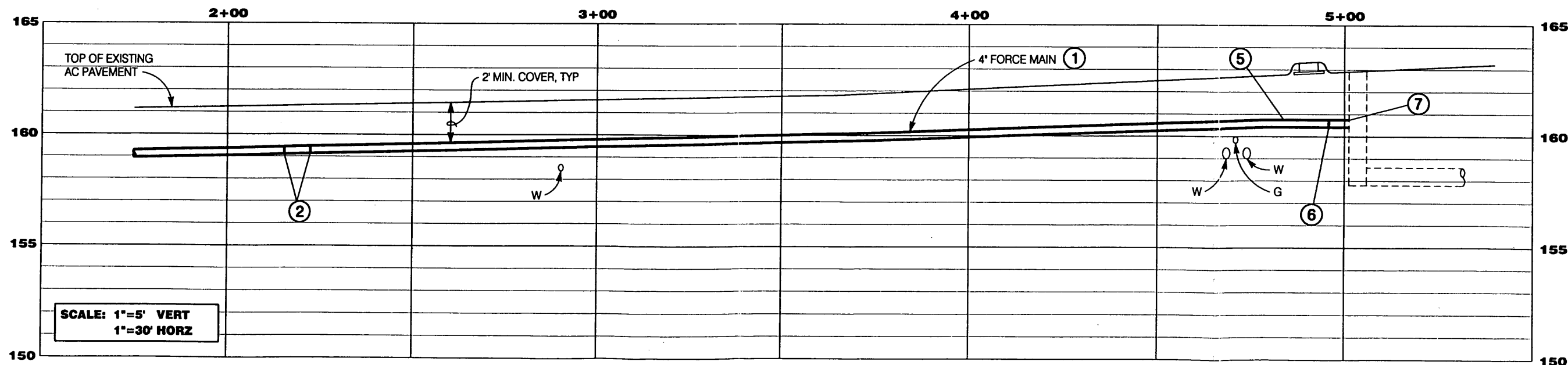
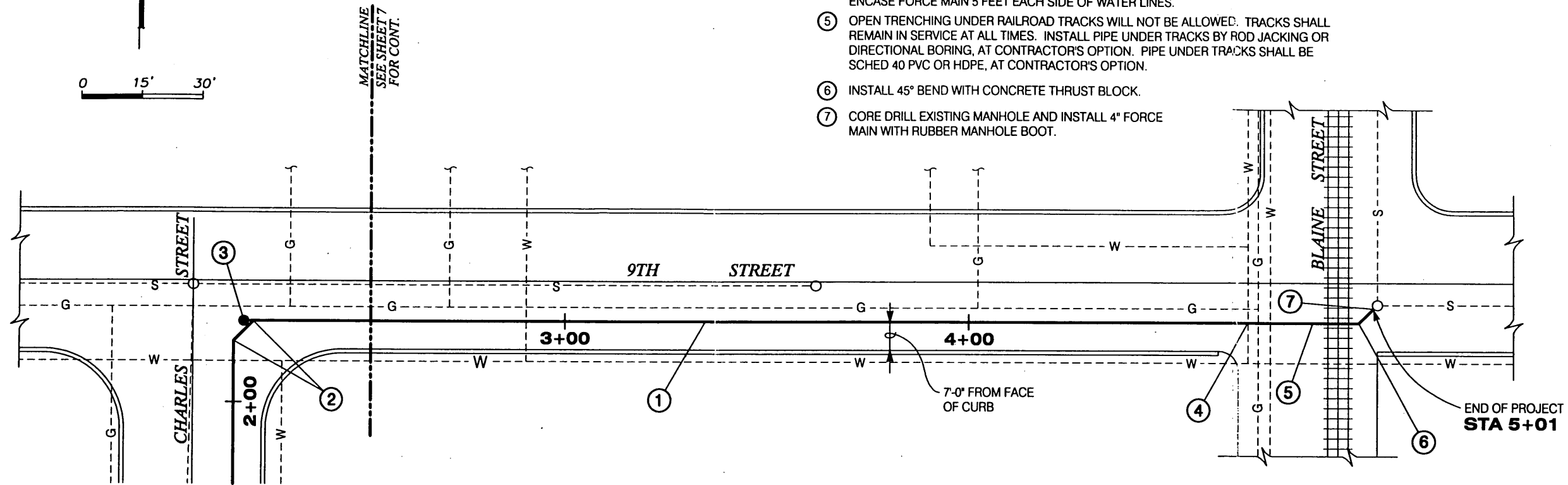
LEGEND:

- E ELECTRICAL
- FM FORCE MAIN
- G GAS
- S SANITARY SEWER
- SS STORM SEWER
- T TELEPHONE
- W WATER



NOTES:

- ① CONSTRUCT 4" SCHED 40 PVC FORCE MAIN. SEE SHEET 19 FOR TRENCH BACKFILL DETAIL.
- ② INSTALL 45° BEND.
- ③ INSTALL CLEANOUT.
- ④ POT HOLE EXISTING GAS AND WATER LINES PRIOR TO INSTALLING FORCE MAIN. CONCRETE ENCASE FORCE MAIN 5 FEET EACH SIDE OF WATER LINES.
- ⑤ OPEN TRENCHING UNDER RAILROAD TRACKS WILL NOT BE ALLOWED. TRACKS SHALL REMAIN IN SERVICE AT ALL TIMES. INSTALL PIPE UNDER TRACKS BY ROD JACKING OR DIRECTIONAL BORING, AT CONTRACTOR'S OPTION. PIPE UNDER TRACKS SHALL BE SCHED 40 PVC OR HDPE, AT CONTRACTOR'S OPTION.
- ⑥ INSTALL 45° BEND WITH CONCRETE THRUST BLOCK.
- ⑦ CORE DRILL EXISTING MANHOLE AND INSTALL 4" FORCE MAIN WITH RUBBER MANHOLE BOOT.



Ronald P. Staeblin
 REGISTERED PROFESSIONAL ENGINEER
 JULY 12, 1988
 WILLO P. STAEBLIN
 EXPIRES 6/30/00

DESIGN BY:

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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

CHARLES STREET FORCE MAIN EXTENSION

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8 of 19
 DATE
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COMPONENT CALLOUTS:

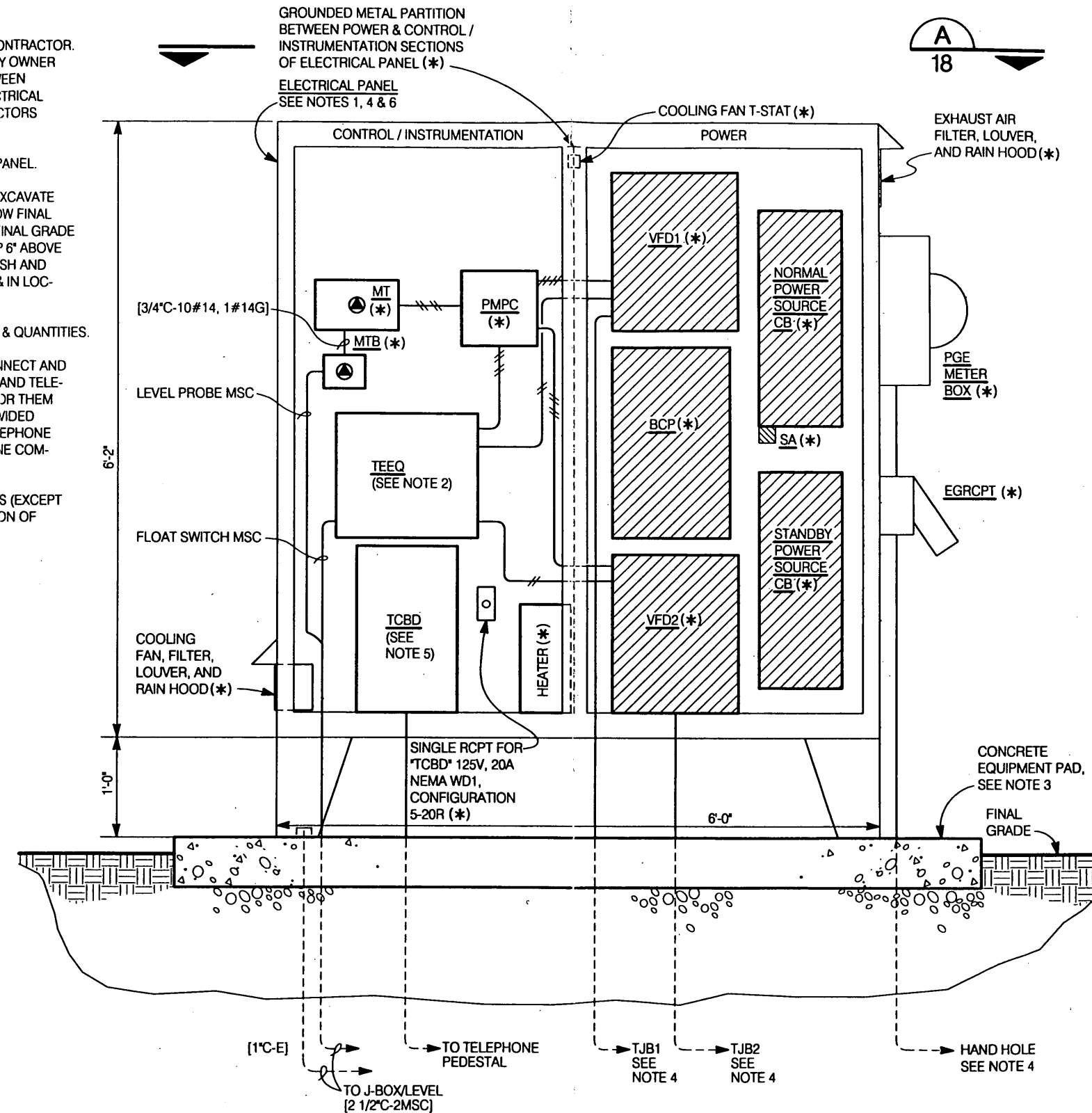
- SA: SECONDARY SURGE ARRESTER (*)
RATINGS: 175 VOLTS AC PHASE-TO-GROUND (MAX), SINGLE-PHASE
MANUFACTURER: SQUARE D CATALOG NO. SDSA1175
- EGRCP: STANDBY ENGINE GENERATOR RECEPTACLE (*)
RATINGS: 600 VOLTS, 200 AMPS, 2-WIRE, 3-POLE, REVERSE CONFIGURATION
HEAVY DUTY CIRCUIT BREAKING RECEPTACLE ASSEMBLY & HOUSING
DIMENSIONS (H,W,D): 11", 6", 10"
MANUFACTURER: CROUSE-HINDS ARKTITE CAT. NO. AREA203225
- CB: CIRCUIT BREAKER ("NORMAL" OR "STANDBY" POWER SOURCE) (*)
RATINGS: 240 VOLTS, 125 AMPS, SINGLE-PHASE (2-POLE) NEMA 12 ENCLOSURE
UL LISTED "SUITABLE FOR USE AS SERVICE EQUIPMENT"
KEY INTERLOCK (ONLY 1 OF THE 2 CB'S CAN BE CLOSED AT THE SAME TIME)
DIMENSIONS (H,W,D): 26", 10", 6"
MANUFACTURER: SQUARE D CATALOG NO. KA225AWK
- VFD1,2: VARIABLE FREQUENCY DRIVE (*)
RATINGS: 240 VOLTS, 75.0 AMPS, 3-PHASE
MOTOR OVERLOAD RELAY W/ EXTERIOR RESET, HEATERS, & NORMALLY-CLOSED AUXILIARY CONTACT
NEMA 12 ENCLOSURE
DIMENSIONS (H,W,D): 19", 15", 10"
MANUFACTURER: TOSHIBA MODEL NO. VT130G3U2160
- BCP: BRANCH CIRCUIT PANEL (*)
RATINGS: 240/120 VOLTS, 125 AMPS, SINGLE-PHASE, 3-WIRE
MAIN LUGS WITH BOLT-ON BRANCH CIRCUIT BREAKERS
20 SINGLE-POLE BRANCH CIRCUIT BREAKER SPACES
NEMA 1 ENCLOSURE
DIMENSIONS (H,W,D): 23", 14", 6"
MANUFACTURER: SQUARE D CAT. NO. NQB532 MODIFIED
- PMPC: PANEL MOUNTED PUMP CONTROL (*)
-TWO HAND-OFF-AUTO SELECTOR SWITCHES MOUNTED ON INNER PANEL;
ONE FOR PUMP NO. 1 AND ONE FOR PUMP NO. 2
-TWO PUSH-TO-TEST "PUMP ON" RED LED STATUS LIGHTS MOUNTED ON INNER PANEL;
ONE FOR PUMP NO. 1 AND ONE FOR PUMP NO. 2
-TWO CONTROL RELAYS DIN RAIL MOUNTED ON MOUNTING PANEL WITH 120 VOLT COILS AND 120 VOLT, 5 AMP CONTACTS
- MT: DUPLEX PUMP CONTROLLER (*)
DIMENSIONS (H,W,D): 6", 10", 8"
MANUFACTURER: FLYGT DUPLEX MULTITRODE MT2PC-3
- MTB: INTRINSICALLY SAFE BARRIER (*)
DIMENSIONS (H,W,D): 4", 5", 4"
MANUFACTURER: FLYGT MTISB
- TEEQ: TELEMETRY EQUIPMENT (EXST)
DIMENSIONS (H,W): 15", 17"
- TCBD: TELEPHONE COMPANY CONNECTION BOARD
3/4" EXTERIOR PLYWOOD PAINTED AS REQUIRED BY THE TELEPHONE COMPANY PRIOR TO INSTALLATION IN THE ELECTRICAL PANEL
DIMENSIONS (H,W): 20", 12"

NOTES:

1. ELECTRICAL PANEL TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. ALL CONDUIT AND CONDUCTORS BETWEEN COMPONENTS PROVIDED BY OWNER IN ELECTRICAL PANEL TO BE PROVIDED BY OWNER. ALL CONDUIT BETWEEN COMPONENTS PROVIDED BY OWNER AND WALLS AND BOTTOM OF ELECTRICAL PANEL TO BE PROVIDED BY OWNER. ALL OTHER CONDUIT AND CONDUCTORS INSIDE AND OUTSIDE PANEL SHALL BE PROVIDED BY CONTRACTOR.
2. MOVE FROM PUMP STATION TO LOCATION SHOWN IN THE ELECTRICAL PANEL.
3. PROVIDE A CONCRETE EQUIPMENT PAD FOR THE ELECTRICAL PANEL. EXCAVATE THE ENTIRE AREA BELOW THE EQUIPMENT PAD TO A DEPTH OF 18" BELOW FINAL GRADE. INSTALL CONDUITS IN TRENCH AND BACKFILL TO WITHIN 6" OF FINAL GRADE WITH COMPACTED GRANULAR FILL. FORM AND POUR PAD WITH THE TOP 6" ABOVE FINAL GRADE AND TROWEL TO A SMOOTH, FLAT LEVEL SURFACE. FURNISH AND INSTALL STAINLESS STEEL MOUNTING HARDWARE SIZED AS REQUIRED & IN LOCATION SPECIFIED BY THE PANEL SUPPLIER. SEE NOTE 9 ON SHEET 5.
4. SEE SHEET 9 FOR SERVICE AND FEEDER CONDUIT & CONDUCTOR SIZES & QUANTITIES.
5. CONTACT THE TELEPHONE COMPANY. SCHEDULE FOR THEM TO DISCONNECT AND REMOVE THE TELEPHONE CABLE BETWEEN THE TELEPHONE PEDESTAL AND TELEPHONE CONNECTION BOARD IN THE EXST PUMP STATION. SCHEDULE FOR THEM TO FURNISH, INSTALL, & CONNECT TELEPHONE CABLE IN CONDUIT PROVIDED UNDER THIS CONTRACT BETWEEN THE TELEPHONE PEDESTAL AND TELEPHONE BOARD CONNECTION IN THE ELECTRICAL PANEL. COSTS FOR TELEPHONE COMPANY WORK WILL BE BILLED DIRECTLY TO THE CITY OF NEWBERG.
6. THE ELECTRICAL PANEL AND ALL INTERIOR AND EXTERIOR COMPONENTS (EXCEPT FOR TEEQ AND TCBD) SHALL BE PROVIDED BY THE OWNER. INSTALLATION OF ELECTRICAL PANEL, TEEQ, AND TCBD SHALL BE PERFORMED BY CONTRACTOR.

LEGEND:

(*) DESIGNATES ITEMS TO BE FURNISHED AND INSTALLED IN ELECTRICAL PANEL BY OWNER.



**ELECTRICAL PANEL ELEVATION AND COMPONENT LAYOUT
ON MOUNTING PANEL BEHIND INNER PANEL**

SCALE: 3/4" = 1'-0"

(SEE DETAIL 2, SHEET 17)



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SOUTHWOOD ENGINEERING CORPORATION
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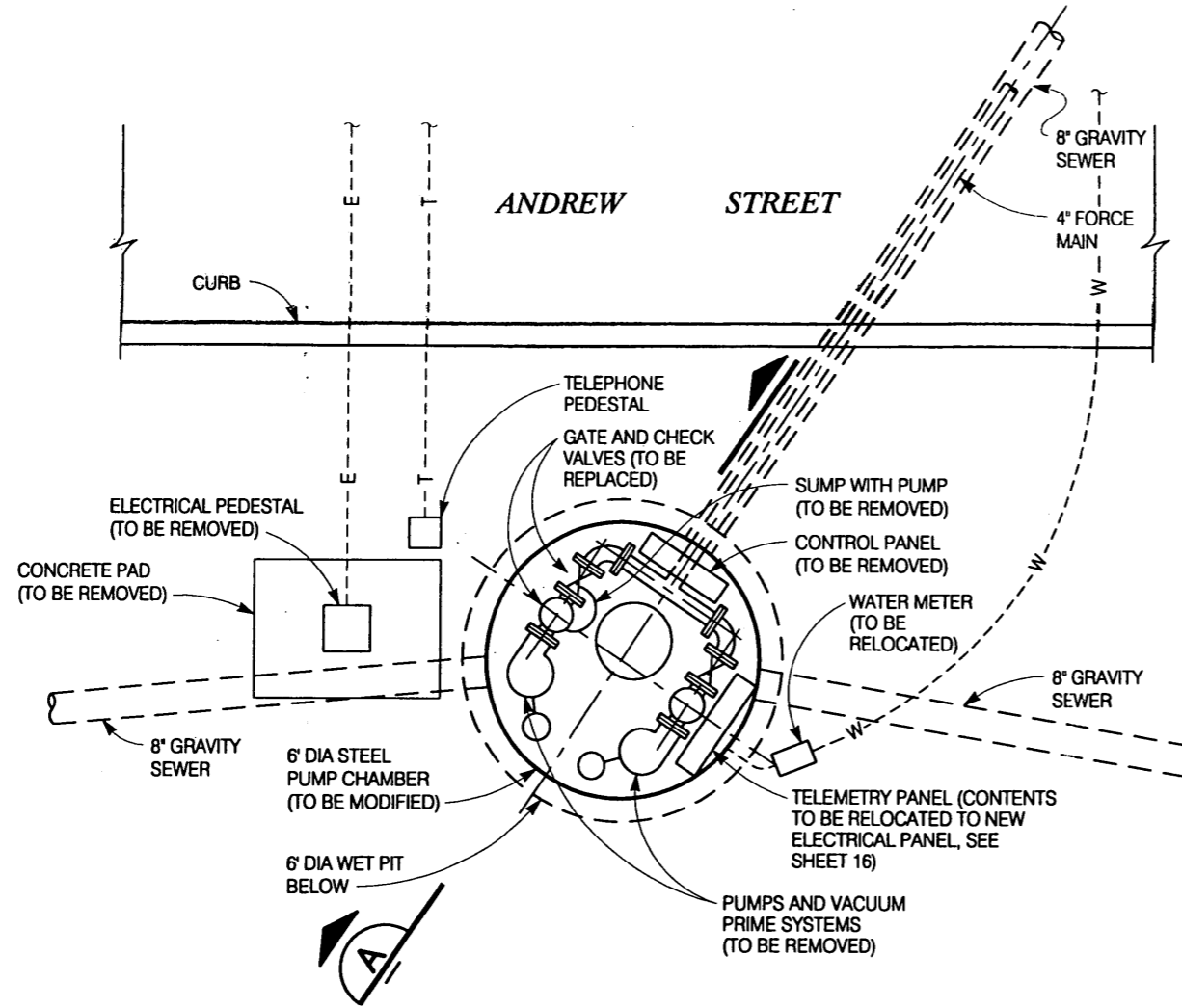
CITY OF NEWBERG, OREGON
**SEWAGE PUMP STATIONS
IMPROVEMENTS AND
FORCE MAIN EXTENSION**

**CHARLES STREET
ELECTRICAL
ELEVATION & NOTES**

SHEET
10 of 19
DATE
MAR 2000

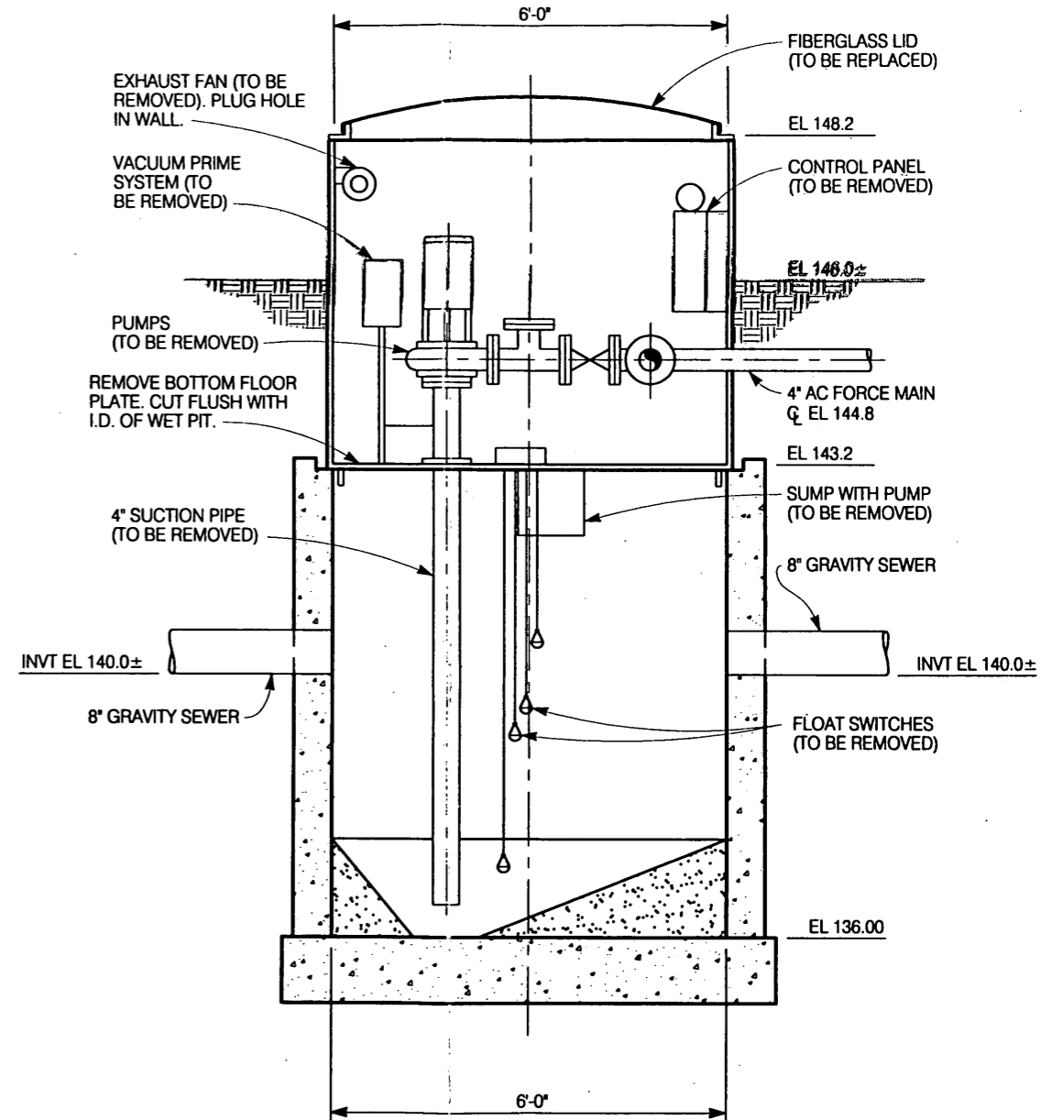
LEGEND:

- E --- ELECTRICAL
- T --- TELEPHONE
- W --- WATER



EXISTING ANDREW STREET PUMP STATION SITE PLAN

SCALE: 1/4" = 1'-0"




SECTION A

SCALE: 3/8" = 1'-0"



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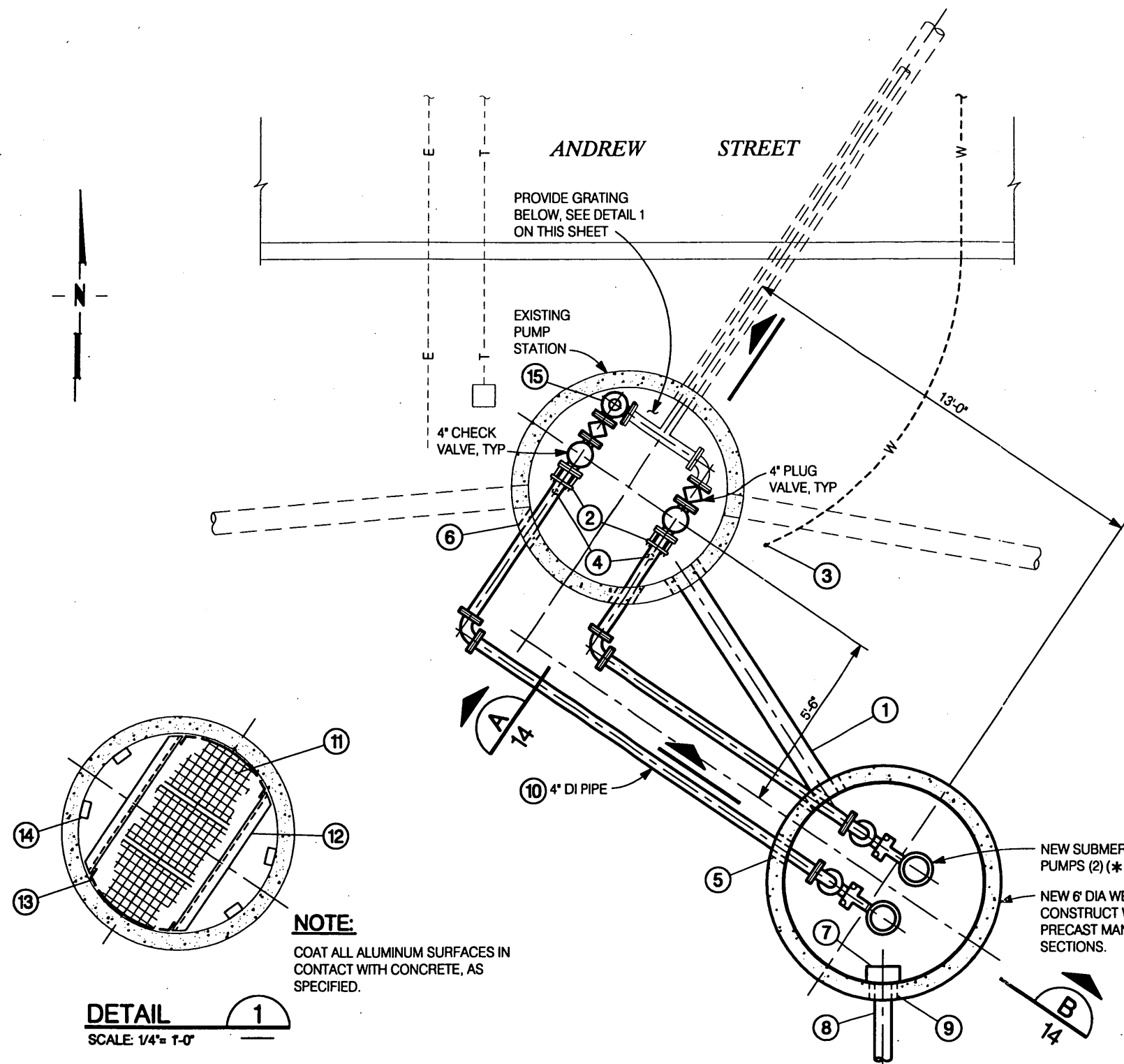
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

EXISTING ANDREW STREET SITE PLAN AND SECTION

SHEET
11 of 19
 DATE
MAR 2000



REVISED ANDREW STREET PUMP STATION SITE PLAN BELOW GRADE

SCALE: 1/4" = 1'-0"

NOTES:

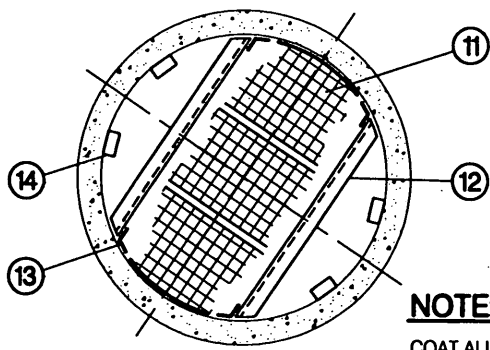
- ① INSTALL 8" PVC GRAVITY SEWER BETWEEN EXISTING WET PIT AND NEW WET PIT. CORE DRILL WET PIT WALLS AND INSTALL PIPE WITH RUBBER MANHOLE BOOTS. SET INVERT IN EXISTING WET PIT 0.2' BELOW LOWEST INVERT OF EXISTING GRAVITY SEWERS ENTERING WET PIT. SLOPE PIPE 0.004 FT/FT TO NEW WET PIT.
- ② PROVIDE FLANGED COUPLING ADAPTERS WITH THRUST PROTECTION. CONNECT TO NEW CHECK VALVES.
- ③ STUB UP 3/4" WATER LINE TO WATER METER AT NEW ELEVATION. RECONNECT WATER LINE TO EXISTING BACKFLOW PREVENTER IN EXISTING PUMP STATION.
- ④ PROVIDE PIPE SUPPORTS (SEE SHEET 19).
- ⑤ SEE NOTE 6 ON SHEET 14.
- ⑥ SEE NOTE 8 ON SHEET 14.
- ⑦ PROVIDE OVERFLOW BOX AT OVERFLOW PIPE. SEE DETAIL 4 ON SHEET 19.
- ⑧ CONSTRUCT 6" PVC OVERFLOW PIPE, TYPE D3034. BACKFILL TRENCH WITH EXCAVATED MATERIAL. EXTEND OVERFLOW PIPE 60' SOUTH TO CREEK. SLOPE AT 0.004 FT/FT. PROVIDE TOP SOIL AND SEEDED LAWN ABOVE TRENCH BACKFILL. PROVIDE FLAP VALVE ON END OF PIPE AT CREEK, SIMILAR TO DETAIL 1 ON SHEET 6.
- ⑨ CORE DRILL WET PIT AND INSTALL 6" PIPE WITH RUBBER MANHOLE BOOT. PIPE INVT EL. = 141.5.
- ⑩ ALL PIPING SHALL BE BOLTED WITH SST BOLTS AND NUTS.
- ⑪ FIBERGLASS GRATING. PROVIDE 3-2'± WIDE SECTIONS, 1/4" CLEAR AT WALL.
- ⑫ ALUMINUM CHANNELS 6" C 4.03, CENTER UNDER PIPING.
- ⑬ 1/4" ALUMINUM BENT PLATES 3' x 3 1/2" x 6". CONNECT TO WALL WITH 2-5/8" DIA. SST BOLTS IN ADHESIVE ANCHORS. CONNECT TO CHANNEL WITH 2-5/8" SST BOLTS.
- ⑭ ALUMINUM ANGLES 3 x 3 x 1/4 x 6" LONG. CONNECT TO WALL WITH 2-5/8" DIA. SST BOLTS IN ADHESIVE ANCHORS. CENTER ANGLES ON GRATING JOINTS.
- ⑮ REPLACE EXISTING 90° BEND WITH SIDE OUTLET 90° BEND, 4" PLUG VALVE IN VERTICAL, AND 2" FIRE HOSE CONNECTION FOR EMERGENCY PUMPING.

RECOMMENDED SEQUENCE OF CONSTRUCTION

1. CONSTRUCT WET PIT FOR NEW PUMP STATION.
2. INSTALL 8" GRAVITY SEWER BETWEEN EXISTING AND NEW WET PITS.
3. INSTALL NEW PUMPS.
4. INSTALL ELECTRICAL EQUIPMENT.
5. REMOVE ONE OF THE EXISTING PUMPS WHILE THE OTHER REMAINS IN SERVICE.
6. SHUT OFF SECOND EXISTING PUMP AND PUMP CONTENTS OF WET PIT WITH SEPTIC TANK TRUCK WHILE REPLACING GATE AND CHECK VALVES IN LINE WHERE FIRST PUMP WAS REMOVED. CONTENTS OF TRUCK SHALL BE DISCHARGED INTO SANITARY SEWER MANHOLE AT 9TH AND COLLEGE. RESTART SECOND PUMP.
7. PROVIDE TEMPORARY DUPLEX SUBMERSIBLE PUMPS IN THE EXISTING WET PIT. EACH PUMP SHALL HAVE A CAPACITY OF 75 GPM @ 26 FOOT TDH. CONNECT DISCHARGE TO PIPE IN PUMP STATION WHERE EXISTING PUMP WAS REMOVED. PROVIDE TEMPORARY POWER SERVICE FOR TEMPORARY PUMPS. COORDINATE WITH PGE. CONTRACTOR SHALL PAY ALL COSTS TO SET UP TEMPORARY POWER. OWNER WILL PAY COST OF POWER FOR TEMPORARY PUMPS.
8. CONNECT POWER SUPPLY TO NEW ELECTRICAL EQUIPMENT.
9. REMOVE SECOND EXISTING PUMP AND VALVES AND CONNECT PIPING FROM NEW PUMP TO PIPE IN EXISTING PUMP STATION WHERE EXISTING PUMP WAS REMOVED. TEMPORARILY PUMP CONTENTS OF WET PIT INTO SEPTIC TANK TRUCK WHILE REPLACING GATE AND CHECK VALVES WHERE SECOND PUMP WAS REMOVED.
10. START UP FIRST NEW PUMP.
11. REMOVE TEMPORARY PUMPS AND CONNECT PIPING FROM SECOND NEW PUMP TO PIPING IN EXISTING PUMP STATION.
12. START UP SECOND NEW PUMP.
13. TEMPORARILY PLUG 8" GRAVITY SEWERS IN 3 MANHOLES UPSTREAM FROM PUMP STATION.
14. PUMP OUT EXISTING WET PIT AND UPSTREAM MANHOLES USING SEPTIC TANK TRUCK.
15. FILL IN EXISTING WET PIT UP TO INVERT OF GRAVITY SEWERS.
16. REMOVE PLUGS IN UPSTREAM MANHOLES.

LEGEND:

(**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.



NOTE:

COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE, AS SPECIFIED.

DETAIL 1
SCALE: 1/4" = 1'-0"



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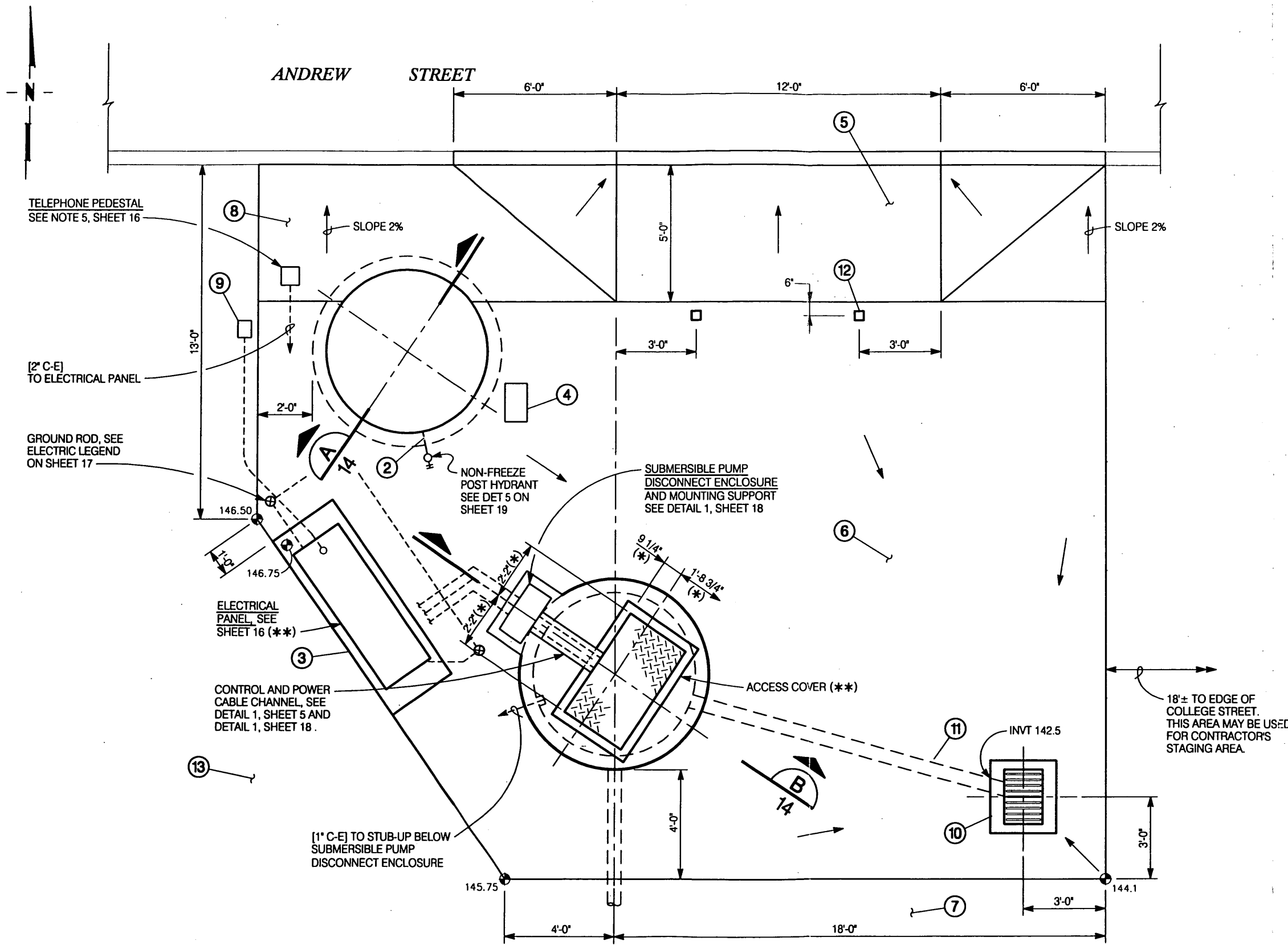
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

REVISED ANDREW STREET SITE PLAN BELOW GRADE

SHEET
12 of 19
DATE
MAR 2000



NOTES:

- ① REFER TO RECOMMENDED SEQUENCE OF CONSTRUCTION ON SHEET 12.
- ② EXTEND 3/4" COPPER WATER LINE FROM EXISTING BACKFLOW PREVENTER THROUGH WALL TO NON-FREEZE POST HYDRANT.
- ③ CONSTRUCT 12" CONCRETE PAD WITH #4 BARS AT 12" EACH WAY CTR'D IN PAD. EXTEND 3" MINIMUM ABOVE CONCRETE PAVEMENT.
- ④ RAISE EXISTING WATER METER AND BOX. BOX SHALL BE FLUSH WITH CONCRETE PAVEMENT. EXTEND 3/4" WATER LINE TO BACKFLOW PREVENTER.
- ⑤ CONSTRUCT 8" THICK CONCRETE DRIVEWAY APRON WITH #4 BARS @ 12" EACH WAY CENTERED IN SLAB. SAW CUT, REMOVE, AND REPLACE EXISTING CURB.
- ⑥ CONSTRUCT 8" THICK CONCRETE PAVEMENT WITH #4 BARS @ 12" EACH WAY CENTERED IN SLAB. PROVIDE 12" MINIMUM OF 1" MINUS CRUSHED ROCK BASE, COMPACTED TO 90 PERCENT RELATIVE DENSITY BELOW CONCRETE.
- ⑦ PROVIDE TOP SOIL AND SEEDED LAWN AROUND EDGE OF CONCRETE PAVEMENT.
- ⑧ CONSTRUCT 8" THICK CONCRETE SIDEWALK.
- ⑨ CONSTRUCT ELECTRIC HANDHOLE. SEE NOTE 3 ON SHEET 15.
- ⑩ CONSTRUCT RECTANGULAR CATCH BASIN, RIM EL 144.0, BOTTOM EL 141.0. PROVIDE INLAND FOUNDRY REVERSIBLE FRAME AND GRATE STYLE C-2, OR EQUAL.
- ⑪ CONSTRUCT 6" PVC STORM DRAIN. SLOPE 0.009 FT/FT. CORE DRILL WET PIT AND INSTALL PIPE WITH RUBBER MANHOLE BOOT.
- ⑫ CONSTRUCT REMOVABLE BOLLARDS. SEE DETAIL 6 ON SHEET 19.
- ⑬ PROVIDE THE FOLLOWING TREES AND SHRUBS IN LOCATIONS AS DIRECTED BY THE ENGINEER:

- (3) DOUGLAS FIR TREE (PSEUDOTSUGA MENZIESII), 6-8' TALL.
- (3) WESTERN RED CEDAR TREE (THUJA PLICATA), 6-8' TALL.
- (3) INCENSE CEDAR TREE (CALOEDRUS DECURRENS), 6-8' TALL.
- (3) REDOSIER DOGWOOD SHRUB (CORNUS SERICEA), 5 GAL
- (9) RED FLOWERING CURRENT (RIBES SANGUINEUM), 1 GAL
- (6) SNOWBERRY (SYMPHORICARPOS ALBUS), 1 GAL
- (9) OREGON GRAPE (MAHONIA AQUIFOLIUM), 1 GAL

LEGEND:

- (*) VERIFY DIMENSIONS WITH OWNER.
- (**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

SITE PLAN AT GRADE
SCALE: 1/4" = 1'-0"



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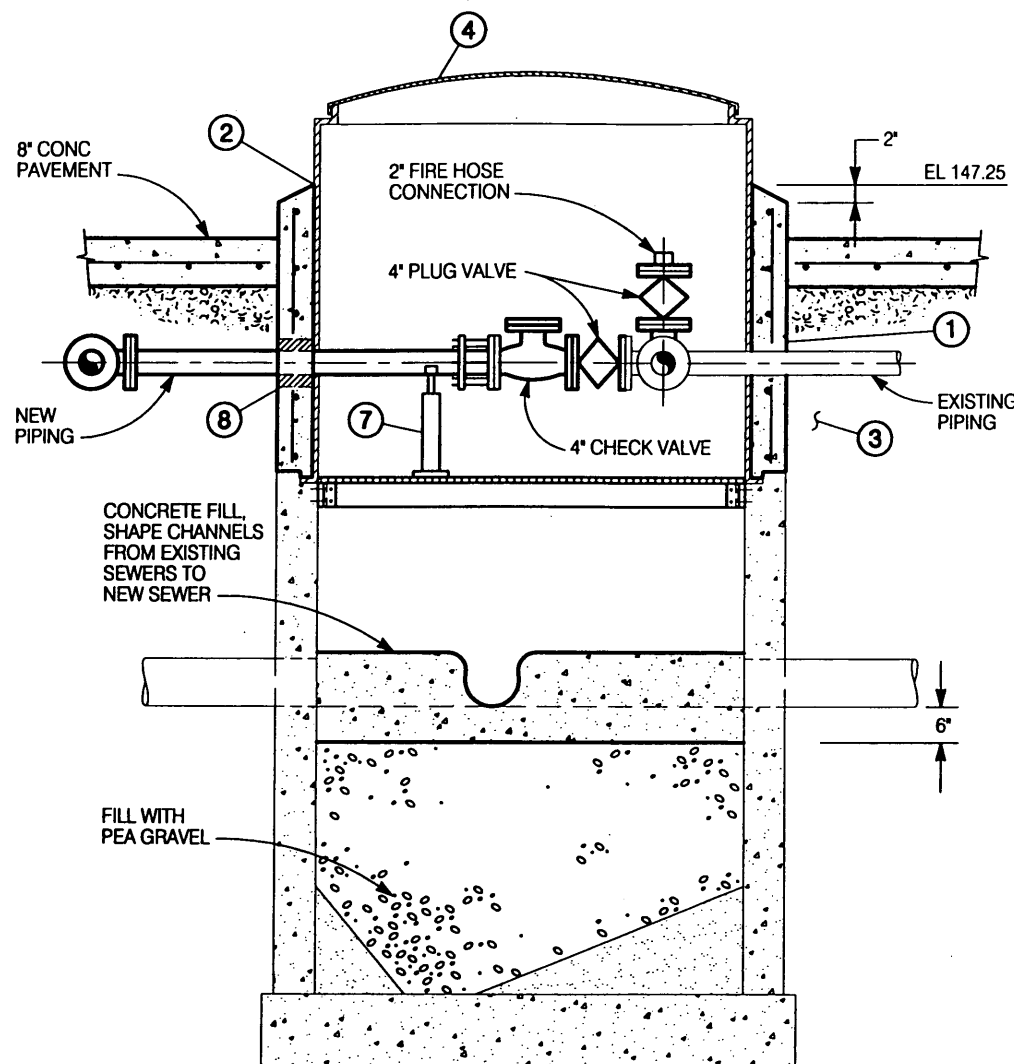
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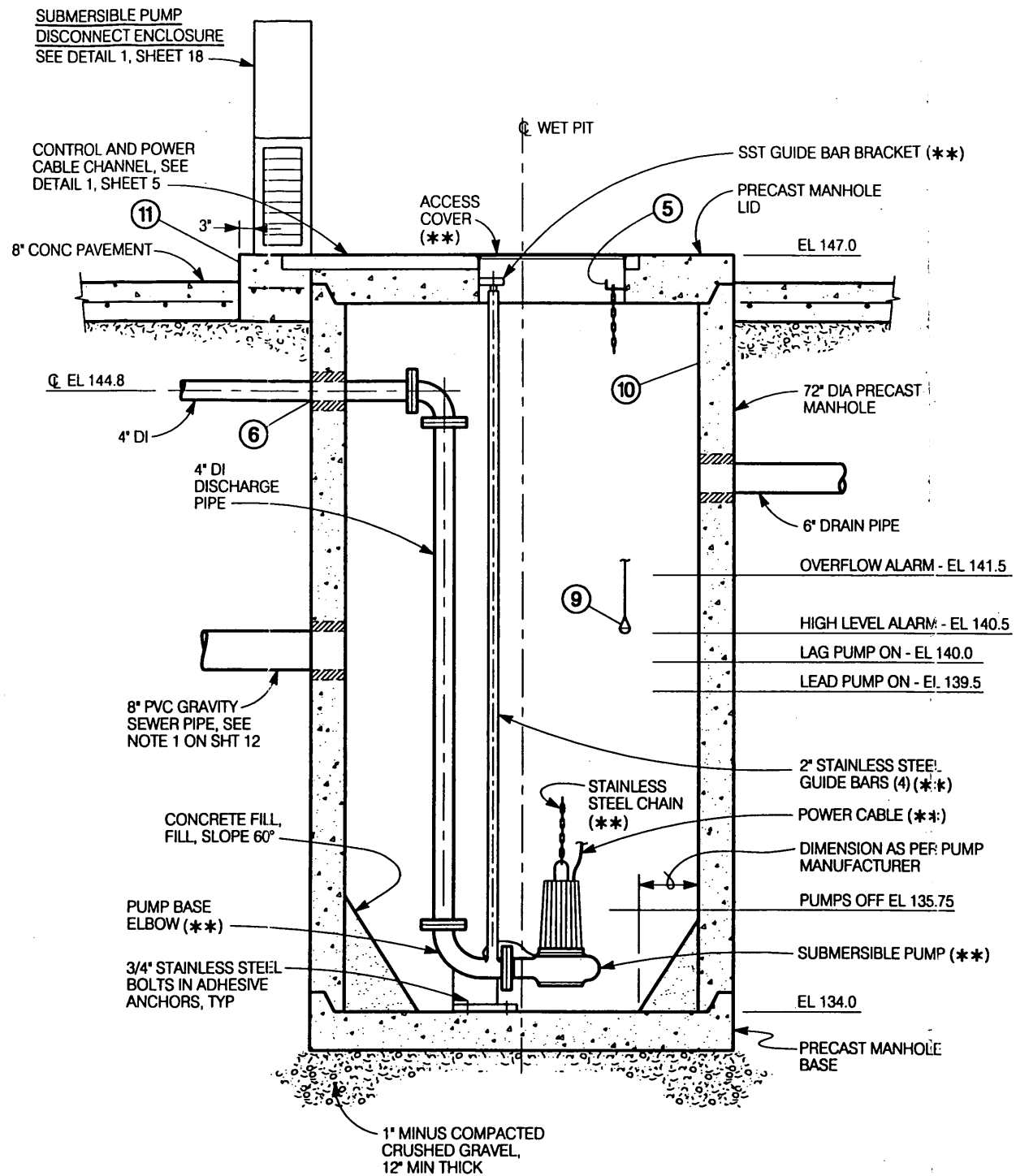
CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

REVISED ANDREW STREET SITE PLAN AT GRADE

SHEET
13 of 19
DATE
MAR 2000



SECTION A
SCALE: 3/8" = 1'-0"
12, 13



SECTION B
SCALE: 3/8" = 1'-0"
12, 13

NOTES:

- ① CONSTRUCT 6" CONCRETE WALL AROUND EXISTING STEEL SHELL. PROVIDE #4 BARS AT 12" EACH WAY IN CENTER OF WALL. THOROUGHLY CLEAN STEEL BEFORE PLACING CONCRETE WALL.
- ② PROVIDE POLYURETHANE SEALANT AT TOP OF WALL ALL AROUND STRUCTURE.
- ③ BACKFILL AROUND STRUCTURE WITH 1" MINUS CRUSHED ROCK COMPACTED TO 90 PERCENT RELATIVE DENSITY.
- ④ REPLACE EXISTING FIBERGLASS LID WITH NEW SPLIT LID FIBERGLASS COVER.
- ⑤ PROVIDE 3/8" STAINLESS STEEL "J BOLTS" IN ADHESIVE ANCHORS FOR CONNECTION OF CHAINS.
- ⑥ CORE DRILL WALL AND PROVIDE MODULAR MECHANICAL SEAL ASSEMBLY WITH STAINLESS STEEL BOLTS AND NUTS.
- ⑦ PROVIDE PIPE SUPPORT (SEE SHEET 19).
- ⑧ PROVIDE PIPE SLEEVE IN WALL AND MODULAR MECHANICAL SEAL WITH STAINLESS STEEL BOLTS AND NUTS.
- ⑨ PROVIDE FLOAT SWITCH FOR REDUNDANT HIGH LEVEL ALARM.
- ⑩ COAT WET PIT WALLS (NEW STRUCTURE ONLY) WITH 80 MILS MINIMUM RAVEN 405 AS MANUFACTURED BY RAVEN LINING SYSTEMS (1-800-324-2810). APPLY COATING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ⑪ PROVIDE 12" CONCRETE SLAB WITH #4 BARS @ 12" EACH WAY CENTERED IN SLAB.

LEGEND:

(**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
SST STAINLESS STEEL



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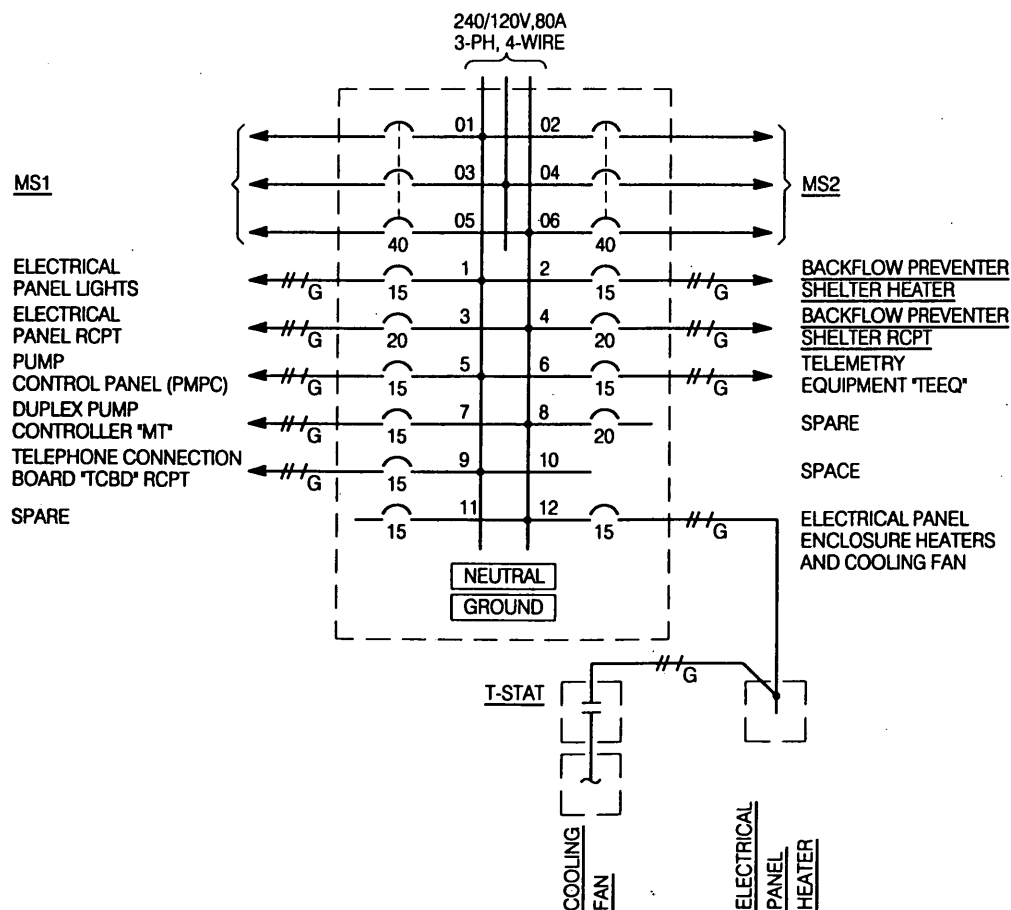
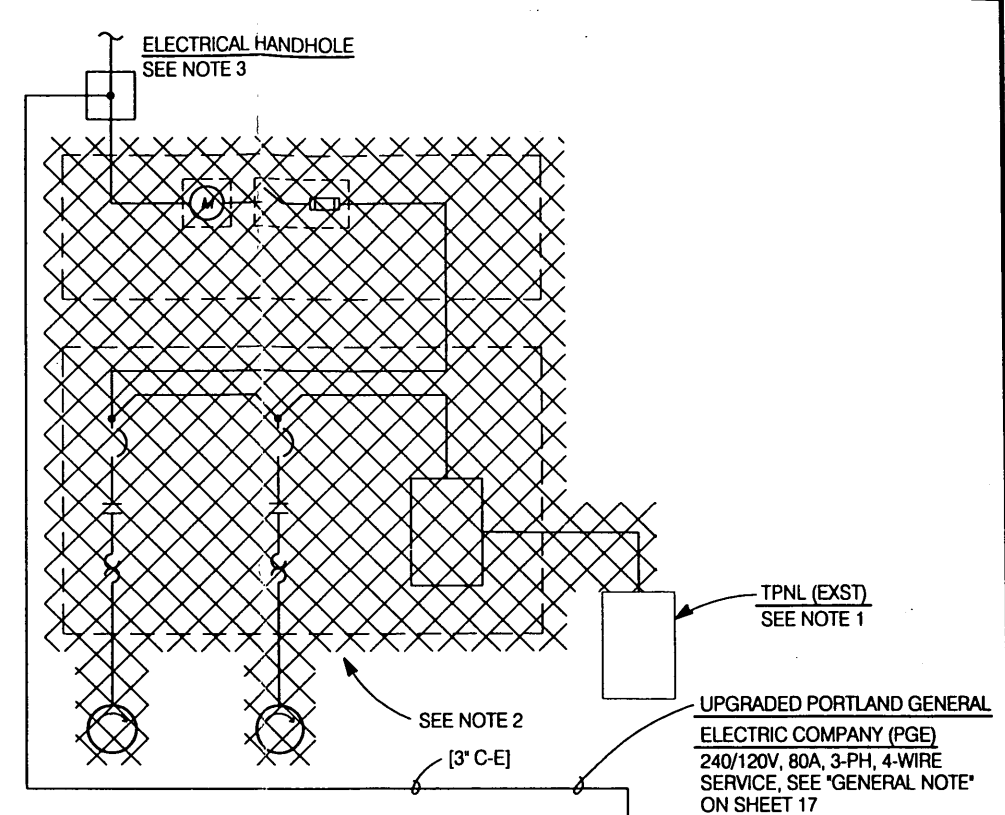
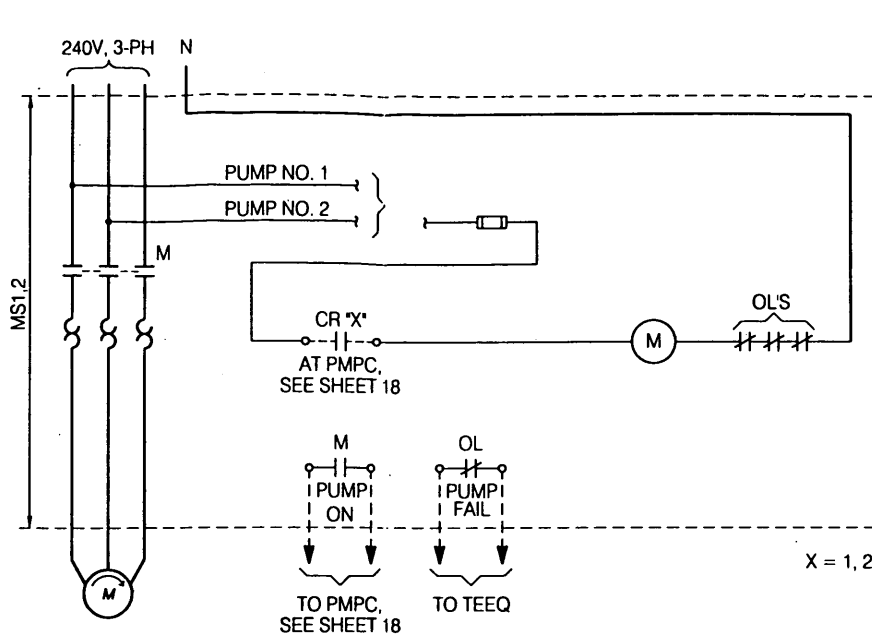
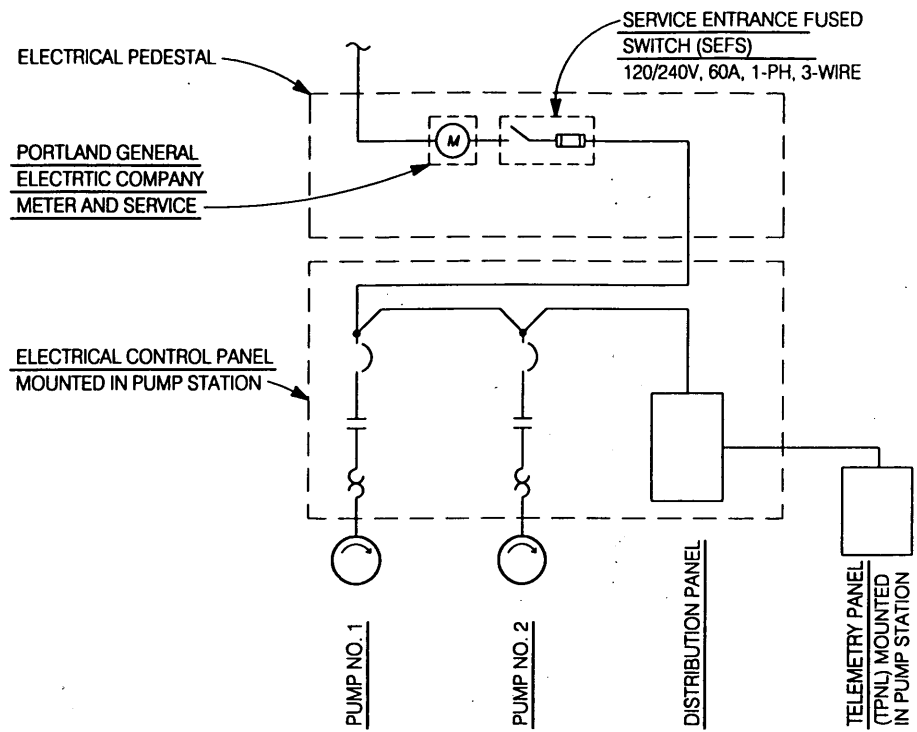
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

REVISED ANDREW STREET SECTIONS

SHEET
14 of 19
DATE
MAR 2000

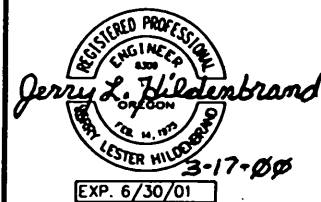


NOTES:

- DISCONNECT AND REMOVE EXISTING TELEMTRY EQUIPMENT FROM EXISTING TELEMTRY PANEL "TPNL" IN THE EXISTING PUMP STATION. INSTALL AND CONNECT EXISTING TELEMTRY EQUIPMENT IN THE ELECTRICAL PANEL PROVIDED BY OWNER AS SHOWN ON THE DRAWINGS.
- ALL EXISTING ELECTRICAL EQUIPMENT AND MATERIALS, EXCEPT AS STATED IN NOTE 1, ARE TO BE DISCONNECTED AND REMOVED FROM THE SITE.
- FURNISH AND INSTALL A HANDHOLE SPLICE BOX AND COVER PER PGE REQUIREMENTS FOR THE PGE ELECTRIC SERVICE CONDUCTORS. FIELD VERIFY THE HANDHOLE LOCATION WITH PGE BEFORE INSTALLATION. SEE THE GENERAL NOTE ON SHEET 17.
- INSTALL METER PROVIDED BY PGE IN THE METER BOX PROVIDED BY OWNER. SEE THE GENERAL NOTE ON SHEET 17.

LEGEND:

- (*) DESIGNATES ITEMS TO BE FURNISHED AND INSTALLED IN ELECTRICAL PANEL BY OWNER.
- (**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.



BCP PANEL SCHEDULE / SCHEMATIC
NTS



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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

ANDREW STREET ELECTRICAL ONE-LINE AND CONTROL DIAGRAMS

SHEET
15 of 19
DATE
MAR 2000

COMPONENT CALLOUTS:

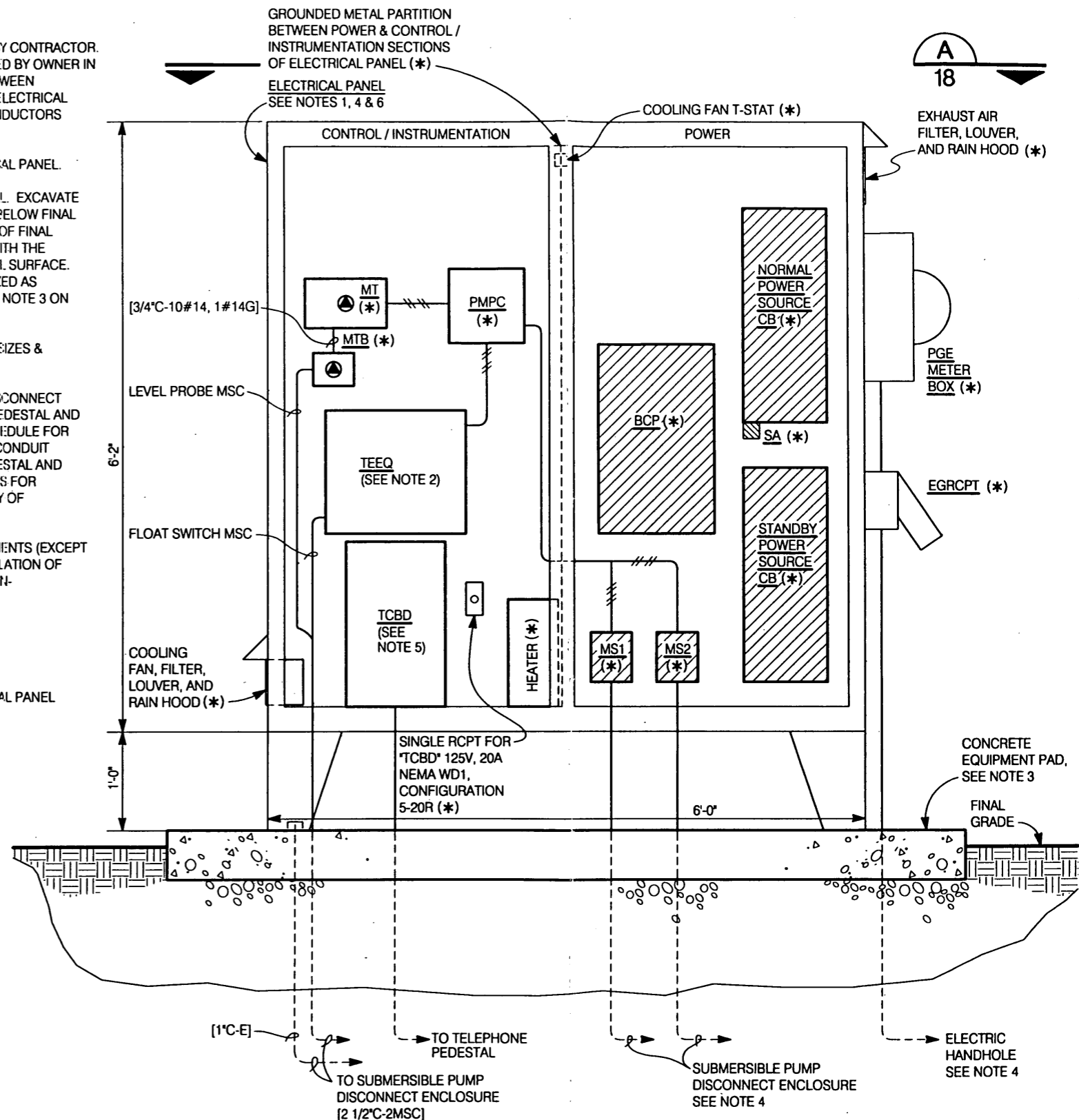
- SA: SECONDARY SURGE ARRESTER (*)
RATINGS: 650 VOLTS AC PHASE-TO-GROUND (MAX), 3-PHASE
MANUFACTURER: SQUARE D CATALOG NO. SDSA3650
- EGRCP: STANDBY ENGINE GENERATOR RECEPTACLE (*)
RATINGS: 600 VOLTS, 100 AMPS, 3-WIRE, 4-POLE, REVERSE CONFIGURATION
HEAVY DUTY CIRCUIT BREAKING RECEPTACLE ASSEMBLY & HOUSING
DIMENSIONS (H,W,D): 11", 6", 10"
MANUFACTURER: CROUSE-HINDS ARKITE CAT. NO. AREA10425
- CB: CIRCUIT BREAKER ("NORMAL" OR "STANDBY" POWER SOURCE) (*)
RATINGS: 240 VOLTS, 80 AMPS, 3-PHASE (3 POLE), NEMA 12 ENCLOSURE
UL LISTED "SUITABLE FOR USE AS SERVICE EQUIPMENT"
KEY INTERLOCKED (ONLY 1 OF THE 2 CB'S CAN BE CLOSED AT THE SAME TIME)
DIMENSIONS (H,W,D,); 20", 10", 5"
MANUFACTURER: SQUARE D CATALOG NO. FA100AWK
- MS1,2: MOTOR STARTER (*)
RATINGS: 240 VOLTS, 3-PHASE, FVNR NEMA SIZE 2 MOTOR STARTER,
OPEN TYPE
DIMENSIONS (H,W,D): 6", 5", 5"
MANUFACTURER: SQUARE D CATALOG NO. SD01V03
- BCP: BRANCH CIRCUIT PANEL (*)
RATINGS: 240/120 VOLTS, 100 AMPS, 3-PHASE, 4-WIRE, BUS CUTOFF
(1-PHASE ONLY)
MAIN LUGS WITH BOLT-ON BRANCH CIRCUIT BREAKERS
20 SINGLE-POLE BRANCH CIRCUIT BREAKER SPACES
NEMA 1 ENCLOSURE
DIMENSIONS (H,W,D): 23", 14", 6"
MANUFACTURER: SQUARE D CAT. NO. NQB523
- PMPC: PANEL MOUNTED PUMP CONTROL (*)
-TWO HAND-OFF-AUTO SELECTOR SWITCHES MOUNTED ON INNER PANEL;
ONE FOR PUMP NO. 1 AND ONE FOR PUMP NO. 2
-TWO PUSH-TO-TEST "PUMP ON" RED LED STATUS LIGHTS MOUNTED ON
INNER PANEL; ONE FOR PUMP NO. 1 AND ONE FOR PUMP NO. 2
-TWO CONTROL RELAYS DIN RAIL MOUNTED ON MOUNTING PANEL WITH
120 VOLT COILS AND 120 VOLT, 5 AMP CONTACTS
- MT: DUPLEX PUMP CONTROLLER (*)
DIMENSIONS (H,W,D): 6", 10", 7"
MANUFACTURER: FLYGT DUPLEX MULTITRODE MT2PC-3
- MTB: INTRINSICALLY SAFE BARRIER (*)
DIMENSIONS (H,W,D): 4", 5", 4"
MANUFACTURER: FLYGT MTISB
- TEEQ: TELEMETRY EQUIPMENT
DIMENSIONS (H,W): 15", 17"
- TCBD: TELEPHONE COMPANY CONNECTION BOARD
3/4" EXTERIOR PLYWOOD PAINTED AS REQUIRED BY THE TELEPHONE
COMPANY PRIOR TO INSTALLATION IN THE ELECTRICAL PANEL
DIMENSIONS (H,W): 20", 12"

NOTES:

1. ELECTRICAL PANEL TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. ALL CONDUIT AND CONDUCTORS BETWEEN COMPONENTS PROVIDED BY OWNER IN ELECTRICAL PANEL TO BE PROVIDED BY OWNER. ALL CONDUIT BETWEEN COMPONENTS PROVIDED BY OWNER AND WALLS AND BOTTOM OF ELECTRICAL PANEL TO BE PROVIDED BY OWNER. ALL OTHER CONDUIT AND CONDUCTORS INSIDE AND OUTSIDE PANEL SHALL BE PROVIDED BY CONTRACTOR.
2. MOVE FROM PUMP STATION TO LOCATION SHOWN IN THE ELECTRICAL PANEL.
3. PROVIDE A CONCRETE EQUIPMENT PAD FOR THE ELECTRICAL PANEL. EXCAVATE THE ENTIRE AREA BELOW THE EQUIPMENT PAD TO A DEPTH OF 18" BELOW FINAL GRADE. INSTALL CONDUITS IN TRENCH AND BACKFILL TO WITHIN 9" OF FINAL GRADE WITH COMPACTED GRANULAR FILL. FORM AND POUR PAD WITH THE TOP 3" ABOVE FINAL GRADE AND TROWEL TO A SMOOTH, FLAT LEVEL SURFACE. FURNISH AND INSTALL STAINLESS STEEL MOUNTING HARDWARE SIZED AS REQUIRED & IN LOCATION SPECIFIED BY THE PANEL SUPPLIER. SEE NOTE 3 ON SHEET 13.
4. SEE SHEET 15 FOR SERVICE AND FEEDER CONDUIT & CONDUCTOR SIZES & QUANTITIES.
5. CONTACT THE TELEPHONE COMPANY. SCHEDULE FOR THEM TO DISCONNECT AND REMOVE THE TELEPHONE CABLE BETWEEN THE TELEPHONE PEDESTAL AND TELEPHONE CONNECTION BOARD IN THE EXST PUMP STATION. SCHEDULE FOR THEM TO FURNISH, INSTALL, AND CONNECT TELEPHONE CABLE IN CONDUIT PROVIDED UNDER THIS CONTRACT BETWEEN THE TELEPHONE PEDESTAL AND TELEPHONE CONNECTION BOARD IN THE ELECTRICAL PANEL. COSTS FOR TELEPHONE COMPANY WORK WILL BE BILLED DIRECTLY TO THE CITY OF NEWBERG.
6. THE ELECTRICAL PANEL AND ALL INTERIOR AND EXTERIOR COMPONENTS (EXCEPT FOR TEEQ AND TCBD) SHALL BE PROVIDED BY THE OWNER. INSTALLATION OF ELECTRICAL PANEL, TEEQ, AND TCBD SHALL BE PERFORMED BY CONTRACTOR.

LEGEND:

(*) DESIGNATES ITEMS TO BE FURNISHED AND INSTALLED IN ELECTRICAL PANEL BY OWNER.



**ELECTRICAL PANEL ELEVATION AND COMPONENT LAYOUT
ON MOUNTING PANEL BEHIND INNER PANEL**

SCALE: 3/4" = 1'-0"

(SEE DETAIL 2, SHEET 17)

REGISTERED PROFESSIONAL ENGINEER
Jerry L. Hildenbrand
EST. 14, 1975
3-17-00
EXP. 6/30/01

DESIGN BY:
SOUTHWOOD ENGINEERING CORPORATION
3381 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

DRAWN BY:
NEW TECH GRAPHICS
510 3RD ST NW
CORVALLIS, OR 97330
NEW TECH GRAPHICS (541) 753-2071

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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

ANDREW STREET ELECTRICAL ELEVATION & NOTES

SHEET
16 of 19
DATE
MAR 2000

ELECTRICAL LEGEND AND ABBREVIATIONS

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|--------|--|--------|---|
| | MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN. | | 3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT |
| | INDUCTION MOTOR WITH HORSEPOWER AS INDICATED | | REMOTE DEVICE |
| | TYPICAL CONDUIT WITH INDIVIDUAL CONDUCTORS | | SURGE ARRESTER |
| | EXPOSED CONDUIT AND CONDUCTORS* NOTE: * ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12G CONDUCTORS IN CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE (3/4" MIN). | | INDICATING LIGHT, PUSH-TO-TEST LED TYPE, LETTER INDICATES COLOR: A - AMBER G - GREEN |
| | CROSSHATCHES WITH BAR INDICATE #10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE. | | KEY INTERLOCK |
| | CONDUIT DOWN | | |
| | CONDUIT UP | | |
| | DIRECT BURIED CONDUIT | | |
| | EXISTING UNDERGROUND ELECTRICAL CONDUIT | | |
| | GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE. | | |
| | *SCREENED* EQUIPMENT AND/OR MATERIALS ARE EXISTING TO BE REUSED IN THIS CONTRACT | | |
| | *CROSS HATCHED* EQUIPMENT AND/OR MATERIALS TO BE REMOVED AND REPLACED UNDER THIS CONTRACT | | |
| | WALL SWITCH | | |
| | CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAYS, CONDUCTORS AND CONNECTIONS FURNISHED AND INSTALLED UNDER SECTION 16005, ELECTRICAL | | |
| | SPECIAL PURPOSE RECEPTACLE | | |
| | CONTACT - NORMALLY OPEN | | |
| | CONTACT - NORMALLY CLOSED | | |
| | OVERLOAD RELAY HEATER | | |
| | MAGNETIC STARTER WITH NEMA SIZE INDICATED | | |
| | CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE | | |
| | FUSE | | |
| | GROUND | | |
| | GROUND ROD (3/4"x10' COPPER BONDED WITH #4 STRANDED BARE COPPER CONDUCTOR AND CADWELD TYPE GR CONNECTION) TOP OF GROUND ROD SHALL BE 6" BFG. | | |
| | PGE METER BOX | | |

| ABBREVIATION | DESCRIPTION | ABBREVIATION | DESCRIPTION |
|--------------|----------------------------------|--------------|----------------------------------|
| A | AMPERE OR AMBER | MSC | MANUFACTURER SUPPLIED CABLE |
| AFG | ABOVE FINISHED GRADE | MT | MOUNT, MULTITRODE PANEL |
| BCP | BRANCH CIRCUIT PANEL | MTD | MOUNTED |
| BFG | BELOW FINISHED GRADE | N | NEUTRAL |
| C | CONDUIT | NC | NORMALLY CLOSED |
| CB | CIRCUIT BREAKER | NO | NORMALLY OPEN |
| CKT | CIRCUIT | NP | NAMEPLATE |
| CR | CONTROL RELAY | OL | OVERLOAD RELAY |
| CRS | PVC-COATED RGS | OOA | ON/OFF/AUTO SELECTOR SWITCH |
| E | EMPTY | P | PUMP |
| EGRCP | ENGINE GENERATOR RECEPTACLE | PGE | PORTLAND GENERAL ELECTRIC CO. |
| EQPT | EQUIPMENT | PH | PHASE |
| ETM | ELAPSED TIME METER | PNL | PANEL |
| EXST | EXISTING | PVC | POLYVINYL CHLORIDE |
| FLR | FLOOR | PWR | POWER |
| FS | FLOAT SWITCH | RCPT | RECEPTACLE |
| G | GREEN OR GROUND | REQD | REQUIRED |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER | RGS | RIGID GALVANIZED STEEL (CONDUIT) |
| GND | GROUND | RMS | ROOT-MEAN-SQUARE |
| GRS | GALVANIZED RIGID STEEL | SS | SELECTOR SWITCH |
| HH | HAND HOLE | SST | STAINLESS STEEL |
| HP | HORSEPOWER | SYMM | SYMMETRICAL |
| ISR | INTRINSICALLY SAFE RELAY | T-STAT | THERMOSTAT |
| J, J-BOX | JUNCTION BOX | TCBD | TELEPHONE CONNECTION BOARD |
| LT | LIGHT | TEEQ | TELEMETRY EQUIPMENT |
| LT-FLEX | LIQUID-TIGHT FLEXIBLE METAL | TSP | TWISTED SHIELDED PAIR |
| MIN | MINIMUM | TYP | TYPICAL |
| MS | MOTOR STARTER | V | VOLTS |
| | | VFD | VARIABLE FREQUENCY DRIVE |
| | | W | WATTS OR WIRE |
| | | WP | WEATHERPROOF |

GENERAL NOTE:

- CONTACT PORTLAND GENERAL ELECTRIC COMPANY (PGE) ABOUT AN ELECTRIC SERVICE UPGRADE TO THE CHARLES STREET PUMP STATION AND TO THE ANDREW STREET PUMP STATION. SCHEDULE A POWER OUTAGE WITH THE OWNER AT EACH PUMP STATION FOR THE SERVICE UPGRADE. SERVICE EQUIPMENT AND INSTALLATION INCLUDING SERVICE CONDUCTORS, SERVICE CONDUCTOR SPLICES, METER BOX SERVICE CONDUCTOR CONNECTIONS, AND METER WILL BE PROVIDED BY PGE. COSTS FOR PGE WORK WILL BE BILLED DIRECTLY TO THE CITY OF NEWBERG. COORDINATE THIS WORK WITH:

THE CONTACT PERSON FOR UTILITY WORK:
 MR. RALPH REISBECK
 PORTLAND GENERAL ELECTRIC COMPANY
 ADDRESS: 4245 KALE STREET N.E.
 SALEM, OREGON 97305
 PHONE: (503)463-6188
 FAX: (503)463-4308



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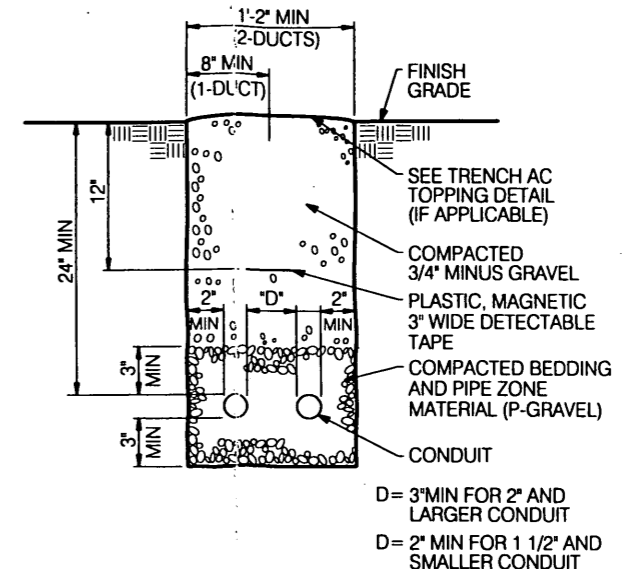
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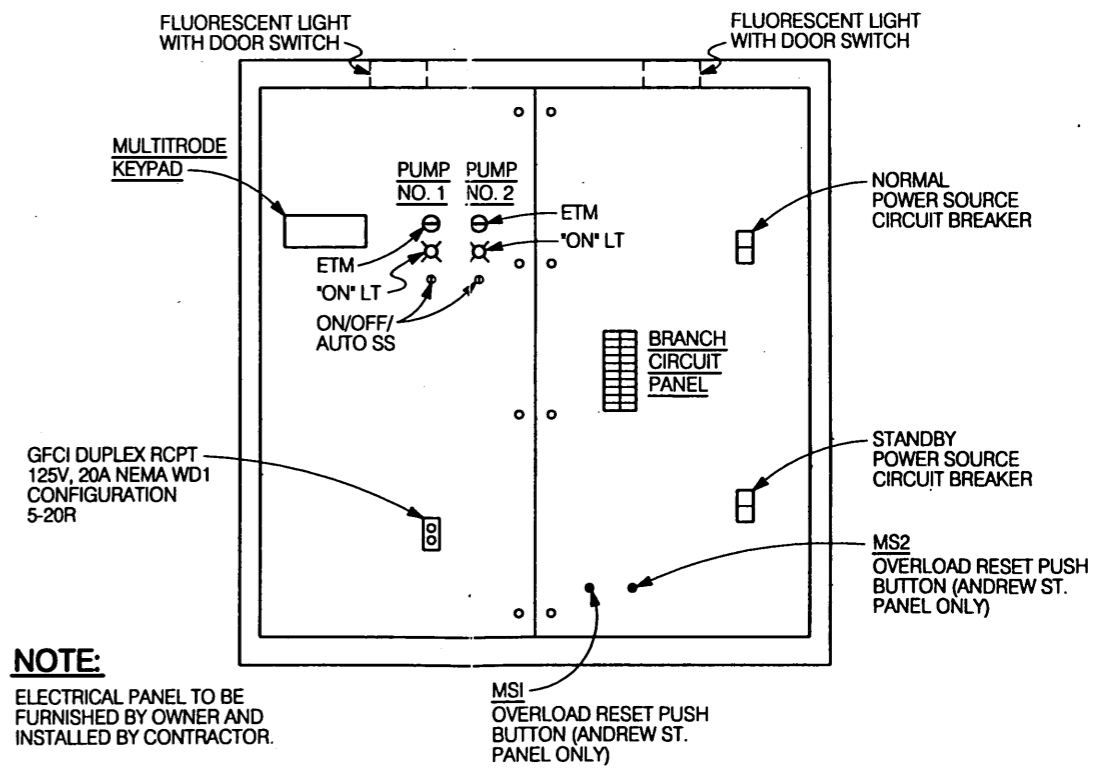
CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

ELECTRICAL LEGEND, ABBREVIATIONS, DETAILS, AND NOTES

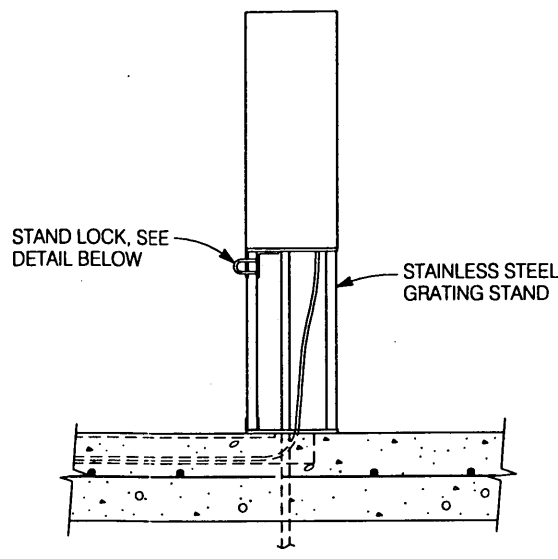
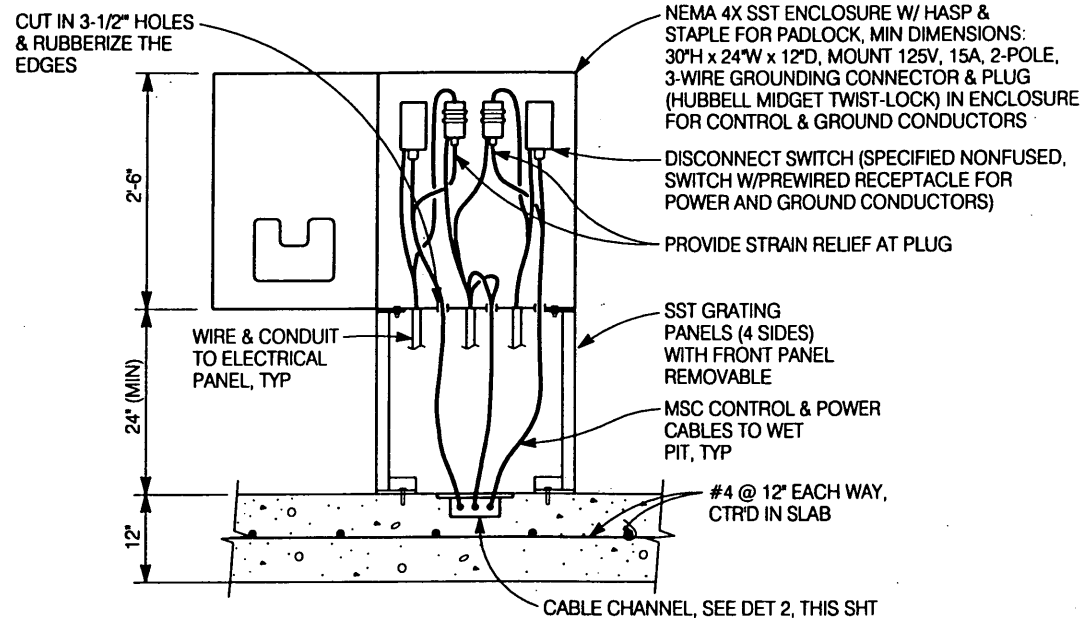
SHEET **17 of 19**
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TRENCH AND CONDUIT PLACEMENT DETAIL 1
 NTS

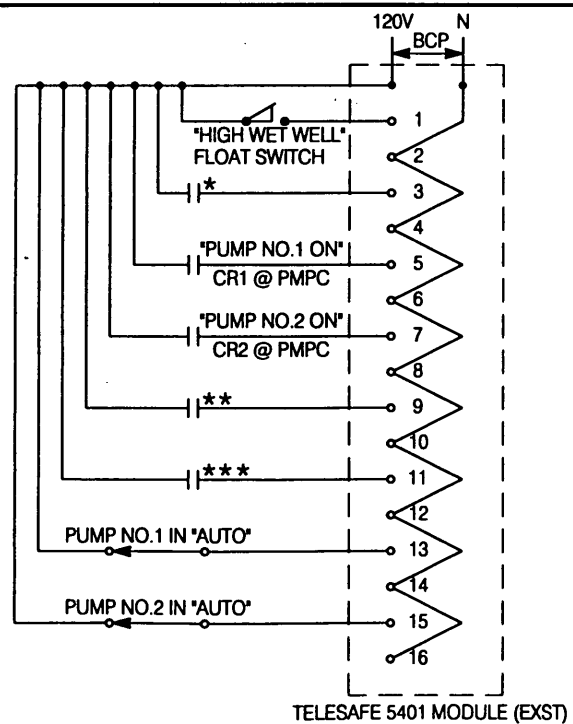


ELECTRICAL PANEL ELEVATION AND COMPONENT LAYOUT
ON OR THROUGH INNER PANEL DETAIL 2
 SCALE: 1/2" = 1'-0"
 10, 16

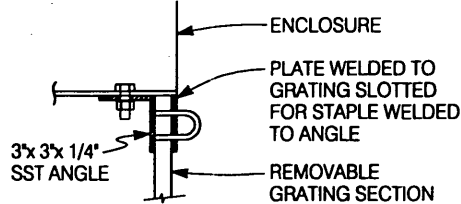
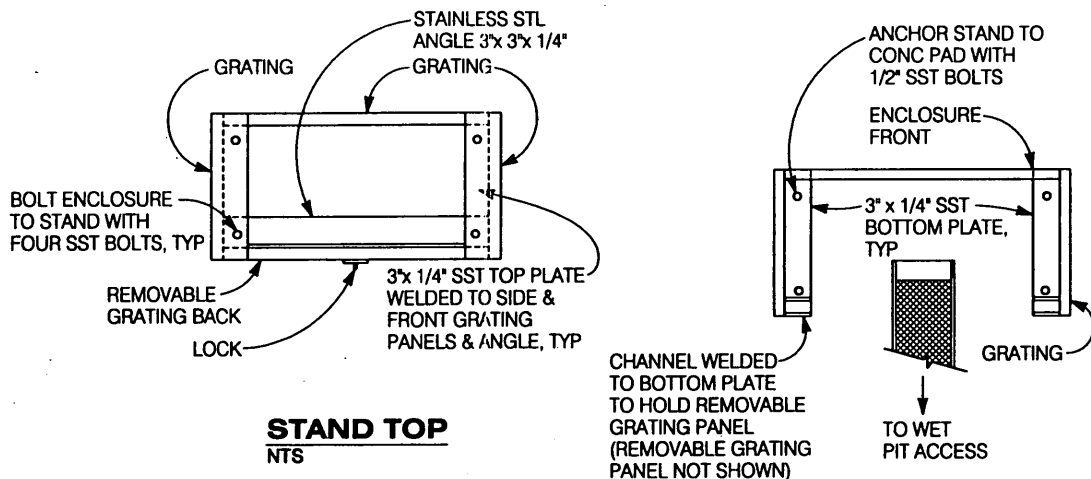


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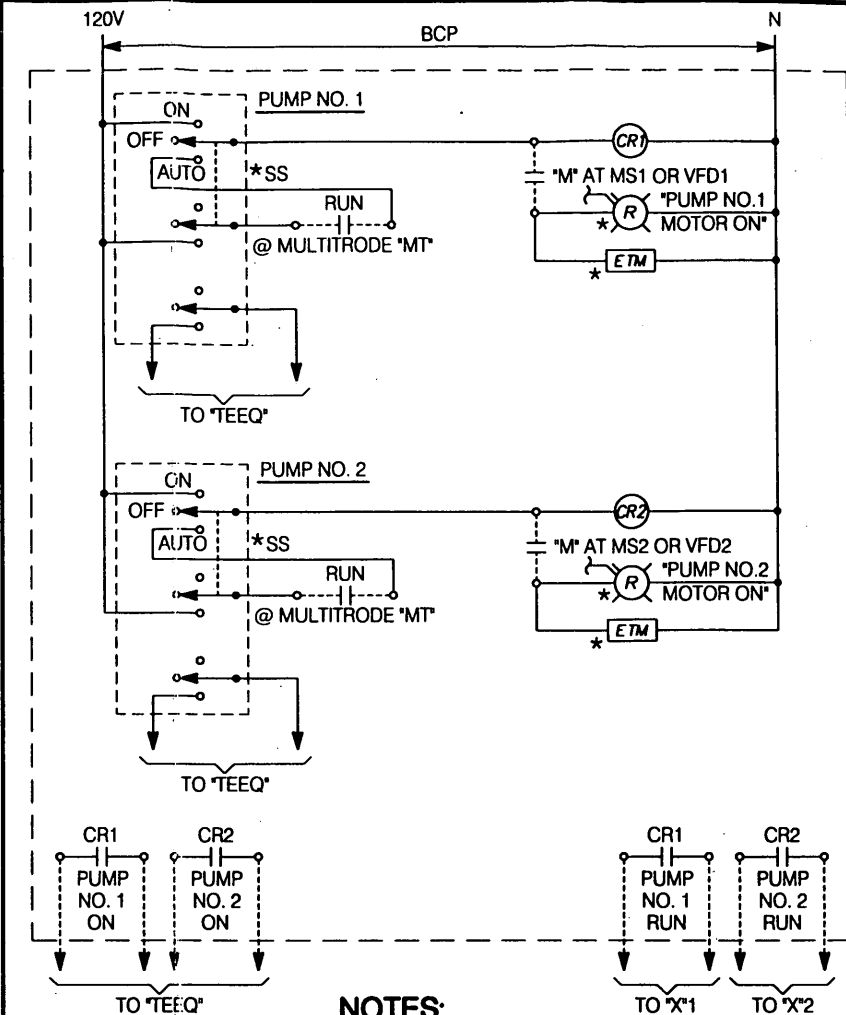
1. SIZE, FURNISH, INSTALL, AND CONNECT SUBMERSIBLE PUMP DISCONNECT ENCLOSURE FOR MULTITRODE PROBE CABLE, HIGH LEVEL FLOAT SWITCH CABLE, PUMP SENSOR CABLES, AND PUMP POWER CABLES.
2. STAINLESS STEEL GRATING SHALL HAVE CROSS BARS AT 4" CENTERS (IN VERTICAL) AND BEARING BARS 3/4" x 1/8" MINIMUM, AT 1-3/16" CENTERS. ALL EDGES SHALL BE BANDED. GRATING SHALL BE 19-4-32 MANUFACTURED BY KLEMP GRATING OR APPROVED EQUAL.



- * *PUMP MOTOR HIGH TEMPERATURE, MOISTURE DETECTION, OR PUMP TROUBLE* @ MULTITRODE
- ** *VFD1 FAULT* (ONLY @ CHARLES ST. PUMP STATION)
- *** *VFD2 FAULT* (ONLY @ CHARLES ST. PUMP STATION)



SUBMERSIBLE PUMP DISCONNECT ENCLOSURE 1
NTS 4, 13, 14

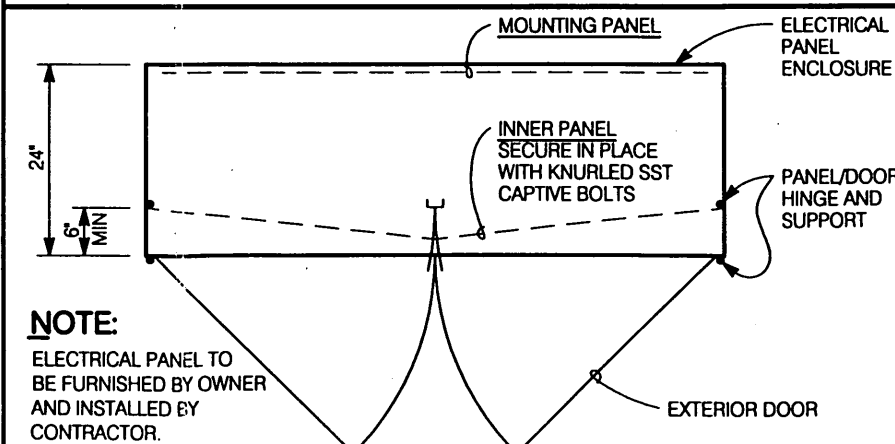


NOTES:

1. * ACCESSIBLE FROM FRONT OF INNER PANEL.
2. PMPC PROVIDED IN ELECTRICAL PANEL BY OWNER.

| | |
|----------------|-----|
| PUMP STATION | "X" |
| CHARLES STREET | VFD |
| ANDREW STREET | MS |

PANEL MOUNTED PUMP CONTROL (PMPC) CONTROL DIAGRAM
NTS



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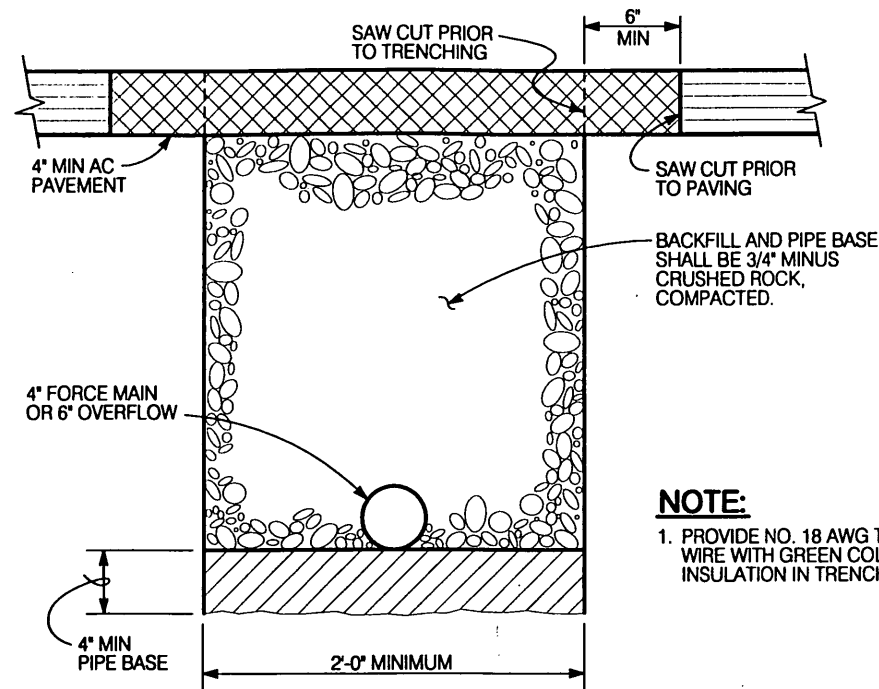
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

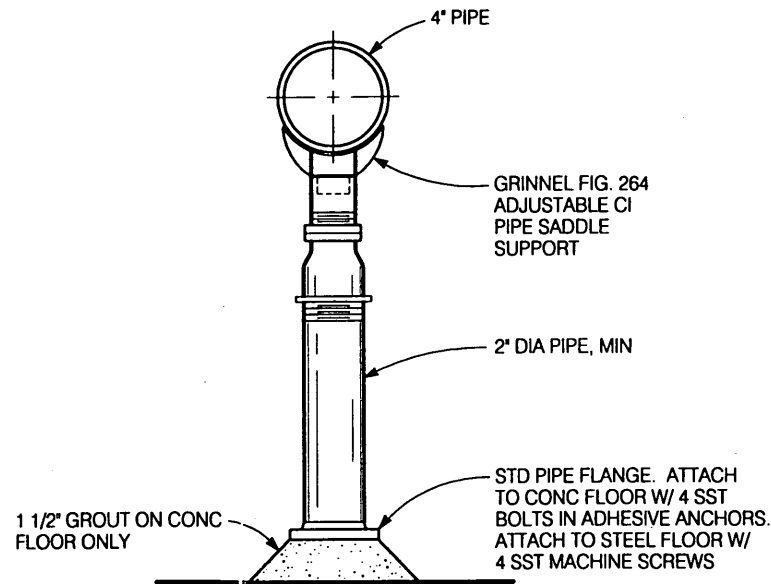
ELECTRICAL SCHEMATIC, CONTROL DIAGRAM, AND DETAILS

SHEET **18 of 19**
DATE **MAR 2000**

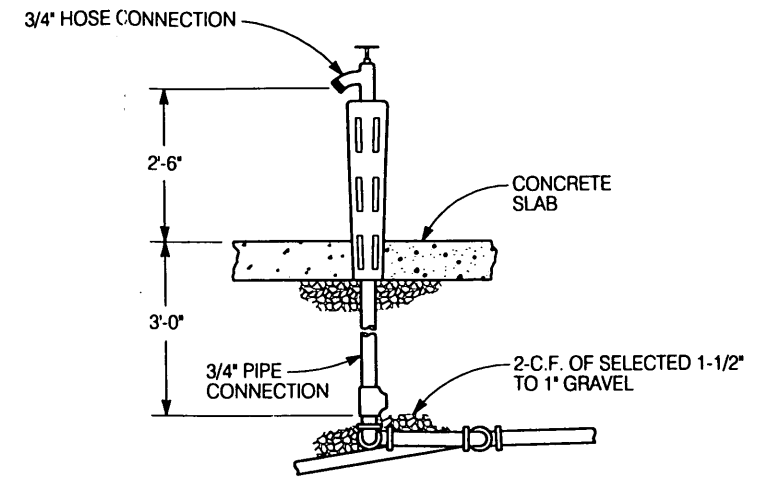


TRENCH BACKFILL
DETAIL 1
 SCALE: T= 1'-0" 6, 7, 8

NOTE:
 1. PROVIDE NO. 18 AWG TONE WIRE WITH GREEN COLORED INSULATION IN TRENCHES.



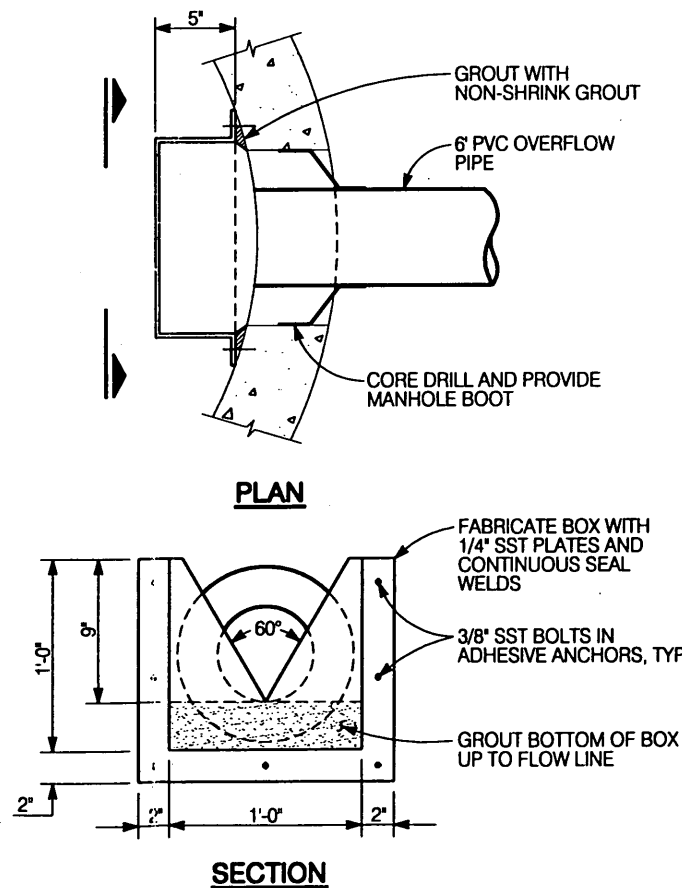
PIPE SUPPORT
DETAIL 3
 NTS 4, 5, 12, 14



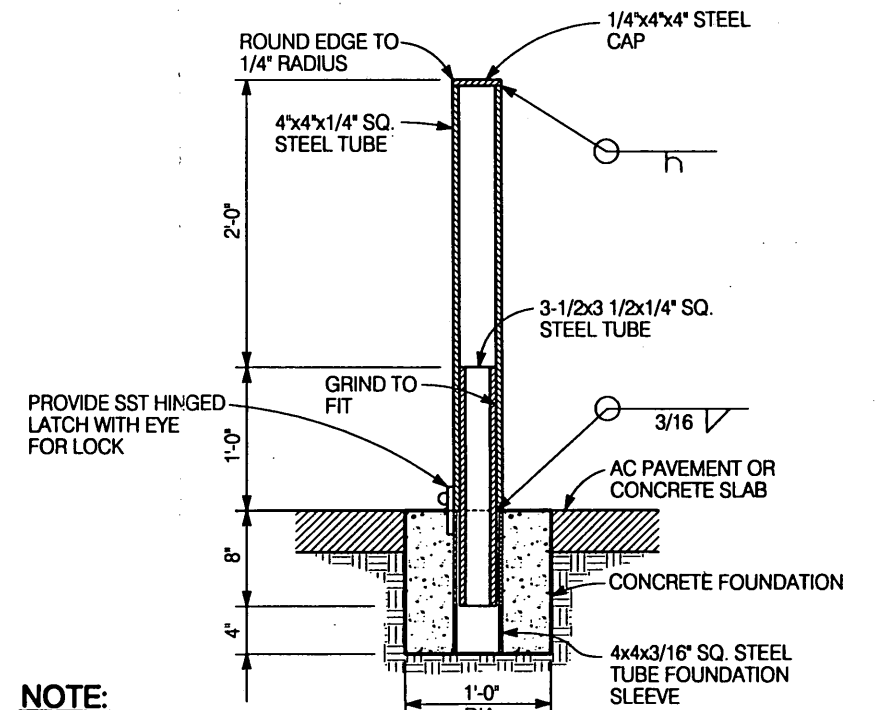
NON-FREEZE POST HYDRANT DETAIL 5
 NTS 4, 13

(NOT USED)

DETAIL 2



OVERFLOW BOX DETAIL 4
 SCALE: T = 1'-0" 6, 12



NOTE:
 HOT DIP GALVANIZE BOLLARD AND BOLLARD FOUNDATION SLEEVE AFTER FABRICATION.

REMOVABLE BOLLARD
DETAIL 6
 SCALE: 3/4" = 1'-0" 4, 13



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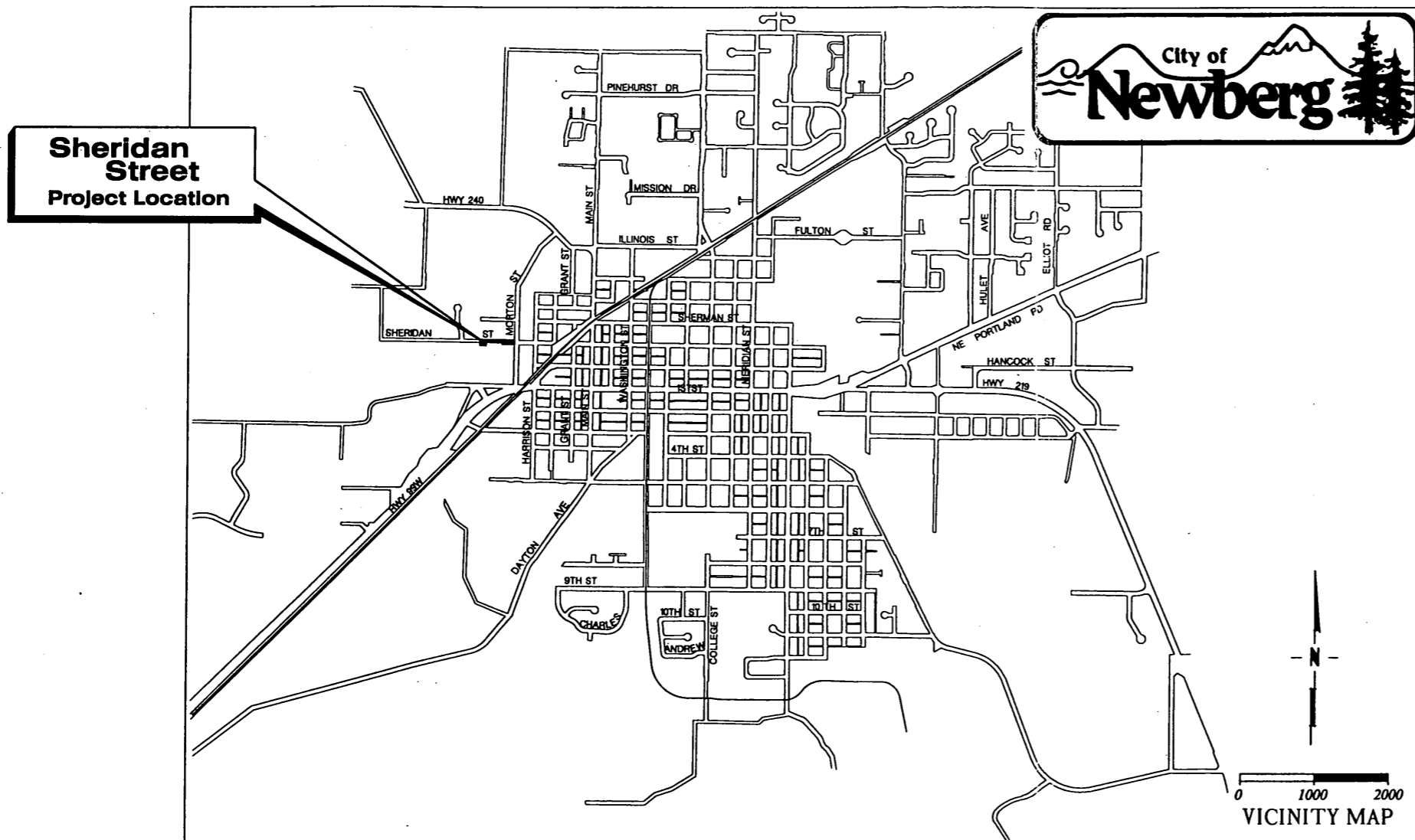
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CITY OF NEWBERG, OREGON
SEWAGE PUMP STATIONS IMPROVEMENTS AND FORCE MAIN EXTENSION

SHEET
19 of 19
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The City of Newberg

SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN




INDEX TO DRAWINGS

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| 1 | VICINITY MAP AND INDEX TO DRAWINGS |
| 2 | DESIGN DATA AND LEGEND |
| 3 | SITE PLAN AT GRADE |
| 4 | SITE PLAN BELOW GRADE |
| 5 | SECTION |
| 6 | GRAVITY SEWER AND FORCE MAIN PLAN AND PROFILE |
| 7 | DETAILS |
| 8 | ELECTRICAL ONE-LINE AND CONTROL DIAGRAMS |
| 9 | ELECTRICAL ELEVATION AND NOTES |
| 10 | ELECTRICAL LEGEND, ABBREVIATIONS, DETAILS, AND NOTES |
| 11 | ELECTRICAL SCHEMATIC, CONTROL DIAGRAM, AND DETAILS |



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CITY OF NEWBERG, OREGON
**SHERIDAN STREET SEWAGE
PUMP STATION, GRAVITY
SEWER, AND FORCE MAIN**

**VICINITY MAP
AND INDEX TO
DRAWINGS**

SHEET
1 of 11
 DATE
MAR 2000

RAW SEWAGE PUMP STATION DESIGN DATA

SHERIDAN STREET PUMP STATION

| | |
|--------------------------|--|
| LOCATION | SHERIDAN STREET, 500 FEET WEST OF MORTON STREET |
| TYPE | DUPLEX SUBMERSIBLE |
| PUMP TYPE | CONSTANT SPEED NON-CLOG |
| CAPACITY | 105 GPM @ 39 FT. TDH. |
| PUMP HP | 5 HP EACH, 240 V, 3 PHASE |
| LEVEL CONTROL | FLYGT MULTITRODE |
| OVERFLOW POINT | OVERFLOWS FROM TOP OF MANHOLE ON SHERIDAN STREET IN FRONT OF PUMP STATION, THEN INTO DITCH ALONG SHERIDAN STREET, THEN INTO A CREEK 180 FEET TO THE WEST |
| OVERFLOW DISCHARGE | CHEHALEM CREEK/WILLAMETTE RIVER |
| AVERAGE TIME TO OVERFLOW | 1.5 HOURS @ 4 GPM AVG Q |
| AUXILIARY POWER TYPE | PORTABLE ENGINE GENERATOR |
| STORAGE LOCATION | WASTEWATER TREATMENT PLANT |
| OUTPUT | 40 KW |
| FUEL TANK CAPACITY | 90 GALLONS/24 HOURS |
| TRANSFER SWITCH | MANUAL |
| ALARM TELEMETRY TYPE | CONTROL MICRO SYSTEMS TELESAFE |

SHERIDAN STREET FORCE MAIN

| | |
|------------------------|---------------------------------|
| LENGTH, TYPE | 495 FEET, 4-INCH, PVC |
| PROFILE | CONTINUOUSLY ASCENDING |
| DISCHARGE | GRAVITY SEWER MANHOLE |
| AIR RELEASE VALVE | NONE |
| VACUUM RELEASE VALVE | NONE |
| AVERAGE DETENTION | 4 HOURS @ AVG Q, 1 HOUR @ ULT Q |
| SULFIDE CONTROL SYSTEM | NONE |

LEGEND:

| | |
|------------|----------------|
| --- EL --- | EASEMENT LINE |
| --- E --- | ELECTRICAL |
| --- G --- | GAS LINE |
| ----- | PROPERTY LINE |
| --- S --- | SANITARY SEWER |
| --- T --- | TELEPHONE |
| --- W --- | WATER |
| ⊕ | FIRE HYDRANT |
| PP | POWER POLE |
| □ | WATER METER |



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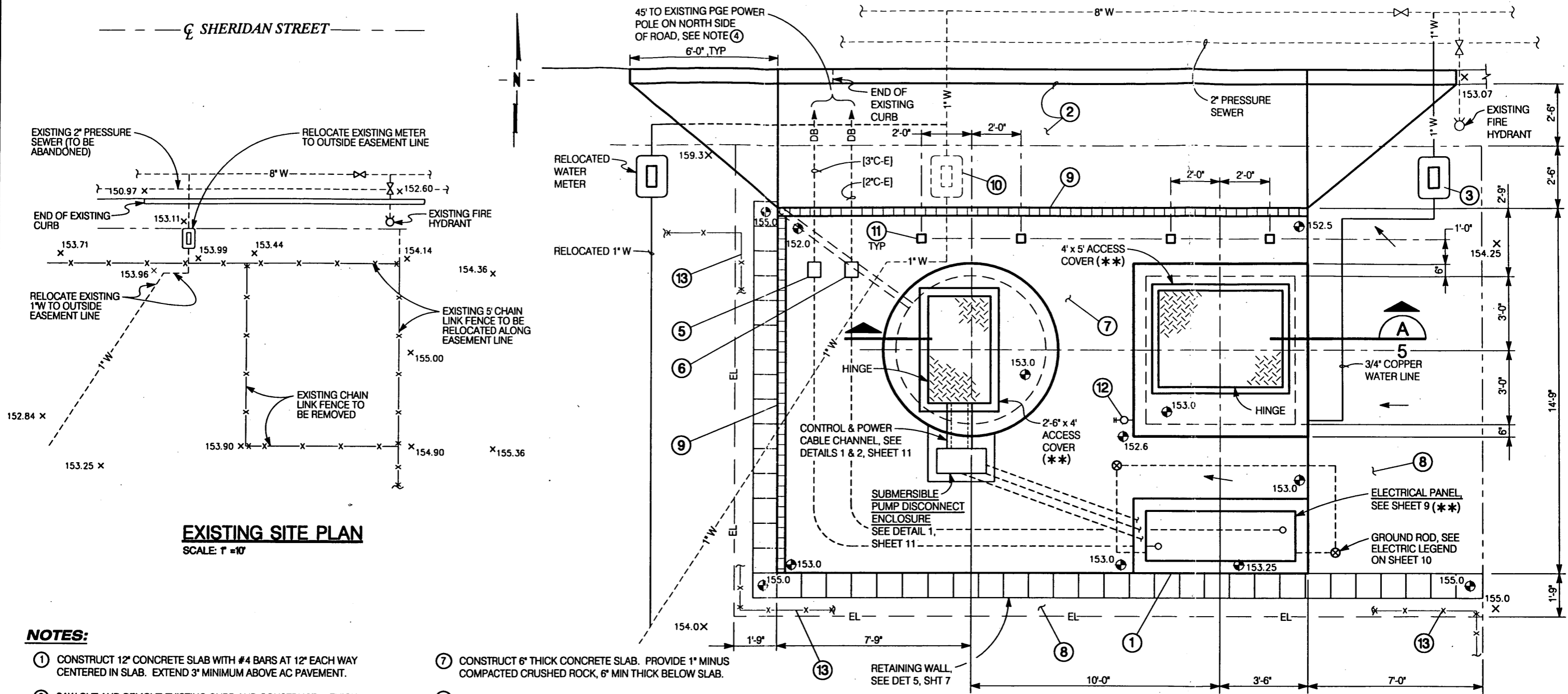
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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

DESIGN DATA AND LEGEND

| | |
|-------|-----------------|
| SHEET | 2 of 11 |
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EXISTING SITE PLAN
SCALE: 1" = 10'

SITE PLAN AT GRADE
SCALE: 1/4" = 1'-0"

NOTES:

- ① CONSTRUCT 12" CONCRETE SLAB WITH #4 BARS AT 12" EACH WAY CENTERED IN SLAB. EXTEND 3" MINIMUM ABOVE AC PAVEMENT.
- ② SAW CUT AND REMOVE EXISTING CURB AND CONSTRUCT 8" THICK CONC DRIVEWAY WITH #4 BARS AT 12" EACH WAY CENTERED IN SLAB. PROVIDE 1" MINUS COMPACTED CRUSHED ROCK, 6" THICK BELOW DRIVEWAY.
- ③ METER, METER BOX, AND 1" TAP FROM MAIN WILL BE PROVIDED BY OWNER. CONTRACTOR TO EXTEND 3/4" COPPER WATER LINE FROM METER INTO VALVE VAULT.
- ④ FIELD VERIFY ROUTE FROM HANDHOLES TO POWER POLE. PROVIDE CRS SWEEP ELBOWS WHERE CONDUITS CHANGE DIRECTION & AT THE POWER POLE. AT THE POWER POLE, STUB CONDUITS UP 12" AFG & CAP.
- ⑤ CONSTRUCT ELECTRIC HANDHOLE. SEE NOTE 1 ON SHEET 8.
- ⑥ CONSTRUCT TELEPHONE HANDHOLE. SEE NOTE ON SHEET 9.
- ⑦ CONSTRUCT 6" THICK CONCRETE SLAB. PROVIDE 1" MINUS COMPACTED CRUSHED ROCK, 6" MIN THICK BELOW SLAB.
- ⑧ PROVIDE 12" THICK TOP SOIL AND SEEDED LAWN AROUND EDGE OF SLAB AND RETAINING WALL.
- ⑨ CONSTRUCT 3" GALVANIZED STEEL CHANNEL DRAIN ALONG EDGE OF DRIVEWAY SLAB AND ALONG WEST SIDE OF PUMP STATION SLAB. CONNECT DRAIN TO WET PIT WITH 3" PIPE.
- ⑩ RELOCATE EXISTING WATER METER AND EXISTING 1" WATER LINE TO OUTSIDE EASEMENT LINE.
- ⑪ CONSTRUCT REMOVABLE BOLLARDS. SEE DET 3 ON SHEET 7.
- ⑫ INSTALL NON-FREEZE POST HYDRANT. SEE DET 4 ON SHEET 7.
- ⑬ RELOCATE EXISTING 5' HIGH CHAIN LINK FENCE AROUND PUMP STATION SITE.

LEGEND:

- (**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- ⊙ DESIGNATES FINISHED GRADE ELEVATION.
- x DESIGNATES EXISTING GRADE ELEVATION.



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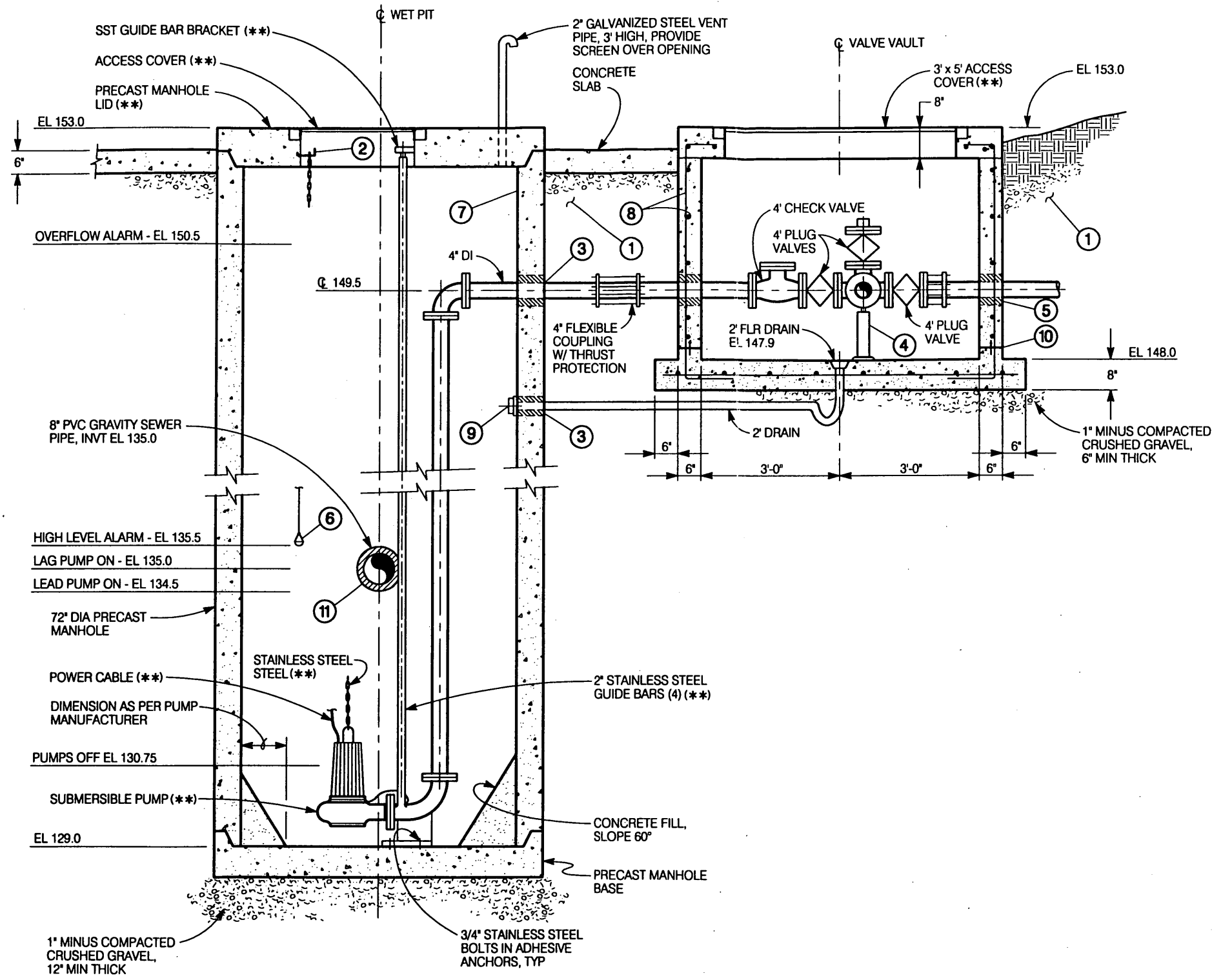
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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

SITE PLAN AT GRADE

SHEET
3 of 11
DATE
MAR 2000



- NOTES:**
- ① BACKFILL AROUND STRUCTURE WITH 1" MINUS CRUSHED ROCK COMPACTED TO 90 PERCENT RELATIVE DENSITY. PROVIDE 12" THICK TOP SOIL AND SEEDED LAWN AROUND EDGE OF SLAB.
 - ② PROVIDE 3/8" STAINLESS STEEL "J BOLTS" IN ADHESIVE ANCHORS FOR CONNECTION OF CHAINS.
 - ③ CORE DRILL WALL AND PROVIDE MODULAR MECHANICAL SEAL ASSEMBLY WITH STAINLESS STEEL BOLTS AND NUTS.
 - ④ PROVIDE PIPE SUPPORT (SEE SHEET 7).
 - ⑤ PROVIDE PIPE SLEEVE IN WALL AND MODULAR MECHANICAL SEAL WITH STAINLESS STEEL BOLTS AND NUTS.
 - ⑥ PROVIDE FLOAT SWITCH FOR REDUNDANT HIGH LEVEL ALARM.
 - ⑦ COAT WET PIT WALLS WITH 80 MILS MINIMUM RAVEN 405 AS MANUFACTURED BY RAVEN LINING SYSTEMS (1-800-324-2810). APPLY COATING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - ⑧ PROVIDE #4 BARS AT 12" EACH WAY CENTERED IN WALLS, AND TOP AND BOTTOM SLABS.
 - ⑨ INSTALL A 2" DRAIN THROUGH WALL WITH FLAP GATE IN WET PIT.
 - ⑩ PROVIDE CONSTRUCTION JOINT WITH 6" GALV STEEL WATER STOP.
 - ⑪ CORE DRILL HOLE IN WET PIT AND INSTALL 8" SEWER WITH MANHOLE BOOT.

LEGEND:

(**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

SST STAINLESS STEEL

SECTION A
SCALE: 3/8" = 1'-0"
3, 4



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PHILOMATH, OR 97378
(541) 929-2533

DRAWN BY:
NEW TECH GRAPHICS
510 3RD ST NW
CORVALLIS, OR 97330
NEW TECH GRAPHICS (541) 753-9021

| REVISIONS | |
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| NO. | DATE |
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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

| | |
|----------------|-----------------|
| SECTION | SHEET |
| | 5 of 11 |
| | DATE |
| | MAR 2000 |

NOTES:

- CONNECT EXISTING SERVICE CONNECTIONS TO NEW SEWER MAIN, TYP 10 PLACES.
- PROVIDE 8" STUBOUT TO WEST AND PLUG WATERTIGHT.

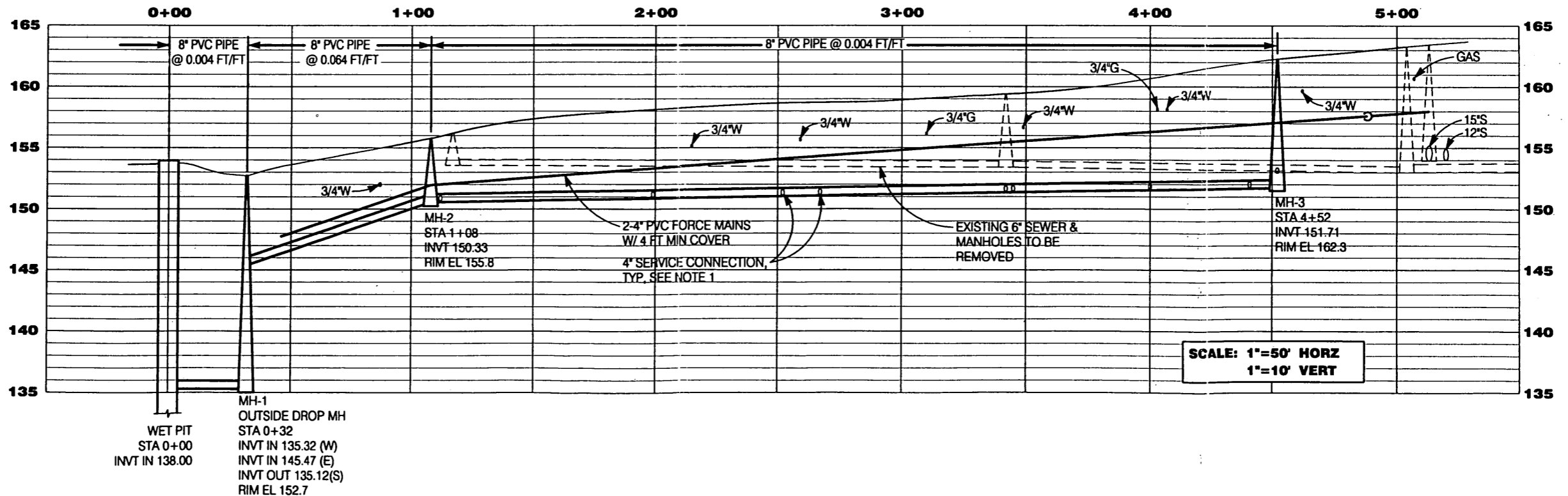
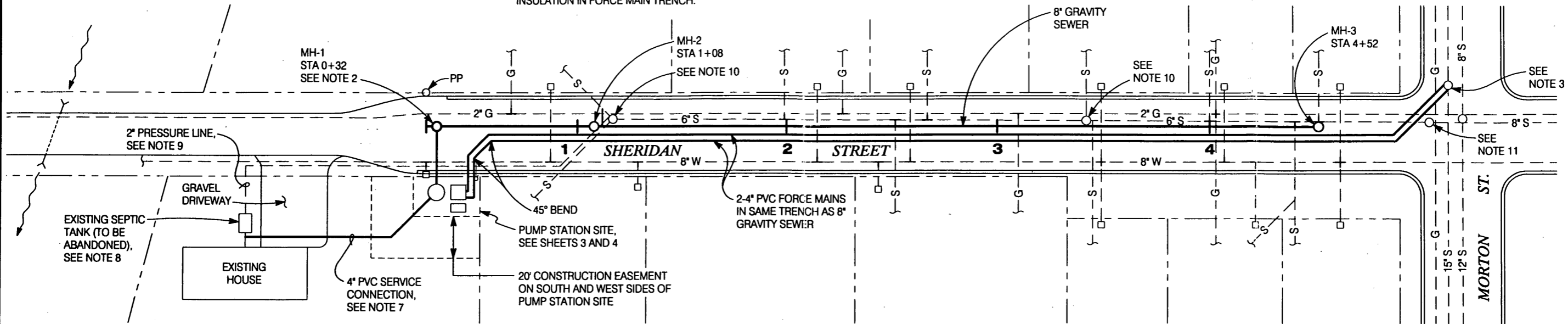
LEGEND:

- LIGHT LINES REPRESENT EXISTING WORK.
- HEAVY LINES REPRESENT NEW WORK IN THIS CONTRACT.

- CORE DRILL HOLES IN EXISTING MANHOLE FOR 2-4" FORCE MAINS AND INSTALL FORCE MAINS WITH MANHOLE BOOTS. PROVIDE DROP PIPES INSIDE MANHOLE.
- CALL 1-800-332-2344 FOR UTILITY LOCATES BEFORE DIGGING.
- PVC GRAVITY SEWER AND MANHOLES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- PROVIDE NO. 18 AWG TONE WIRE WITH GREEN COLORED INSULATION IN FORCE MAIN TRENCH.

- CONNECT 4" SERVICE CONNECTION TO EXISTING HOUSE DRAIN UPSTREAM FROM SEPTIC TANK. DRAIN LINE IS 10' DEEP.
- AFTER NEW SERVICE CONNECTION IS PLACED IN SERVICE, PUMP OUT SEPTIC TANK, REMOVE PUMP, AND FILL TANK WITH SAND OR PEA GRAVEL.
- EXISTING 2" PRESSURE LINE IS TO BE ABANDONED AFTER NEW 4" SERVICE CONNECTION IS PLACED IN SERVICE.

- REMOVE EXISTING MANHOLES, TYPICAL FOR 2.
- REMOVE EXISTING 6" SEWER TO EAST SIDE OF NEW MH-3 AND PROVIDE WATERTIGHT PLUG IN EXISTING MANHOLE ON MORTON STREET.



WET PIT
STA 0+00
INVT IN 138.00

MH-1
OUTSIDE DROP MH
STA 0+32
INVT IN 135.32 (W)
INVT IN 145.47 (E)
INVT OUT 135.12(S)
RIM EL 152.7

MH-2
STA 1+08
INVT 150.33
RIM EL 155.8

2-4" PVC FORCE MAINS
W/ 4 FT MIN COVER

4" SERVICE CONNECTION,
TYP. SEE NOTE 1

EXISTING 6" SEWER &
MANHOLES TO BE
REMOVED

MH-3
STA 4+52
INVT 151.71
RIM EL 162.3

SCALE: 1"=50' HORZ
1"=10' VERT



DESIGN BY:
**SOUTHWOOD
ENGINEERING
CORPORATION**
3381 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

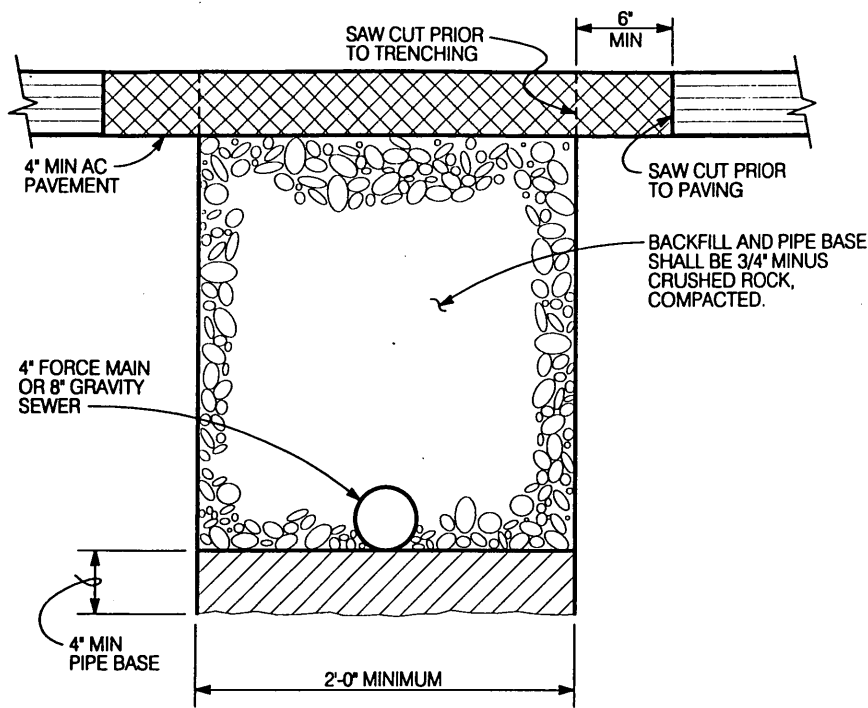
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**NEW TECH
GRAPHICS**
510 3RD ST NW
CORVALLIS, OR
97330
NEW TECH
GRAPHICS (541) 753-9071

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CITY OF NEWBERG, OREGON
**SHERIDAN STREET SEWAGE
PUMP STATION, GRAVITY
SEWER, AND FORCE MAIN**

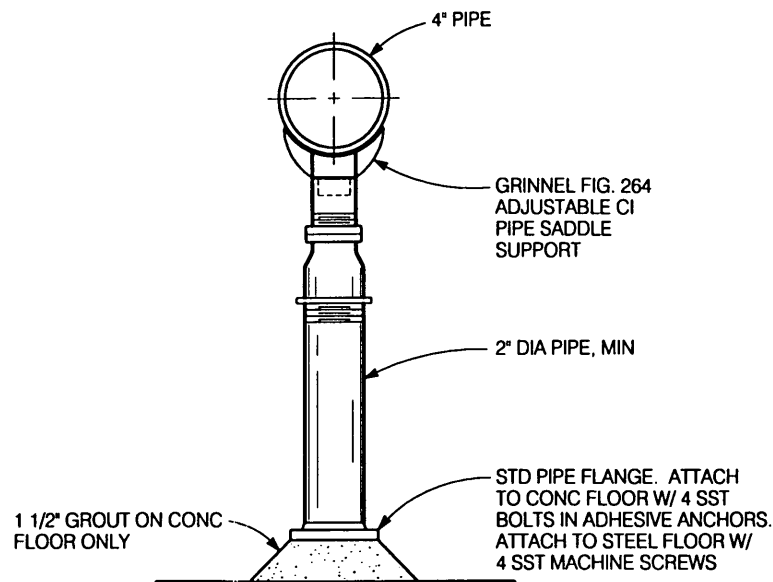
**GRAVITY SEWER
AND FORCE MAIN
PLAN AND PROFILE**

SHEET
6 of 11
DATE
MAR 2000



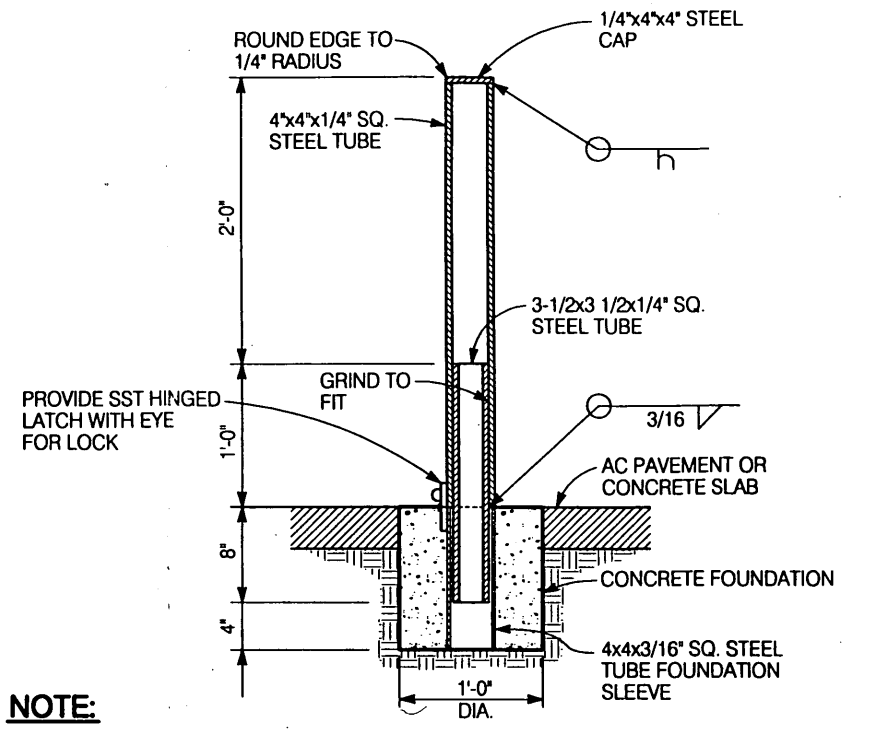
TRENCH BACKFILL

DETAIL 1
SCALE: 1" = 1'-0"
6



PIPE SUPPORT

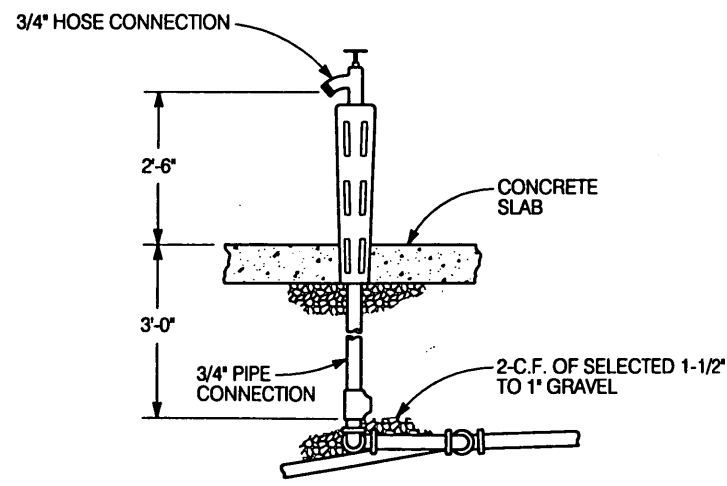
DETAIL 2
NTS
4, 5



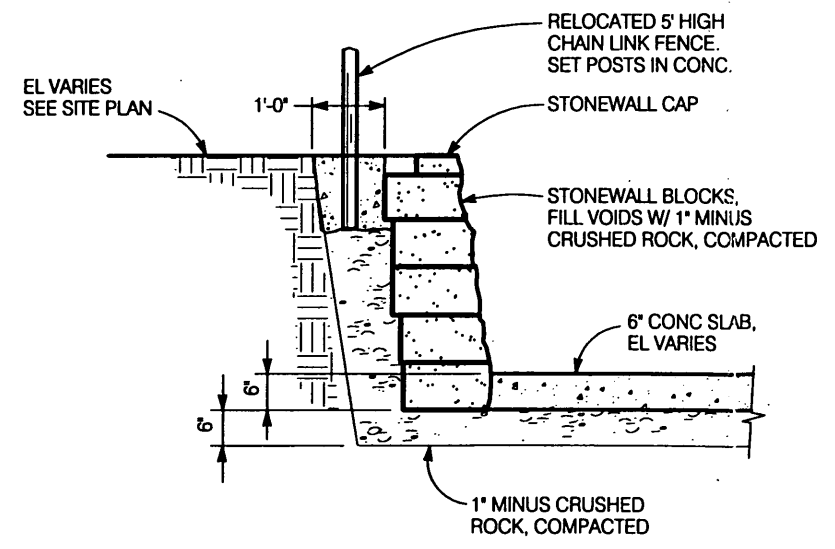
NOTE:
HOT DIP GALVANIZE BOLLARD AND BOLLARD FOUNDATION SLEEVE AFTER FABRICATION.

REMOVABLE BOLLARD

DETAIL 3
SCALE: 3/4" = 1'-0"
3



NON-FREEZE POST HYDRANT DETAIL 4
NTS
3



RETAINING WALL DETAIL 5
3/8" = 1'-0"
3

Ronald P. Stuebelin
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/30/00

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3381 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

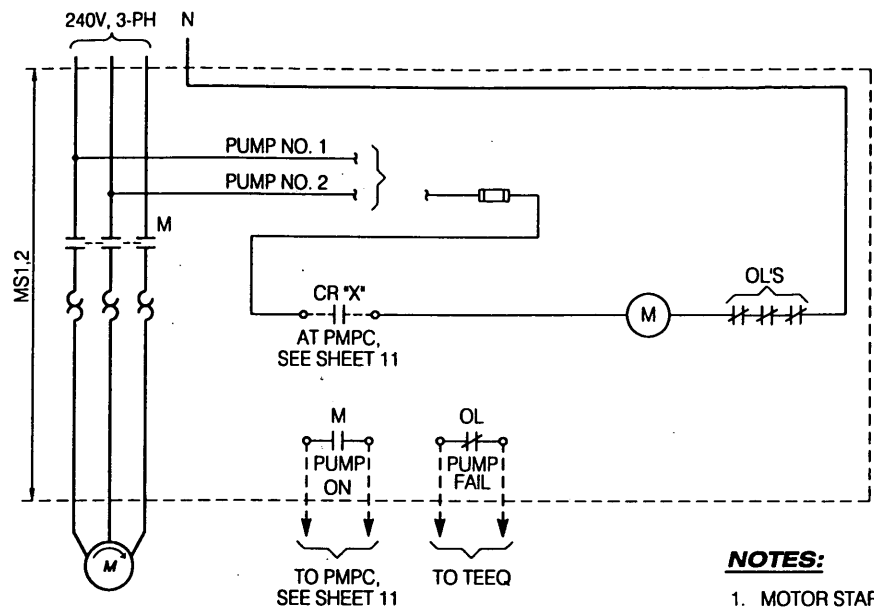
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NEW TECH GRAPHICS (541) 753-9021

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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

DETAILS

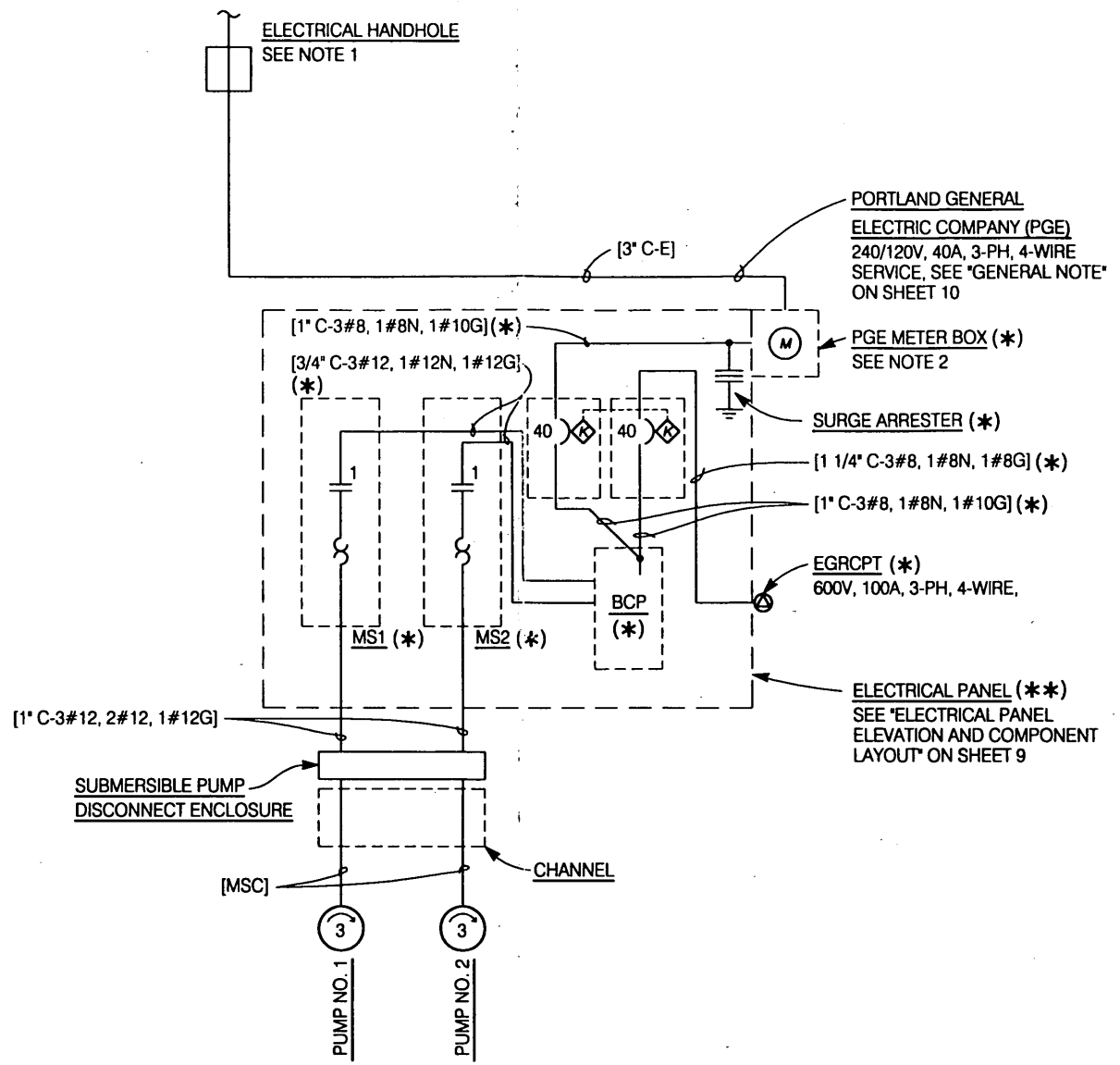
SHEET
7 of 11
DATE
MAR 2000



NOTES:
1. MOTOR STARTERS TO BE FURNISHED BY OWNER WITH ELECTRICAL PANEL.

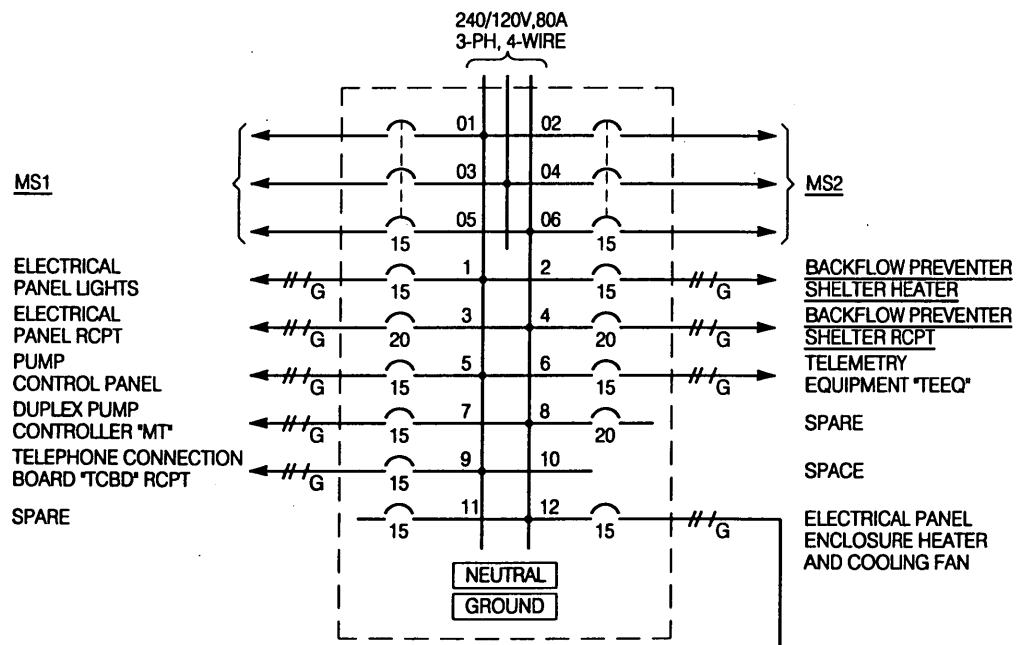
MOTOR STARTER CONTROL DIAGRAM

NTS



ONE-LINE DIAGRAM

NTS



NOTES:
1. BCP PANEL TO BE FURNISHED BY OWNER WITH ELECTRICAL PANEL.

LEGEND:
(*) DESIGNATES ITEMS TO BE FURNISHED AND INSTALLED IN ELECTRICAL PANEL BY OWNER.
(**) DESIGNATES ITEMS TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

NOTES:
1. FURNISH AND INSTALL A HANDHOLE AND COVER PER PGE REQUIREMENTS FOR THE PGE ELECTRIC SERVICE CONDUCTORS. FIELD VERIFY THE HANDHOLE LOCATION WITH PGE BEFORE INSTALLATION. SEE THE GENERAL NOTE ON SHEET 10.
2. INSTALL THE METER PROVIDED BY PGE IN THE METER BOX PROVIDED BY OWNER. SEE THE GENERAL NOTE ON SHEET 10.



BCP PANEL SCHEDULE / SCHEMATIC
NTS

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SOUTHWOOD ENGINEERING CORPORATION
3381 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

ELECTRICAL ONE-LINE AND CONTROL DIAGRAMS

SHEET
8 of 11
DATE
MAR 2000

COMPONENT CALLOUTS:

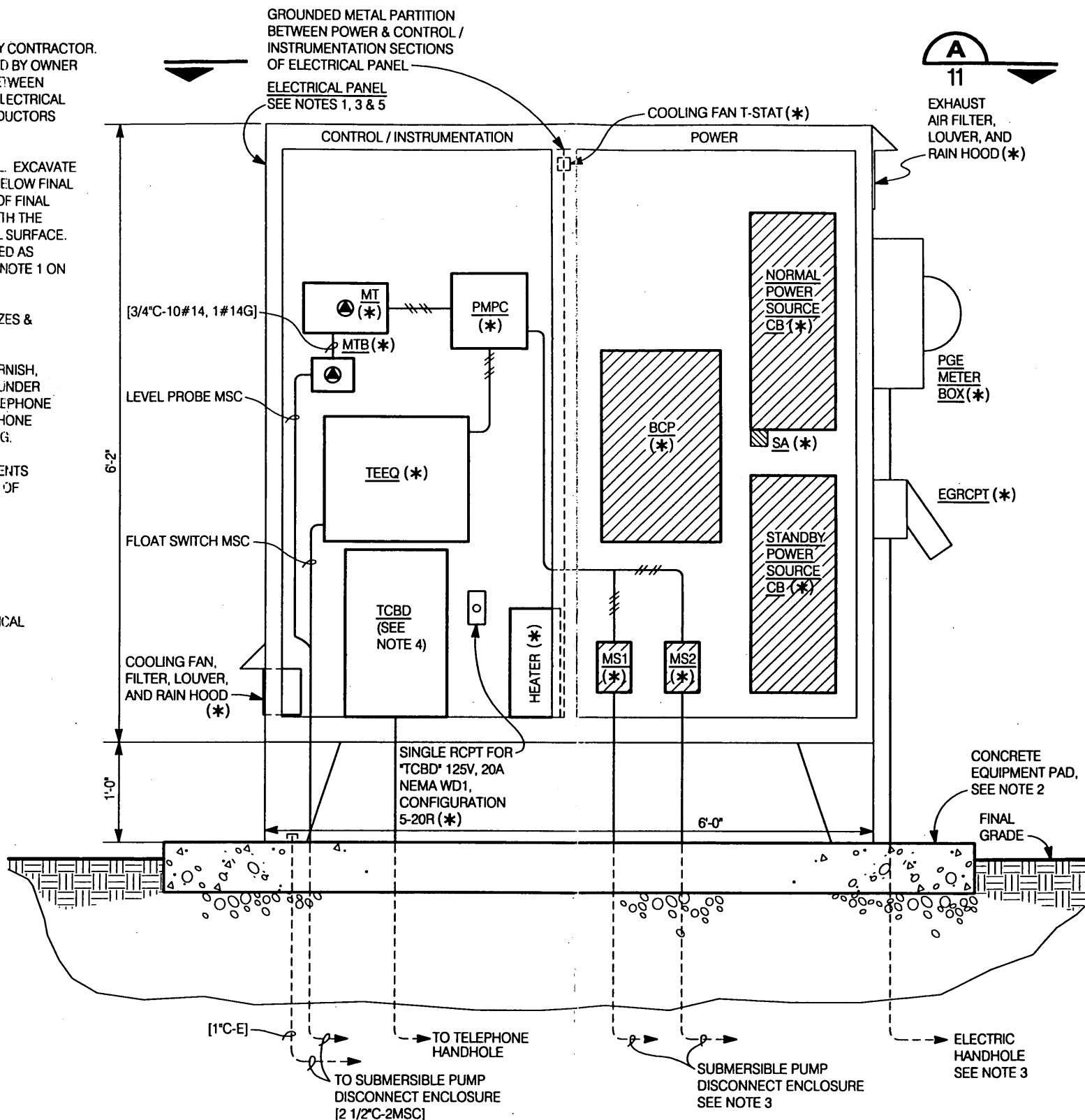
- SA: SECONDARY SURGE ARRESTER (*)
RATINGS: 650 VOLTS AC PHASE-TO-GROUND (MAX), 3-PHASE
MANUFACTURER: SQUARE D CATALOG NO. SDSA3650
- EGRCP: STANDBY ENGINE GENERATOR RECEPTACLE (*)
RATINGS: 600 VOLTS, 100 AMPS, 3-WIRE, 4-POLE, REVERSE CONFIGURATION
HEAVY DUTY CIRCUIT BREAKING RECEPTACLE ASSEMBLY & HOUSING
DIMENSIONS (H,W,D): 11", 6", 10"
MANUFACTURER: CROUSE-HINDS ARKITE CAT. NO. AREA10425
- CB: CIRCUIT BREAKER ("NORMAL" OR "STANDBY" POWER SOURCE) (*)
RATINGS: 240 VOLTS, 40 AMPS, 3-PHASE (3 POLE), NEMA 12 ENCLOSURE
UL LISTED "SUITABLE FOR USE AS SERVICE EQUIPMENT"
KEY INTERLOCKED (ONLY 1 OF THE 2 CB'S CAN BE CLOSED AT THE SAME TIME)
DIMENSIONS (H,W,D): 20", 10", 5"
MANUFACTURER: SQUARE D CATALOG NO. FA100AWK
- MS1,2: MOTOR STARTER (*)
RATINGS: 240 VOLTS, 3-PHASE, FVNR NEMA SIZE 1 MOTOR STARTER,
OPEN TYPE
DIMENSIONS (H,W,D): 5", 4", 5"
MANUFACTURER: SQUARE D CATALOG NO. SC03V03
- BCP: BRANCH CIRCUIT PANEL (*)
RATINGS: 240/120 VOLTS, 100 AMPS, 3-PHASE, 4-WIRE,
BUS CUTOFF (1-PHASE ONLY)
MAIN LUGS WITH BOLT-ON BRANCH CIRCUIT BREAKERS
20 SINGLE-POLE BRANCH CIRCUIT BREAKER SPACES
NEMA 1 ENCLOSURE
DIMENSIONS (H,W,D): 23", 14", 6"
MANUFACTURER: SQUARE D CAT. NO. NQB523
- PMPC: PANEL MOUNTED PUMP CONTROL (*)
-TWO HAND-OFF-AUTO SELECTOR SWITCHES MOUNTED ON INNER PANEL;
ONE FOR PUMP NO. 1 AND ONE FOR PUMP NO. 2
-TWO PUSH-TO-TEST "PUMP ON" RED LED STATUS LIGHTS MOUNTED ON
INNER PANEL; ONE FOR PUMP NO. 1 AND ONE FOR PUMP NO. 2
-TWO CONTROL RELAYS DIN RAIL MOUNTED ON MOUNTING PANEL WITH
120 VOLT COILS AND 120 VOLT, 5 AMP CONTACTS
- MT: DUPLEX PUMP CONTROLLER (*)
DIMENSIONS (H,W,D): 6", 10", 7"
MANUFACTURER: FLYGT DUPLEX MULTITRODE MT2PC-3
- MTB: INTRINSICALLY SAFE BARRIER (*)
DIMENSIONS (H,W,D): 4", 5", 4"
MANUFACTURER: FLYGT MTISB
- TEEQ: TELEMETRY EQUIPMENT (*)
DIMENSIONS (H,W): 15", 17"
MANUFACTURER: TELESAFE 5401 MODULE
- TCBD: TELEPHONE COMPANY CONNECTION BOARD
3/4" EXTERIOR PLYWOOD PAINTED AS REQUIRED BY THE TELEPHONE
COMPANY PRIOR TO INSTALLATION IN THE ELECTRICAL PANEL
DIMENSIONS (H,W): 20", 12"

NOTES:

1. ELECTRICAL PANEL TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. ALL CONDUIT AND CONDUCTORS BETWEEN COMPONENTS PROVIDED BY OWNER IN ELECTRICAL PANEL TO BE PROVIDED BY OWNER. ALL CONDUIT BETWEEN COMPONENTS PROVIDED BY OWNER AND WALLS AND BOTTOM OF ELECTRICAL PANEL TO BE PROVIDED BY OWNER. ALL OTHER CONDUIT AND CONDUCTORS INSIDE AND OUTSIDE PANEL SHALL BE PROVIDED BY CONTRACTOR.
2. PROVIDE A CONCRETE EQUIPMENT PAD FOR THE ELECTRICAL PANEL. EXCAVATE THE ENTIRE AREA BELOW THE EQUIPMENT PAD TO A DEPTH OF 18" BELOW FINAL GRADE. INSTALL CONDUITS IN TRENCH AND BACKFILL TO WITHIN 9" OF FINAL GRADE WITH COMPACTED GRANULAR FILL. FORM AND POUR PAD WITH THE TOP 3" ABOVE FINAL GRADE AND TROWEL TO A SMOOTH, FLAT LEVEL SURFACE. FURNISH AND INSTALL STAINLESS STEEL MOUNTING HARDWARE SIZED AS REQUIRED & IN LOCATION SPECIFIED BY THE PANEL SUPPLIER. SEE NOTE 1 ON SHEET 4.
3. SEE SHEET 8 FOR SERVICE AND FEEDER CONDUIT & CONDUCTOR SIZES & QUANTITIES.
4. CONTACT THE TELEPHONE COMPANY. SCHEDULE FOR THEM TO FURNISH, INSTALL, AND CONNECT TELEPHONE CABLE IN CONDUIT PROVIDED UNDER THIS CONTRACT BETWEEN THE EXISTING PGE POWER POLE AND TELEPHONE CONNECTION BOARD IN THE ELECTRICAL PANEL. COSTS FOR TELEPHONE COMPANY WORK WILL BE BILLED DIRECTLY TO THE CITY OF NEWBERG.
5. THE ELECTRICAL PANEL AND ALL INTERIOR AND EXTERIOR COMPONENTS (EXCEPT FOR TCBD) SHALL BE PROVIDED BY OWNER. INSTALLATION OF ELECTRICAL PANEL AND TCBD SHALL BE PERFORMED BY THE CONTRACTOR.

LEGEND:

(*) DESIGNATES ITEMS TO BE FURNISHED AND INSTALLED IN ELECTRICAL PANEL BY OWNER.



**ELECTRICAL PANEL ELEVATION AND COMPONENT LAYOUT
ON MOUNTING PANEL BEHIND INNER PANEL**
SCALE: 3/4" = 1'-0" (SEE DETAIL 2, SHEET 10)

REGISTERED PROFESSIONAL ENGINEER
Jerry L. Hildebrand
3-17-00
EXP. 6/30/01

DESIGN BY:
SOUTHWOOD ENGINEERING CORPORATION
3301 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

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NEW TECH GRAPHICS
510 3RD ST NW
CORVALLIS, OR 97330
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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

ELECTRICAL ELEVATION & NOTES

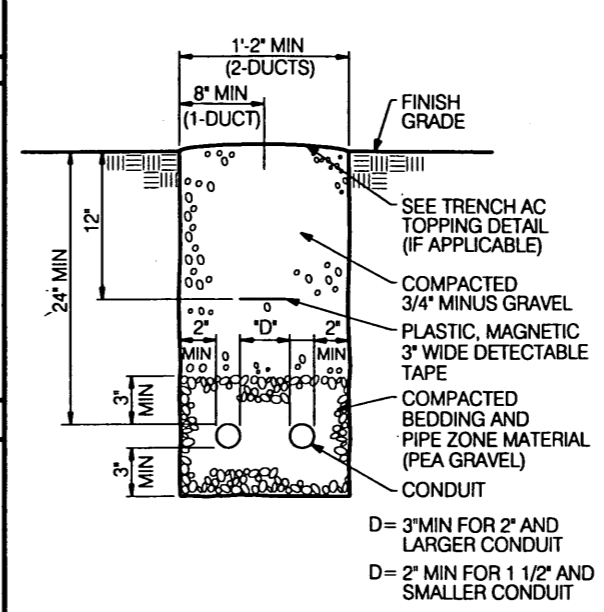
SHEET
9 of 11
DATE
MAR 2000

ELECTRICAL LEGEND AND ABBREVIATIONS

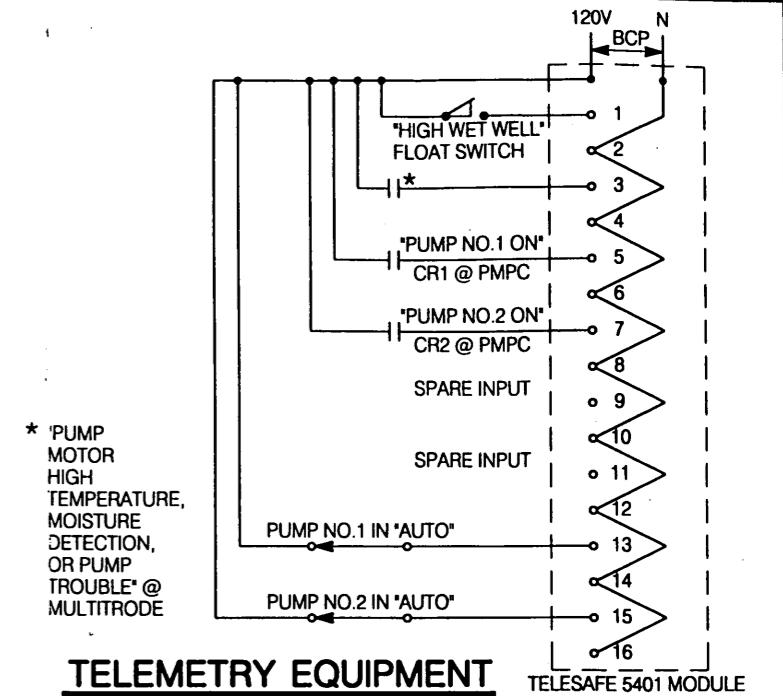
| SYMBOL | DESCRIPTION |
|--|---|
| | MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN. |
| | INDUCTION MOTOR WITH HORSEPOWER AS INDICATED |
| | TYPICAL CONDUIT WITH INDIVIDUAL CONDUCTORS |
| | EXPOSED CONDUIT AND CONDUCTORS* |
| NOTE: | |
| * ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12G CONDUCTORS IN CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE (3/4" MIN). | |
| | CROSSHATCHES WITH BAR INDICATE #10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE. |
| | CONDUIT DOWN |
| | CONDUIT UP |
| | DIRECT BURIED CONDUIT |
| | EXISTING UNDERGROUND ELECTRICAL CONDUIT |
| | GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE. |
| | *SCREENED* EQUIPMENT AND/OR MATERIALS ARE EXISTING TO BE REUSED IN THIS CONTRACT |
| | *CROSS HATCHED* EQUIPMENT AND/OR MATERIALS TO BE REMOVED AND REPLACED UNDER THIS CONTRACT |
| | WALL SWITCH |
| | CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAYS, CONDUCTORS AND CONNECTIONS FURNISHED AND INSTALLED UNDER SECTION 16005, ELECTRICAL |
| | SPECIAL PURPOSE RECEPTACLE |
| | CONTACT - NORMALLY OPEN |
| | CONTACT - NORMALLY CLOSED |
| | OVERLOAD RELAY HEATER |
| | MAGNETIC STARTER WITH NEMA SIZE INDICATED |
| | CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE |
| | FUSE |
| | GROUND |
| | GROUND ROD (3/4"x10' COPPER BONDED WITH #4 STRANDED BARE COPPER CONDUCTOR AND CADWELD TYPE GR CONNECTION) TOP OF GROUND ROD SHALL BE 6" BFG. |
| | PGE METER BOX |

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|--------|---|--------|-------------|
| | 3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT | | |
| | REMOTE DEVICE | | |
| | SURGE ARRESTER | | |
| | INDICATING LIGHT, PUSH-TO-TEST LED TYPE, LETTER INDICATES COLOR: A - AMBER G - GREEN | | |
| | KEY INTERLOCK | | |

| ABBREVIATION | DESCRIPTION | ABBREVIATION | DESCRIPTION |
|--------------|----------------------------------|--------------|----------------------------------|
| A | AMPERE OR AMBER | MSC | MANUFACTURER SUPPLIED CABLE |
| AFG | ABOVE FINISHED GRADE | MT | MOUNT, MULTITRODE PANEL MOUNTED |
| BCP | BRANCH CIRCUIT PANEL | MTD | MOUNTED |
| BFG | BELOW FINISHED GRADE | N | NEUTRAL |
| C | CONDUIT | NC | NORMALLY CLOSED |
| CB | CIRCUIT BREAKER | NO | NORMALLY OPEN |
| CKT | CIRCUIT | NP | NAMEPLATE |
| CR | CONTROL RELAY | OL | OVERLOAD RELAY ON/OFF/AUTO |
| CRS | PVC-COATED RGS | OOA | SELECTOR SWITCH |
| E | EMPTY | P | PUMP |
| EGRCPT | ENGINE GENERATOR RECEPTACLE | PGE | PORTLAND GENERAL ELECTRIC CO. |
| EQPT | EQUIPMENT | PH | PHASE |
| ETM | ELAPSED TIME METER | PMPC | PANEL MOUNTED PUMP CONTROL PANEL |
| EXST | EXISTING | PNL | PANEL |
| FS | FLOAT SWITCH | PVC | POLYVINYL CHLORIDE |
| G | GREEN OR GROUND | PWR | POWER |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER | RCPT | RECEPTACLE |
| GND | GROUND | REQD | REQUIRED |
| GRS | GALVANIZED RIGID STEEL | RGS | RIGID GALVANIZED STEEL (CONDUIT) |
| HH | HAND HOLE | RMS | ROOT-MEAN-SQUARE |
| HP | HORSEPOWER | SS | SELECTOR SWITCH |
| ISR | INTRINSICALLY SAFE RELAY | SST | STAINLESS STEEL |
| J, J-BOX | JUNCTION BOX | SYMM | SYMMETRICAL |
| LT | LIGHT | T-STAT | THERMOSTAT |
| MIN | MINIMUM | TCBD | TELEPHONE CONNECTION BOARD |
| MS | MOTOR STARTER | TEEQ | TELEMETRY EQUIPMENT |
| | | TSP | TWISTED SHIELDED PAIR |
| | | TYP | TYPICAL |
| | | V | VOLTS |
| | | W | WATTS OR WIRE |
| | | WP | WEATHERPROOF |



TRENCH AND CONDUIT PLACEMENT DETAIL 1
NTS

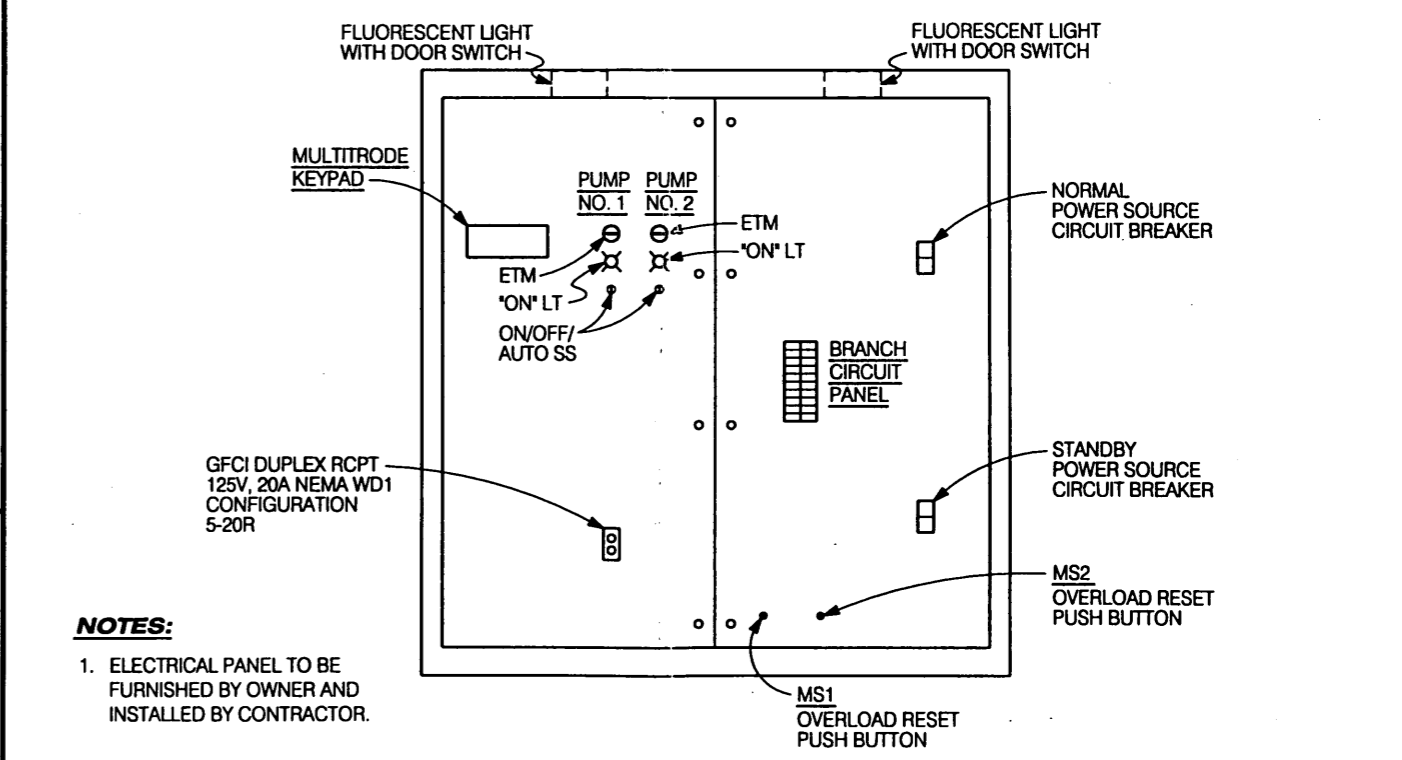


TELEMETRY EQUIPMENT 'TEEQ' INPUT SCHEMATIC
NTS

GENERAL NOTE:

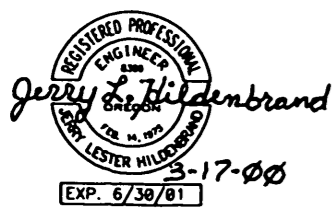
1. CONTACT PORTLAND GENERAL ELECTRIC COMPANY (PGE) ABOUT ELECTRIC SERVICE TO THE SHERIDAN STREET PUMP STATION. SERVICE EQUIPMENT AND INSTALLATION INCLUDING SERVICE CONDUCTORS, METER BOX SERVICE CONDUCTOR CONNECTIONS, AND METER WILL BE PROVIDED BY PGE. COSTS FOR PGE WORK WILL BE BILLED DIRECTLY TO THE CITY OF NEWBERG. COORDINATE THIS WORK WITH:

MR. RALPH REISBECK
PORTLAND GENERAL ELECTRIC COMPANY
4245 KALE STREET N.E.
SALEM, OREGON 97305
PHONE: (503)463-6188
FAX: (503)463-4308



NOTES:
1. ELECTRICAL PANEL TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

ELECTRICAL PANEL ELEVATION AND COMPONENT LAYOUT
ON OR THROUGH INNER PANEL DETAIL 2
SCALE: 1/2" = 1'-0"
9



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SOUTHWOOD ENGINEERING CORPORATION
3381 SOUTHWOOD DR.
PHILOMATH, OR 97379
(541) 929-2533

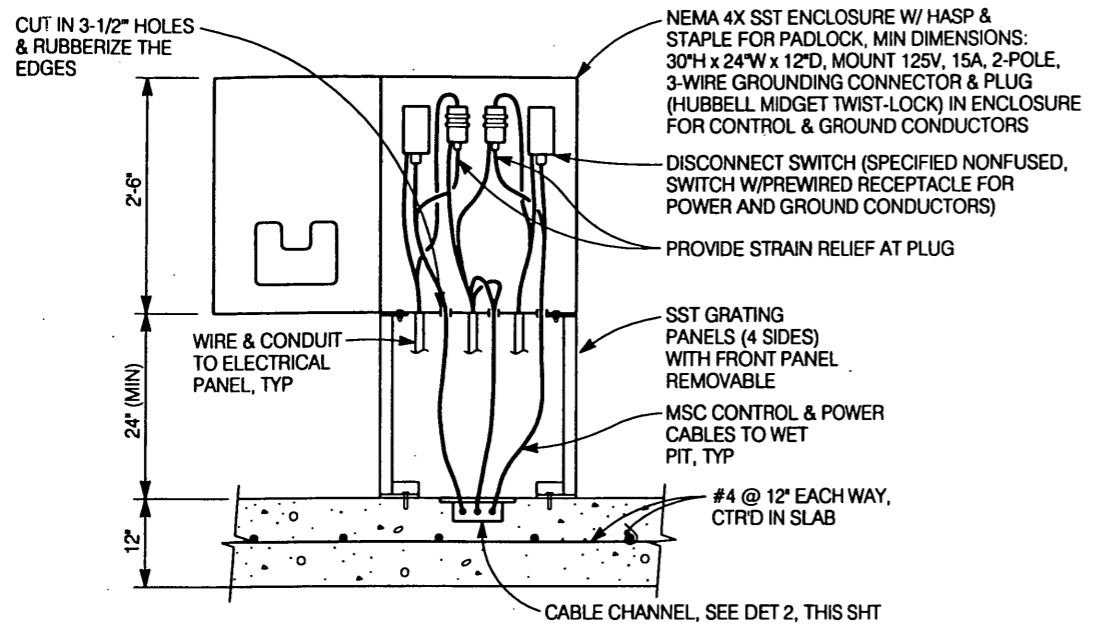
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CORVALLIS, OR 97330
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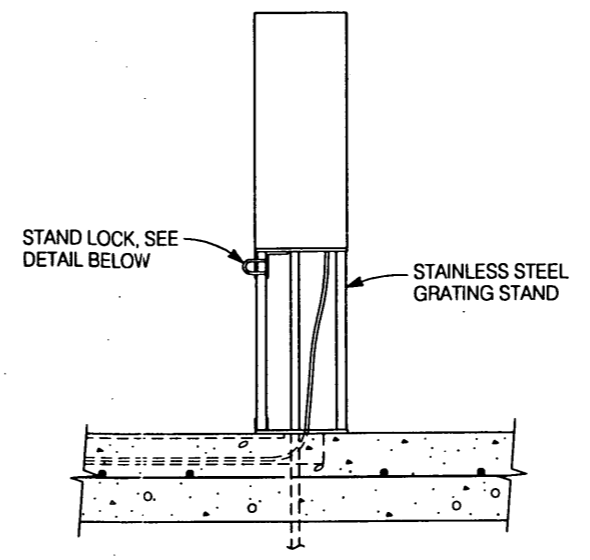
CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

ELECTRICAL LEGEND, ABBREVIATIONS, DETAILS, AND NOTES

SHEET
10 of 11
DATE
MAR 2000



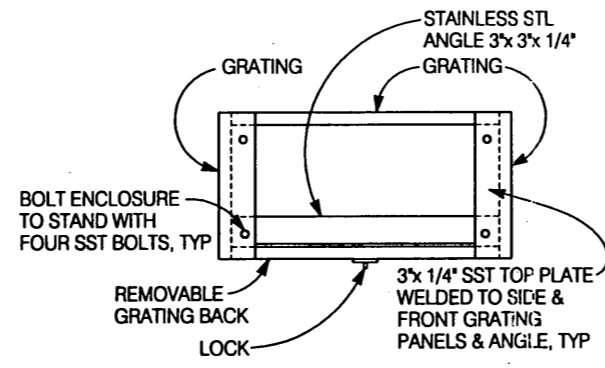
FRONT VIEW
NTS



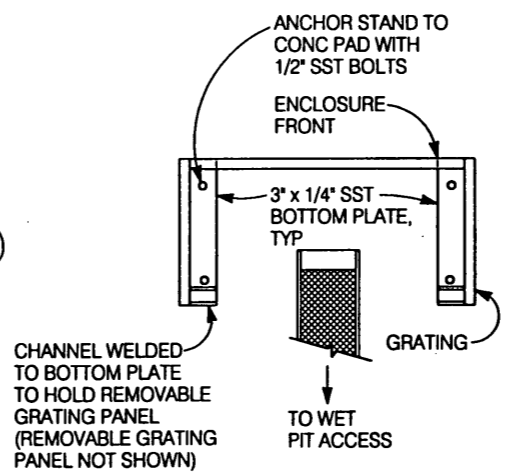
SIDE VIEW
NTS

NOTE:

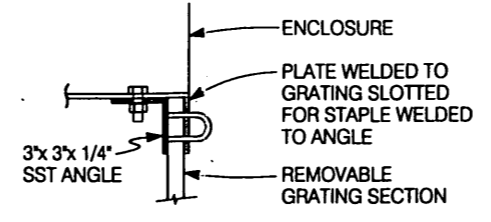
1. SIZE, FURNISH, INSTALL, AND CONNECT SUBMERSIBLE PUMP DISCONNECT ENCLOSURE FOR MULTITRODE PROBE CABLE, HIGH LEVEL FLOAT SWITCH CABLE, PUMP SENSOR CABLES, AND PUMP POWER CABLES.
2. STAINLESS STEEL GRATING SHALL HAVE CROSS BARS AT 4" CENTERS (IN VERTICAL) AND BEARING BARS 3/4" x 1/8" MINIMUM, AT 1-3/16" CENTERS. ALL EDGES SHALL BE BANDED. GRATING SHALL BE 19-4-32 MANUFACTURED BY KLEMP GRATING OR APPROVED EQUAL.



STAND TOP
NTS

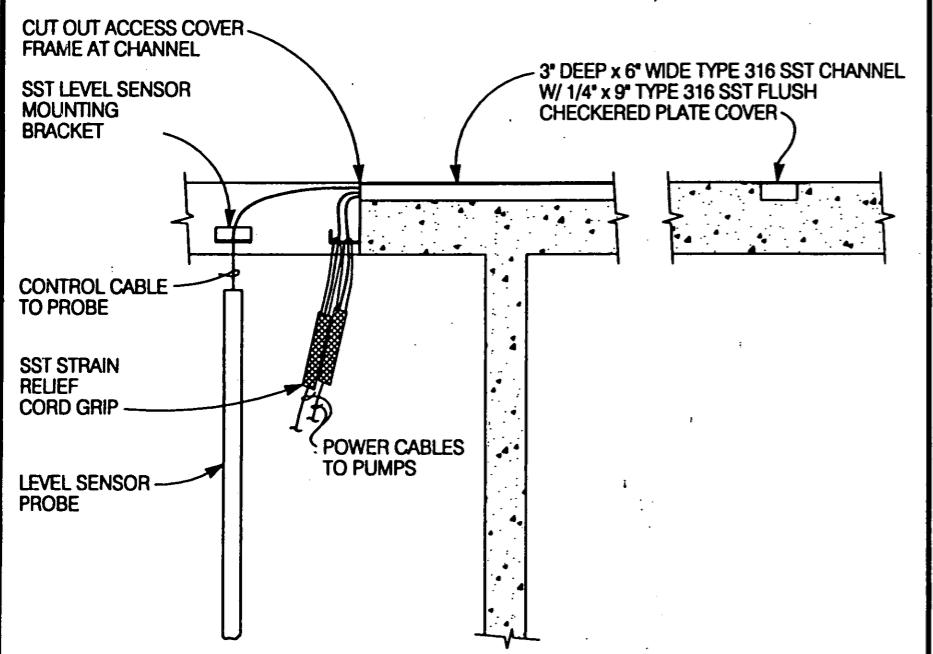


STAND BASE
NTS

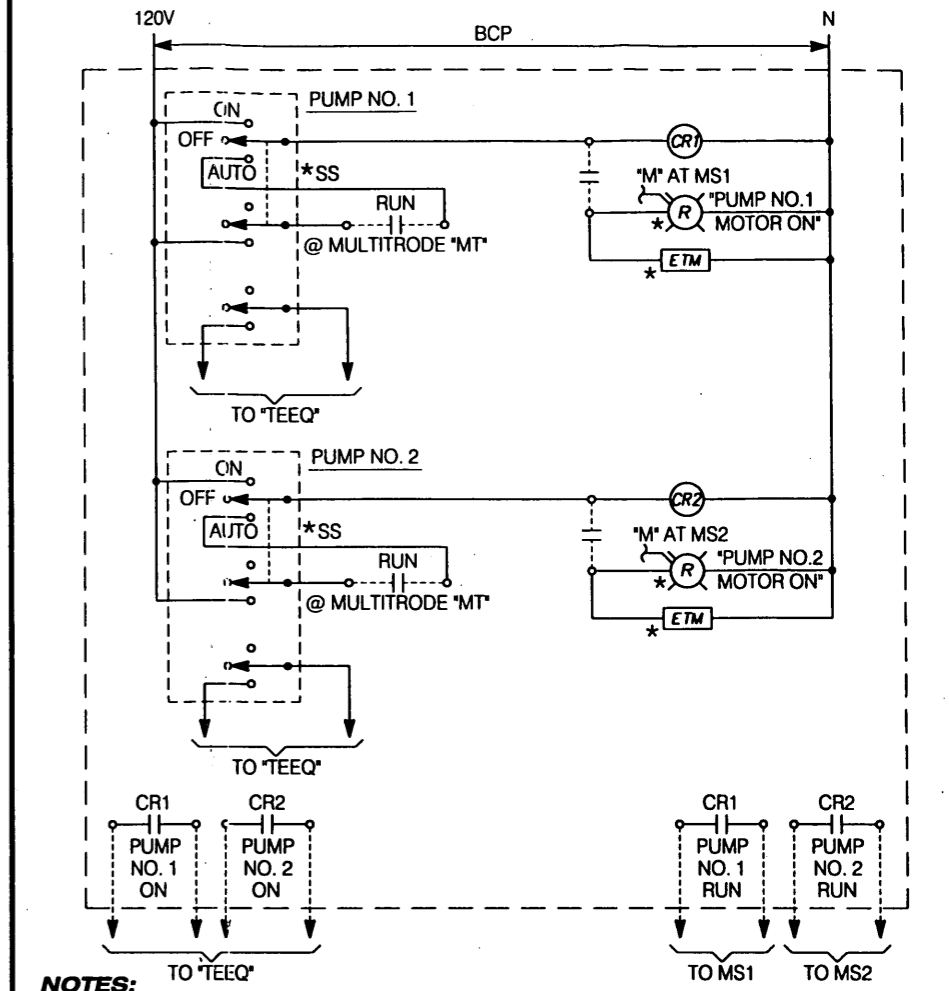


STAND LOCK DETAIL
NTS

SUBMERSIBLE PUMP DISCONNECT ENCLOSURE
NTS



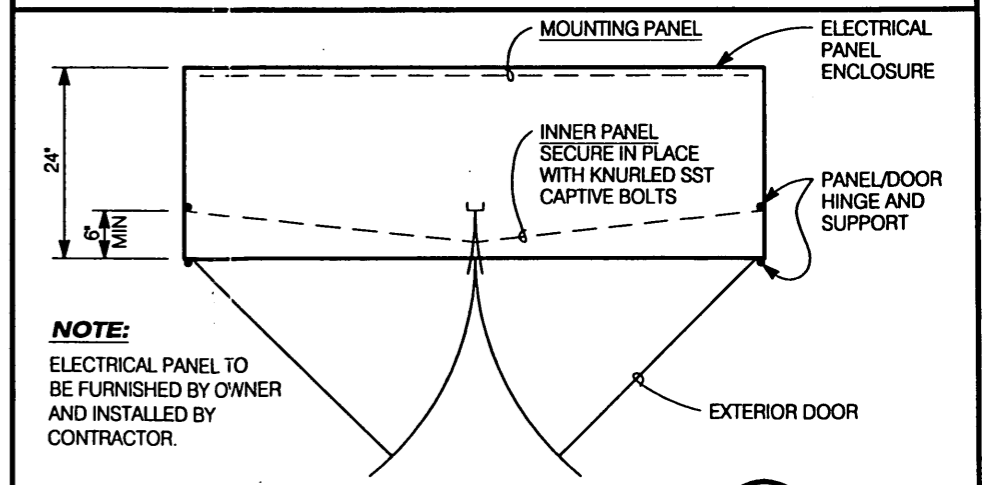
DETAIL 2
3/8" = 1'-0" 4



NOTES:

1. * ACCESSIBLE FROM FRONT OF INNER PANEL.
2. PMPC PROVIDED IN ELECTRICAL PANEL BY OWNER.

PANEL MOUNTED PUMP CONTROL (PMPC) CONTROL DIAGRAM
NTS



NOTE:

ELECTRICAL PANEL TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

ELECTRICAL PANEL SECTION A
SCALE: 1/2" = 1'-0" 9



DESIGN BY:
SOUTHWOOD ENGINEERING CORPORATION
3381 SOUTHWOOD DR.
PHILOMATH, OR 97378
(541) 929-2533

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NEW TECH GRAPHICS
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CITY OF NEWBERG, OREGON
SHERIDAN STREET SEWAGE PUMP STATION, GRAVITY SEWER, AND FORCE MAIN

ELECTRICAL SCHEMATIC, CONTROL DIAGRAM, AND DETAILS

SHEET
11 of 11
DATE
MAR 2000