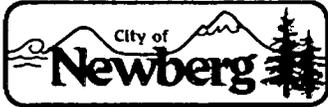


CONTRACT MODIFICATION (CHANGE ORDER)

CITY OF NEWBERG
CITY RECORDER INDEX NO. 2025



CITY OF NEWBERG
Community Development Dept.
Engineering Division
414 E. First St., P.O. Box 970
Newberg, OR 97132
(503) 537-1214

Project Name: Crater Lane LID GSFM
Project No. 6322
Schedule: September
P.O. No. 500265

Sheet: Cover of Two
Date: 10/9/2003
Change Order No.: 6322-2
Contractor: The Saunders Company

CHANGE ORDER SUMMARY		Cover Sheet	
PREVIOUS CHANGE ORDERS APPROVED BY OWNER	Additions \$	Deductions \$	
TOTAL	\$0.00		

The following modifications to the Contract are hereby ordered: (use additional pages if necessary)
See attached detail sheet.

P.O. NO.	
ACCT NO.	
APPROVED	<i>[Signature]</i>
APPROVED	

THIS CHANGE ORDER			
NUMBER	APPROVED (date)		
6322-1	Rejected	\$0.00	\$0.00
6322-2	10/9/2003	\$7,272.00	
		\$7,272.00	\$0.00
Net Change by Change Orders		\$7,272.00	

Method of:

Payment: Per individual detail change order sheets (attached).

Purpose of Change Order: See individual detail change order sheets (attached).

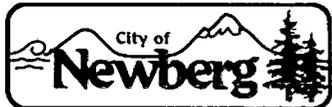
Contract Amount		Contract Time (Calendar Days)	
Original	\$ 334,973.80	Original Duration	98 Days
Prev. Change Orders (Add/Deduct)	\$0.00	Previous Change Orders (Add)	0 Days
This Change Order (Add/Deduct)	\$7,272.00	This Change Order (Add)	0 Days
Revised Contract Amount	\$342,245.80	Revised Contract Time	98 Days
		Revised Completion Date is:	

CITY OF NEWBERG
Reviewed by: *B.E. Knorr* Date: 10/9/03
Project Manager
[Signature] Date: 10/13/03
Division Manager
[Signature] Date: 10/14/03
Community Development Director
[Signature] Date: 10/14/03
City Manager

CONTRACTOR: The Saunders Company
BY: *R M Obe* Date: 10/9/03

Original Contract Authorization Amount: \$334,973.80
Purchase Order No. 500265 (October 2003)
City Council Resolution No. 2003-2457

CONTRACT MODIFICATION (CHANGE ORDER)



CITY OF NEWBERG
 Community Development Dept.
 Engineering Division
 414 E. First St., P.O. Box 970
 Newberg, OR 97132
 (503) 537-1214

Project Name: Crater Lane LID GSFM
 Project No. 6322
 Schedule: September
 P.O. No. 500265

Sheet: Two of Two
 Date: _____
 Change Order No.: 6322-2
 Contractor: The Saunders Company

CHANGE ORDER SUMMARY

The following modifications to the Contract are hereby ordered:(use additional pages if necessary)

At the request of the City, the contractor installed sanitary sewer laterals that were not part of the contract, for the following citizen resident LID homeowners:

1. 2900 Crater Lane
2. 3000 Crater Lane (Tax Lot 3207DB-4600)
3. 3200 Crater Lane
4. 3202 Crater Lane

THIS CHANGE ORDER		Additions	Deductions
NUMBER	APPROVED (date)		
Detail Sheet One	10/9/2003	\$7,272.00	

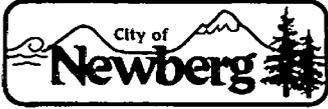
Method of Payment: _____

Purpose of Change Order: Additional Sanitary Sewer Laterals

Net Change by Change Order **~~\$7,272.00~~**

Contract Amount		Contract Time (Calendar Days)	
Original	\$334,973.80	Original Duration	98 Days
This Change Order (Add/Deduct)	\$7,272.00	This Change Order (Add)	0 Days
Revised Contract Amount	\$342,245.80	Revised Contract Time	98 Days
		Revised Completion Date is:	

CONTRACT MODIFICATION (CHANGE ORDER)



CITY OF NEWBERG
 Community Development Dept.
 Engineering Division
 414 E. First St., P.O. Box 970
 Newberg, OR 97132
 (503) 537-1214

Project Name: Crater Lane LID GSFM
 Project No. 6322
 Schedule: September
 P.O. No. 500265

Sheet: Cover of Two
 Date: 10/9/2003
 Change Order No.: 6322-2
 Contractor: The Saunders Company

CHANGE ORDER SUMMARY		Cover Sheet	
PREVIOUS CHANGE ORDERS APPROVED BY OWNER		Additions \$	Deductions \$
	TOTAL	\$0.00	

The following modifications to the Contract are hereby ordered:(use additional pages if necessary)
 See attached detail sheet.

P.O. NO. _____
 ACCT NO. _____
 APPROVED: *[Signature]*
 APPROVED _____

THIS CHANGE ORDER			
NUMBER	APPROVED (date)		
6322-1	Rejected	\$0.00	\$0.00
6322-2	10/9/2003	\$7,272.00	
		\$7,272.00	\$0.00
Net Change by Change Orders			\$7,272.00

Method of

Payment: Per individual detail change order sheets (attached).

Purpose of Change Order: See individual detail change order sheets (attached).

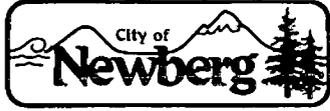
Contract Amount		Contract Time (Calendar Days)	
Original	\$ 334,973.80	Original Duration	98 Days
Prev. Change Orders (Add/Deduct)	\$0.00	Previous Change Orders (Add)	0 Days
This Change Order (Add/Deduct)	\$7,272.00	This Change Order (Add)	0 Days
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CITY OF NEWBERG
 Reviewed by: *B.E. Knorr* Date: 10/9/03
 Project Manager
[Signature] Date: 10/13/03
 Division Manager
[Signature] Date: 10/14/03
 Community Development Director
[Signature] Date: 10/14/03
 City Manager

CONTRACTOR: The Saunders Company
 BY: *R N Obe* Date: 10/9/03

Original Contract Authorization Amount: \$334,973.80
 Purchase Order No. 500265 (October 2003)
 City Council Resolution No. 2003-2457

CONTRACT MODIFICATION (CHANGE ORDER)



CITY OF NEWBERG
 Community Development Dept.
 Engineering Division
 414 E. First St., P.O. Box 970
 Newberg, OR 97132
 (503) 537-1214

Project Name: Crater Lane LID GSFM
 Project No. 6322
 Schedule: September
 P.O. No. 500265

Sheet: Two of Two
 Date: _____
 Change Order No.: 6322-2
 Contractor: The Saunders Company

CHANGE ORDER SUMMARY

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4. 3202 Crater Lane

THIS CHANGE ORDER		Additions	Deductions
NUMBER	APPROVED (date)		
Detail Sheet One	10/9/2003	\$7,272.00	

Method of Payment: _____

Purpose of Change Order: Additional Sanitary Sewer Laterals

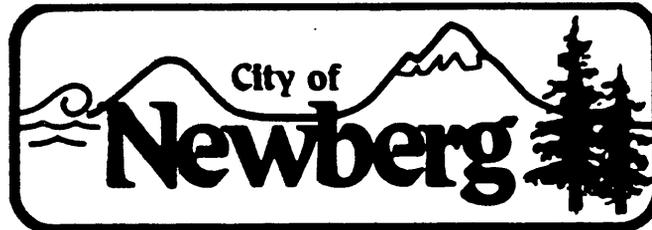
Net Change by Change Order **\$7,272.00**

Contract Amount		Contract Time (Calendar Days)	
Original	\$334,973.80	Original Duration	98 Days
This Change Order (Add/Deduct)	\$7,272.00	This Change Order (Add)	0 Days
Revised Contract Amount	\$342,245.80	Revised Contract Time	98 Days
		Revised Completion Date is:	

CITY OF NEWBERG, OREGON

COMMUNITY DEVELOPMENT DEPARTMENT

CRATER LANE LID GRAVITY SEWER AND FORCE MAIN



MAY 2003

For information regarding this project,
contact:

BOB KNORR
PROJECT MANAGER
(503) 554-1631

CITY OF NEWBERG

CONTRACT DOCUMENTS

for the construction of the

**CRATER LANE LID GRAVITY SEWER
AND FORCE MAIN**

CONSISTING OF:

BIDDING REQUIREMENTS

CONTRACT FORMS

CONDITIONS OF THE CONTRACT

SPECIFICATIONS

DRAWINGS



Exp. 6/30/04

SOUTHWOOD ENGINEERING

**Philomath, Oregon
May 2003**

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PART 1
BIDDING REQUIREMENTS

**CITY OF NEWBERG
ADVERTISEMENT FOR BIDS
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN PROJECT**

Sealed bids for the Crater Lane LID Gravity Sewer and Force Main Project will be accepted until **10:00 a.m. on the 19th day of June, 2003**. Bids submitted after this time will not be accepted. Address bids to Bob Knorr, Project Manager at City of Newberg, Community Development Office, P.O. Box 970, 414 E. First Street, Newberg, Oregon 97132. At **2:00 p.m.** on the same day bids will be opened at publicly read allowed.

All bids must be submitted on the prescribed form completely filled out, signed, in a sealed envelope and accompanied by a certified check or bid bond payable to the City of Newberg, Oregon for an amount not less than 10 percent of the total amount of the bid submitted.

Prequalifications of bidders will be required for this project in accordance with ORS Chapter 279.039. The Contractor's Statement of Qualifications form included with the Bid Documents must be submitted to the Owner with the Bid.

Contractors awarded Public Works Contracts of \$25,000 or more must pay a fee to the Oregon Bureau of Labor and Industries (BOLI) for each contract. The fee is 0.1% of 1% of the contract price. The fee can be no more than \$5,000 and no less than \$100 per contract; regardless of the contract size. See General Requirements Section of the bid documents for fee submittal information.

The project contemplated consists of construction of 3,009 feet of 8-inch gravity sewers, 136 feet of 10-inch gravity sewers, 16 feet of 12-inch gravity sewers, 12 gravity sewer manholes, 1,830 feet of 8-inch force main, 845 feet of 8-inch water line, demolition of an existing raw sewage pump station, and other associated work.

The Engineer's Estimate for this project \$605,160.60

Plans, Specifications, Bid Documents and Planholders List are available through Precision Images, 900 SE Sandy Blvd., Portland, Oregon 97214, 503-274-2030. Contractors can also view or place orders online at www.pi-express.com. Documents may be EXAMINED ONLY at Newberg City Hall, 414 E. First Street, Newberg, Oregon 97132 or Southwood Engineering, 3301 Southwood Drive, Philomath, Oregon 97370.

Bidders must determine for themselves, to their own satisfaction, all of the conditions and circumstances affecting the project or the cost of the proposed work by personal examination of the site and the specifications and by such other means as they may choose. It is understood and agreed that information as to conditions or obstructions indicated in the plans or specifications has been obtained by the City from data at hand. There is no expressed or implied agreement that such conditions are fully or correctly shown and the Bidder must take into consideration the possibility that conditions affecting the cost or quantity of work may differ from those indicated.

An optional Prebid Meeting will be held to discuss the Drawings and Specifications and answer questions. The meeting will begin at 1:00 p.m. on the 11th day of June, 2003, at Newberg City Hall, Community Development Office, 414 E. First Street, Newberg, Oregon 97132. A tour of the project site will be provided after the meeting.

No bid will be received or considered unless the bid contains a statement by the bidder as a part of this bid that provisions of ORS 279.350 or 40 USC 276a shall be complied with.

No bid for a construction contract shall be considered unless the bidder is registered with the Construction Contractors Board as required by ORS 701.035 to 701.055. Each Bid must contain a statement as to whether the bidder is a resident bidder, as defined by ORS 279.029.

When applicable all bidding shall comply with Presidents Executive Order No. 11246. All bidders shall comply with the applicable provisions of the Equal Employment Opportunity Act of 1972 and the Civil Rights Act of 1964.

The described work shall be substantially complete within one-hundred eighty (180) days after notice to proceed. Notice to proceed will be issued after the conditions described in City of Newberg Technical Requirements are satisfied.

Any determinations of the lowest responsible bidder and award are subject to review and determination by the City Attorney as to legal sufficiency of any bid submitted. 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 his bid for a period of sixty (60) calendar days after the date set for opening.

Michael Soderquist, P.E., P.L.S. DEE
Community Development Director

Published: Daily Journal of Commerce
Wednesday, June 04, 2003
Thursday, June 05, 2003

Revised June 4, 2003

ADVERTISEMENT FOR BIDS
PAGE 2

Revised: May 30, 2003 – Addendum No. 1

BID

PLACE: CITY OF NEWBERG, OREGON

PROJECT: CRATER LANE LID GRAVITY SEWER AND FORCE MAIN PROJECT

**TO: MAYOR AND CITY COUNCIL
CITY OF NEWBERG, OREGON
414 E. FIRST STREET
NEWBERG, OREGON 97132**

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

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

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

The Bidder agrees that if this Bid is accepted, he will, within ten calendar days after notification of acceptance, execute the Contract with the Owner; and will at that time deliver to the Owner the Performance and Payment Bond and insurance documents required herein, and will, to the extent of his 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 Community Development Project Manager.

The Bidder further agrees to begin work after receipt of written "Notice to Proceed" from the Owner and to fully complete the project within 180 calendar days. Bidder further agrees to pay as liquidated damages, the sum two hundred fifty dollars (\$250.00) for each consecutive calendar day thereafter until the work shall have been finished. Sundays and legal holidays shall be excluded in determining days in default.

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following schedule of unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. The Bidder agrees that the unit prices represent 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.

Revised: May 30, 2003

The undersigned Bidder hereby agrees that the provisions of ORS 279.348 to 279.356 will be complied with, so that the undersigned Bidder and Bidder's subcontractors will pay to their employees not less than the specified minimum prevailing rate of wage as determined by the Oregon Commissioner of the Bureau of Labor and Industries, and further agrees to pay such wages not less than once per week.

The unit prices shall include all labor, materials, equipment, tools, overhead, profit, insurance, etc., to complete the work called for.

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 acknowledges receipt of the following Addenda.

NO. 1 DATE 6/02/03
NO. 2 DATE 6/05/03
NO. _____ DATE _____

The name of the Bidder submitting this Proposal is THE SAUNDERS CO., INC.
doing business at 901 N. BRUTSCHER ST. #201, NEWBERG, OR, 97132
Street City State Zip

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

BIDDER'S PERFORMANCE BOND STATEMENT

THE SAUNDERS CO., INC., hereinafter referred to as Contractor, is submitting a bid to the City of Newberg pursuant to the City's advertisement for bids dated May 19, 2003 for the Crater Lane LID Gravity Sewer and Force Main Project.

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

Contractor understands and agrees if Contractor fails to provide the performance bond, the Owner will reject such bid and the bid bond or security submitted with the subject bid will be forfeited. The Surety requested to issue the Performance Bond will be GREAT AMERICAN INS. CO.
(Surety Company)

Contractor hereby authorized GREAT AMERICAN to disclose any information to
(Surety Company) INS. CO.
the Owner concerning Contractor's ability to supply a performance bond in the amount of the Contract.

BASE BID FOR GRAVITY SEWER AND FORCE MAIN**UNIT PRICE ITEMS**

<u>Item</u>	<u>Quan.</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extended Total Amt</u>
1. Mobilization	1	LS	\$ 14,500	\$ 14,500.00
2. Traffic Control	1	LS	\$ 4,900	\$ 4,900.00
3. Demolition of Existing Pump Station	1	LS	\$ 2,485	\$ 2,485.00
4. Site Restoration/Demobilization	1	LS	\$ 3,430	\$ 3,430.00
5. Trench Excavation and Backfill, Class A: 3 - 8 feet	983	LF	\$ 10.50	\$ 10,321.50
6. Trench Excavation and Backfill, Class B: 3 - 8 feet	1,724	LF	\$ 17.70	\$ 30,514.80
8 - 10 feet	1,683	LF	\$ 27.15	\$ 45,693.45
10 - 12 feet	230	LF	\$ 32.10	\$ 7,383.00
12 - 14 feet	587	LF	\$ 40.75	\$ 23,920.25
14 - 16 feet	162	LF	\$ 46.60	\$ 7,549.20
16 - 18 feet	512	LF	\$ 75.00	\$ 38,400.00
7. Standard Manhole Construction 0 - 8 foot depth	11	EA	\$ 2,550	\$ 28,050.00
Additional Manhole Depth	52	LF	\$ 280	\$ 14,560.00
8. Special Manhole 12 Construction	1	EA	\$ 3,885	\$ 3,885.00
9. Force Main Connection to Existing Manhole	1	EA	\$ 2,850	\$ 2,850.00
10. Water Line Connection to Existing Water Line	1	EA	\$ 1,910	\$ 1,910.00
11. Removal and Replacement of Asphalt Concrete Pavement Over Trenches	6,500	SF	\$ 2.60	\$ 16,900.00
12. 4-Inch Asphalt Concrete Pavement Replacement	4,000	SF	\$ 2.80	\$ 11,200.00
13. Concrete Thrust Blocks	10	EA	\$ 150.00	\$ 1,500.00
14. 8-Inch PVC Gravity Sewer Pipe	3,009	LF	\$ 2.00	\$ 6,018.00
15. 10-Inch PVC Gravity Sewer Pipe	136	LF	\$ 3.50	\$ 476.00
16. 12-Inch PVC Gravity Sewer Pipe	16	LF	\$ 18.00	\$ 288.00
17. 8-Inch PVC Ductile Iron Water Pipe	845	LF	\$ 14.50	\$ 12,252.50
18. 6-Inch Ductile Iron Water Pipe	45	LF	\$ 12.50	\$ 562.50
19. 8-Inch PVC Force Main	1,805	LF	\$ 4.60	\$ 8,303.00
20. 12-Inch PVC Force Main	25	LF	\$ 16.00	\$ 400.00
21. 4-Inch PVC Sewer Service Laterals	24	EA	\$ 530.00	\$ 12,720.00

Revised: May 30, 2003

BID
PAGE 3The Saunders Company, Inc.
901 N. Brutscher St., Suite 201
Newberg, OR 97132

Item	Quan.	Units	Unit Price	Extended Total Amt
22. 4-Inch PVC Sewer Service Tees	24	EA	\$ 35.00	\$ 840.00
23. Double Water Service Connections	12	EA	\$ 390.00	\$ 4,680.00
24. Single 1-Inch Water Service Connection	1	EA	\$ 410.00	\$ 410.00
25. Ductile Iron Fittings for Water Line and Force Main	2,600	LBS	\$ 2.00	\$ 5,200.00
26. 8-Inch Gate Valves and Valve Boxes	4	EA	\$ 560.00	\$ 2,240.00
27. 6-Inch Gate Valves and Valve Boxes	3	EA	\$ 390.00	\$ 1,170.00
28. Fire Hydrants	3	EA	\$ 1,935.00	\$ 5,805.00
29. Blow Off Assembly	1	EA	\$ 560.00	\$ 560.00
30. TV Inspection of Gravity Sewers	3,161	LF	\$.60	\$ 1,896.60
31. Interior Coating of Existing Manhole	8	LF	\$ 150.00	\$ 1,200.00
BID TOTAL				\$ 334,973.80

In witness thereto the undersigned has set his hand this 18 day of June 2003.

[Signature]
Signature of Bidder

TODD W. SAUNDERS
Print Name

OWNER / PRESIDENT
Title

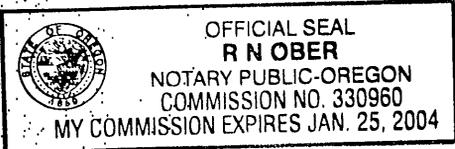
(If Corporation)

In witness whereof the undersigned corporation has caused this instrument to be executed and the seal affixed by its duly authorized officers this 18 day of June 2003.

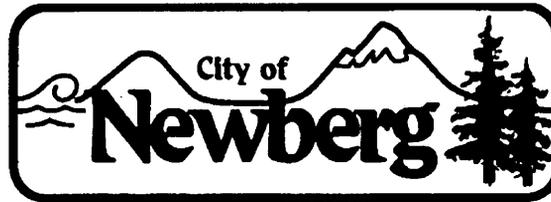
THE SAUNDERS CO. INC
Name of Corporation

By TODD W. SAUNDERS
Print Name

Attest [Signature]
Secretary



City of Newberg
414 E. First Street
P.O. Box 970
Newberg, OR 97132



City Manager
(503) 537-1261
(503) 537-5013 FAX

Community Development Department/Engineering Division
Working Together For a Better Community-Serious About Service

ADDENDUM

TO PLANHOLDERS

CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

ADDENDUM #1
Friday, May 30, 2003

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents as fully and completely as if the same were fully set forth therein:

A. CONTENTS

<u>Item #</u>	<u>Description of Change</u>
1	Contents, Part 4 - Specifications, Division 2 - Site Work - 02316 Trench Excavation and Backfill. Modify Specifications number, for Trench Excavation and Backfill, to read 02221.

B. BIDDING REQUIREMENTS

<u>Item #</u>	<u>Description of Change</u>
1	Advertisement. Delete the Advertisement, pages 1 through 2, and replace with the attached revised Advertisement, dated May 30, 2003.
<u>Item #</u>	<u>Description of Change</u>
2	Bid. Delete the Bid, pages 1 through 4, and replace with the attached revised Bid, dated May 30, 2003.

C. SPECIFICATIONS

- | <u>Item #</u> | <u>Description of Change</u> |
|---------------|--|
| 1 | Part 4 – Specifications, Division 15 – Mechanical, Section 15068 Ductile Iron Pipe and Fittings, sub-section 2.2 – A., Flanged Ductile Iron Fittings. Where it is stated: “The fittings shall be 125 psi rated working pressure and cement-motar lined to same . . .”. Change “125 psi rated . . .” to “250 psi rated . . .”. |

- | <u>Item #</u> | <u>Description of Change</u> |
|---------------|---|
| 2 | Part 4 – Specifications, Division 15 – Mechanical, Section 15068 Ductile Iron Pipe and Fittings, sub-section 3.5 Hydrostatic Tests, D3 pressure testing and leakage. Replace the leakage formula with the following formula as referenced from section 4.1.6, Pressure and Leakage Test, of the ANSI/AWWA C600-93 Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances: |

$$L = \frac{SD\sqrt{P}}{133,200}$$

Where:

L = allowable leakage, in gallons per hour

S = length of pipe tested, in feet

D = nominal diameter of the pipe, in inches

P = average test pressure during the leakage test, in pounds per square inch (gauge)

- | <u>Item #</u> | <u>Description of Change</u> |
|---------------|--|
| 3 | Part 4 – Specifications, Division 15 – Mechanical, Section 15100 Valves and Operators, sub-section 2.6 – Valve Boxes. Under – A1 of Manufacturers: Delete “Tyler 7000” and insert the wording, “As per City of Newberg Standard Drawing 306.” Under – B1 and B2 of Characteristics: Delete items 1 and 2 and insert the wording, “As per City of Newberg Standard Drawing 306.” |

D. DRAWINGS

- | <u>Item #</u> | <u>Description of Change</u> |
|---------------|--|
| 1 | Part 5 – Drawings, Sheets, 5, 7 and 8, Class A and Class B Trench Backfill Classifications. Where Trench Excavation and Backfill, Class A, is indicated along Crater Lane, (Construction Plan Sheets 5, 7 and 8), replace with Class B Granular Material. |

Each bidder shall acknowledge receipt of this Addendum No. 1 by signature below and by writing in the addendum number and date on page 2 of the Bid. A bid submitted without acknowledgement may be invalid.

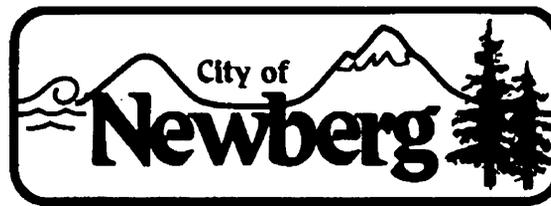


Bidder's Signature

7-29-03
Date

The Saunders Co
Company Name

City of Newberg
414 E. First Street
P.O. Box 970
Newberg, OR 97132



City Manager
(503) 537-1261
(503) 537-5013 FAX

Community Development Department/Engineering Division
Working Together For a Better Community-Serious About Service

ADDENDUM

TO PLANHOLDERS

CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

ADDENDUM #2
Wednesday, June 04, 2003

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents as fully and completely as if the same were fully set forth therein:

A. ADVERTISEMENT FOR BIDS

Item # Description of Change

1 **Advertisement (addendum 1 Advertisement), Page 1, Paragraph 1, Bid Opening Date.** Modify the paragraph to read: "Sealed bids for the Crater Lane LID Gravity Sewer and Force Main Project will be accepted until **10:00 a.m. on the 19th day of June, 2003.**"

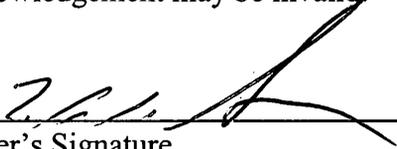
Item # Description of Change

2 **Advertisement (addendum 1 Advertisement), Paragraph 9, Optional Prebid Meeting.** Modify the paragraph to read: "The meeting will begin at 1:00 p.m. on the 11th day of June, 2003 at Newberg City Hall . . ."

Item # Description of Change

3 **Advertisement (addendum 1 Advertisement), Page 2, Published Dates.** Modify the publishing note to read: "Daily Journal of Commerce, Wednesday, June 4, 2003, Thursday, June 5, 2003."

Each bidder shall acknowledge receipt of this Addendum No. 2 by signature below and by writing in the addendum number and date on page 2 of the Bid (addendum 1 Bid). A bid submitted without acknowledgement may be invalid.


Bidder's Signature

7/29/03
Date

THE SAUNDERS CO., INC.
Company Name

BIDDER'S DISCLOSURE STATEMENT

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.

BIDDER'S DISCLOSURE FORM

CITY OF NEWBERG, CRATER LAKE LID HEAVY SEWER + FORCE MAIN Project name

THE SAUNDERS CO., INC.
Firm name of prime contractor

88343
CCB number

JUNE 19, 2003, 10:00 AM
bid opening date and time

Firm Name
NO SUB CONTRACTORS MEET THE
Address
REQUIREMENTS AS LISTED IN THE
City, State, Zip
BIDDER'S DISCLOSURE STATEMENT

Firm Name
Address
City, State, Zip

Firm Name
Address
City, State, Zip

Firm Name
Address
City, State, Zip

Firm Name
Address
City, State, Zip

CONTRACTOR'S STATEMENT OF QUALIFICATIONS

Contractor shall provide the following information and submit this form to the OWNER with the Bid.

1. Name of Organization: THE SAUNDERS CO., INC.

Address: 901 N. BEUTSCHER ST, #201
NEWBERG, OR 97132

Phone: 503.537.9950 Fax: 503.537.9952

Email: N/A

Check one of the following:

- An Individual
 Partnership
 Corporation
 Joint Venture
 Member of Joint Venture

2. If a corporation:

When incorporated: 1993

State of incorporation: OREGON

President: TODD W. SAUNDERS

List all officers authorized to execute contracts:

N/A

3. If a partnership:

Date of organization: 2/12

Name and address of partners:

4. Provide the following information regarding Bid, Performance, and Payment Bonds:

Name of surety company: ZAROSINSKI - LEAVITT Ins. AGY. OF
(GREAT AMERICAN INSURANCE) OREGON

Name of agent: JOHN MARTIN

Address of agent: 9780 SW SHADY LAKE, STE #200
TIGARD, OREGON 97223

Agent phone: 503.639.4220

5. Indicate total amount of work the organization is capable of undertaking at any one time:

\$ 3,000,000

The Saunders Company, Inc.
901 N. Brutscher St., Suite 201
Newberg, OR 97132

6. Enter the years of experience in each of the following classes of work:

<u>Class of Work</u>	<u>Years Experience</u>
1. Sanitary sewers	<u>23</u>
2. Water lines	<u>23</u>
3. Streets	<u>23</u>

7. List major items of equipment owned by your organization (add attachment if necessary):

<u>Equipment Description</u>	<u>Age in Years</u>
(2) 980 G. CAT LOADER	<u>6</u>
544 H JD WHEEL LOADER	<u>8</u>
953 CAT TRACK LOADER	<u>17</u>
410 E JD BACKHOE	<u>6</u>
S10 D JD BACKHOE	<u>11</u>
D5 CAT BULLDOZER	<u>7</u>
D8 CAT BULLDOZER	<u>N/A</u>
613 B CAT SCRAPER	<u>20</u>
(2) 627 B CAT SCRAPER	<u>N/A</u>
CSS63 CAT COMPACTOR/ROLLER	<u>N/A</u>
330 L CAT EXCAVATOR	<u>10</u>
330 BL CAT EXCAVATOR	<u>5</u>

* CONTINUED ON ATTACHMENT

The Saunders Company, Inc.
901 N. Brutscher St., Suite 201
Newberg, OR 97132

8. Do you intend to rent equipment for this project? If so, list the equipment:

NO.

9. List the major projects similar to this project undertaken in the last five years (list most recent projects first) (add attachment if necessary):

<u>Owner Name and Address</u>	<u>Name and Location of Project</u>	<u>Date Completed</u>	<u>Contract Amount</u>
1. <u>OAK RIDGE ESTATES Dev. Co. Corp. BENTON, OR</u>	<u>OAKS @ SPRINGBROOK NEWBERG, OR</u>	<u>OPEN</u>	<u>\$1,642,000</u>
2. <u>KEITH GAUGER NEWBERG, OR</u>	<u>CANTREY PARK NEWBERG, OR</u>	<u>02/03</u>	<u>\$234,000</u>
3. <u>PACIFIC CONSTRUCTION NEWBERG, OR</u>	<u>MILL CREEK FARMS HUBBARD, OR</u>	<u>OPEN</u>	<u>\$600,000</u>
4. <u>WERNER FAMILY, LLC NEWBERG, OR</u>	<u>BRUTSCHER ST. EXT. NEWBERG, OR</u>	<u>12/02</u>	<u>\$415,000</u>
5. <u>HAR TAYLOR + SONS BENTON, OR</u>	<u>VARIOUS BENTON, OR</u>	<u>08/02</u>	<u>\$247,000</u>

- | | | | |
|------------------------------|--------------------------|-------|-----------|
| 6. COLAMERE CONSTRUCT. | ADEC BLDG, #7 | 04/02 | \$466,000 |
| STEELWOOD, OR | NEWBERG, OR | | |
| 7. NORTHLAND PROPERTIES | SUEKINA PARK | 09/01 | \$167,000 |
| PORTLAND, OR | MOLALLA, OR | | |
| 8. MITCHELL HOMES | COTTONWOOD MEADOWS | 04/01 | \$195,000 |
| NEWBERG, OR | NEWBERG, OR | | |
| 9. CITY OF NEWBERG | FERRWOOD RD. UTILITIES | 04/01 | \$591,000 |
| NEWBERG, OR | NEWBERG, OR | | |
| 10. KANWILL COMM. DEV. COOP. | CYPRESS MEADOWS PHASE II | 05/01 | \$234,000 |
| McMINVILLE, OR | NEWBERG, OR | | |
| 11. LARRY BROWN | CAMBRIDGE | 12/00 | \$310,000 |
| PORTLAND, OR | McMINVILLE, OR | | |
| 12. SILVER OAK CUSTOM HOMES | GOODALL ROAD | 04/01 | \$166,000 |
| LAKE OSWEGO, OR | LAKE OSWEGO, OR | | |

13. WILLAMETTE VALLEY HOMES VALLEY MEADOWS 07/00 \$317,000
WILSONVILLE, OR NEWBERG, OR

14. YAMHILL COMM. DEV. COOP. CYPRESS MEADOWS PHASE I 03/00 \$308,000
MC MINNIEVILLE, OR MC MINNIEVILLE, OR

15. TIMOTHY YOUNGSKIN HOME SWEET HOME 12/99 \$265,000
SALEM, OR SWEET HOME, OR

* CONTINUED ON ATTACHMENT

10. List the construction experience of all owners, officers, partners, and principal individuals in the organization:

Name	Position	Type of Work	Years of Experience
1. <u>TODD SAUNDERS</u>	<u>PRES. / OWNER</u>	<u>SEWAGE, WATERLINES & STREET</u>	<u>23</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

PROJECTS CONTINUED

	OWNER NAME AND ADDRESS	NAME + LOCAT. OF PROJECT	DATE COMPLETE	CONTRACT AMT.
# 16.	HAPP TAYLOR + SONS BEND, OR	AUREY BUTTE BEND, OR	09/1999	\$174,000
# 17.	PACIFIC CONSTRUCTION NEWBERG, OR	GRIFFIN ESTATES MOJOMOUTH, OR	04/99	\$963,000
# 18.	EDWARDS DEVELOPMENT LAKE OSWEGO, OR	REBECCA WOODS BEVERTON, OR	03/99	\$627,000
# 19.	KEYES HOMES PORTLAND, OR	NAROLA PARK ALOHA, OR	07/99	\$325,000
# 20.	PACIFIC EMPIRE DEVEL. NEWBERG, OR	WALK ESTATES ALOHA, OR	08/99	\$258,000
# 21.	CITY OF McMinnville McMinnville, OR	BURNETT ROAD McMinnville, OR	08/98	\$213,000
# 22.	LAKESIDE INDUSTRIES PORTLAND, OR	AGGREGATE HILLSBORO, OR	08/98	\$1,500,500
# 23.	KEYES HOMES PORTLAND, OR	BEACKNEY ESTATES ALOHA, OR	05/98	\$800,000

EQUIPMENT DESCR. (CONT.)

AGE IN YEARS

320 CAT EXCAVATOR

11

490 E JD EXCAVATOR

8

140 G CAT EXCAVATOR

N/A

ROCK CRUSHER, MODEL 103

6

AND RELATED EQUIPMENT

11. Signature of Office: T. W. Saunders

Printed name of Officer: TODD W. SAUNDERS

Title: PRESIDENT / OWNER

Date: 5-28-03

The Saunders Company, Inc.
901 N. Brutscher St., Suite 201
Newberg, OR 97132

BID BOND

The American Institute of Architects,
AIA Document No. A310 (February, 1970 Edition)

KNOW ALL MEN BY THESE PRESENTS, that we The Saunders Company

as Principal hereinafter called the Principal, and Great American Insurance Company

as Surety, hereinafter called the Surety, are held and firmly bound unto City of Newburg

as Obligee, hereinafter called the Obligee, in the sum of ten percent of amount bid

Dollars (\$ 10% of bid), for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for Crater Lane LID Gravity Sewer and Force Main

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this 19th day of June, 2003

Ken J. Campbell
Witness

The Saunders Company
Principal (Seal)
By: [Signature] Pres
Name/Title

Witness

Great American Insurance Company
Surety (Seal)
By: [Signature]
John A. Martin Attorney-in-Fact

The Saunders Company, Inc.
901 N. Brutscher St., Suite 201

GREAT AMERICAN INSURANCE COMPANY

580 WALNUT STREET • CINCINNATI, OHIO 45202 • 513-369-5000 • FAX 513-723-2740

The number of persons authorized by
this power of attorney is not more than

No. 0 13866

THREE

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the GREAT AMERICAN INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Ohio, does hereby nominate, constitute and appoint the person or persons named below its true and lawful attorney-in-fact, for it and in its name, place and stead to execute in behalf of the said Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of the said Company on any such bond, undertaking or contract of suretyship executed under this authority shall not exceed the limit stated below.

Name	Address	Limit of Power
RICK ZAROSINSKI	ALL OF	ALL
JOHN A. PIERCE	PORTLAND,	UNLIMITED
JOHN A. MARTIN	OREGON	

This Power of Attorney revokes all previous powers issued in behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF the GREAT AMERICAN INSURANCE COMPANY has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 2nd day of February, 1999

Attest

GREAT AMERICAN INSURANCE COMPANY



Assistant Secretary

Divisional Senior Vice President

STATE OF OHIO, COUNTY OF HAMILTON — ss:

On this 2nd day of February, 1999, before me personally appeared DOUGLAS R. BOWEN, to me known, being duly sworn, deposes and says that he resided in Cincinnati, Ohio, that he is the Vice President of the Bond Division of Great American Insurance Company, the Company described in and which executed the above instrument; that he knows the seal; that it was so affixed by authority of his office under the By-Laws of said Company, and that he signed his name thereto by like authority.



MAUREEN DOUGHERTY
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 08-12-06

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of Great American Insurance Company by unanimous written consent dated March 1, 1993.

RESOLVED: That the Division President, the several Division Vice Presidents and Assistant Vice Presidents, or any one of them, be and hereby is authorized, from time to time, to appoint one or more Attorneys-In-Fact to execute on behalf of the Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; to prescribe their respective duties and the respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and the signature of any of the aforesaid officers and any Secretary or Assistant Secretary of the Company may be affixed by facsimile to any power of attorney or certificate of either given for the execution of any bond, undertaking, contract or suretyship, or other written obligation in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

CERTIFICATION

I, RONALD C. HAYES, Assistant Secretary of Great American Insurance Company, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of March 1, 1993 have not been revoked and are now in full force and effect.

Signed and sealed this

19th

day of June

2003



Assistant Secretary

RECEIVED
JUN 12 2003
RECEIVED

BIDDER'S STATUS OF RESIDENCY

CITY OF NEWBERG, (CRATER LAKE LID) BEAULTY SEWER + FORCE. MAIN
project name

THE SAUNDERS CO., INC. 503. 537. 9950
name of contracting company telephone

901 N. BRUTSCHER ST. #201 503. 537. 9952
business address NEWBERG, OR 97132 fax

Oregon law, as set forth in ORS 279.029, requires that the Owner, in determining the lowest responsible Bidder for the Project listed above, must add a percent increase on the Bid of a nonresident Bidder equal to the percent, if any, of the preference given to that Bidder in the State in which that Bidder resides. Consequently, each Bidder must indicate whether it is a resident or nonresident Bidder.

A "resident Bidder" is a Bidder that has paid unemployment taxes or income taxes in the State of Oregon during the 12 calendar months immediately preceding submission of this Bid, has a business address in Oregon, and has stated in its Bid that it is a "resident Bidder"

A "nonresident Bidder" is a Bidder who is not a resident Bidder.

The undersigned states that it is: (check one)

- A resident Bidder
- A nonresident Bidder

List the State in which Bidder resides: OREGON

Lori D. Campbell
signature of person completing form

Lori D. Campbell
print name

BUSINESS RELATIONS MGR.
title

6/18/03
date

BIDDER'S ELIGIBILITY
FOR A PUBLIC WORKS CONTRACT

CITY OF NEWBERG, CATER LAKE LID GRAVITY SEWER + FORCE MAIN
project name

[Signature]
signature of authorized signer
OWNER / PRESIDENT
title

TODD W. SAUNDERS
print name

with legal authority from

THE SAUNDERS CO., INC.
name of contracting company
503.537.9950
telephone

901 N. BRUTSCHER ST., #201, NEWBERG, OR 97132
business address
503.537.9952
fax

hereinafter referred to as Contractor, certifies that the Contractor is eligible to receive a public works contract, as set forth in ORS 279.361 and verifies that every subcontractor for the above referenced Project complies with the same Statutes. The Contractor agrees, if awarded a contract, that every subcontractor will be required to provide certification to be filed with the City prior to such subcontractor commencing any subcontract work under the contract. (A blank form for the certification, entitled "Subcontractor's Eligibility For A Public Works Subcontract" is included.)

[Signature]
signature of person completing form
BUSINESS RELATIONS MGR.
title

Loei D. CAMPBELL
print name
6/18/03
date

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.

The CONTRACTOR is required to pay a fee to the Bureau of Labor and Industries pursuant to the Provisions of ORS 279.352(2). The fee is one-tenth of one percent of the price of this Contract, but not less than \$100 nor more than \$5,000, regardless of the Contract price.

A copy of the PREVAILING WAGE RATES is included herein.

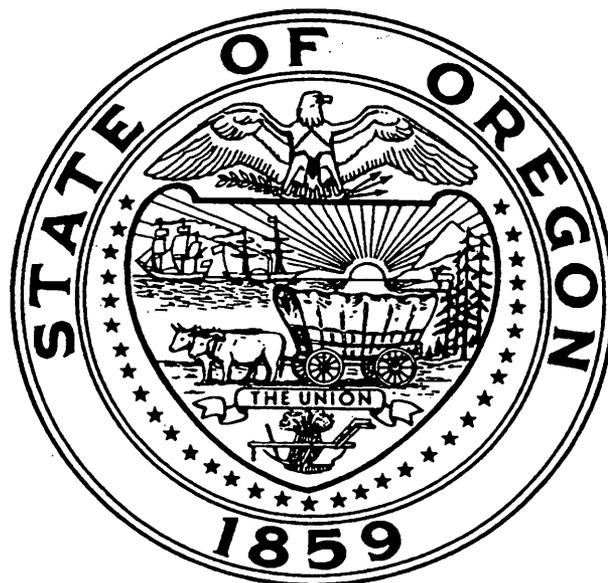
Contractors and subcontractors on public works projects with a total price of less than \$25,000 are not required to pay employees the prevailing wage rate.

END OF SECTION

PREVAILING WAGE RATES

for

Public Works Contracts in Oregon



OREGON BUREAU OF LABOR AND INDUSTRIES

Jack Roberts
Commissioner
Bureau of Labor and Industries

Effective: January 1, 2003

JACK ROBERTS
COMMISSIONER



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

BUREAU OF LABOR AND INDUSTRIES

December 30, 2002

Under Oregon law, the Commissioner of the Bureau of Labor and Industries publishes the state's prevailing wage rates twice annually, in January and July, with quarterly updates in April and October. The rates are determined using a statewide construction industry wage survey of occupations and crafts performing commercial, heavy and highway construction in 14 specific geographic regions of the state. The 2002 survey collected over 920,000 hours of construction employment wage information reported by contractors for a peak week of employment between June 23 and August 17, 2002.

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

If you identify any errors in the rates published, please bring them to the attention of the Prevailing Wage Rate Coordinator in Portland at (503) 731-4709. If you have any questions about the manner in which the prevailing wage rates are enforced, contact the Wage and Hour Division in Portland at (503) 731-4074, or any of the bureau's field offices.

JACK ROBERTS
Commissioner
Bureau of Labor & Industries

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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.

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

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 the prevailing wage law, you may obtain a "Prevailing Wage Rate Laws" handbook by contacting the nearest Oregon Bureau of Labor and Industries office listed below. An order form is at the back of the booklet.

BOLI Office Locations

Eugene	1400 Executive Parkway, Suite 200 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

HOW TO LOOK UP A RATE

1. When was the project first advertised for bid?

The rates in effect at the time the bid specifications are first advertised are those that apply for the duration of the project.

2. What type of work is being performed by the employee?

Find the definition that most closely matches the actual work being performed by the worker. If you have any questions about work classifications, contact BOLI at the number below.

3. Where is the work being performed – what region?

Find the occupation in the correct region pages associated with the county where the project construction is taking place.

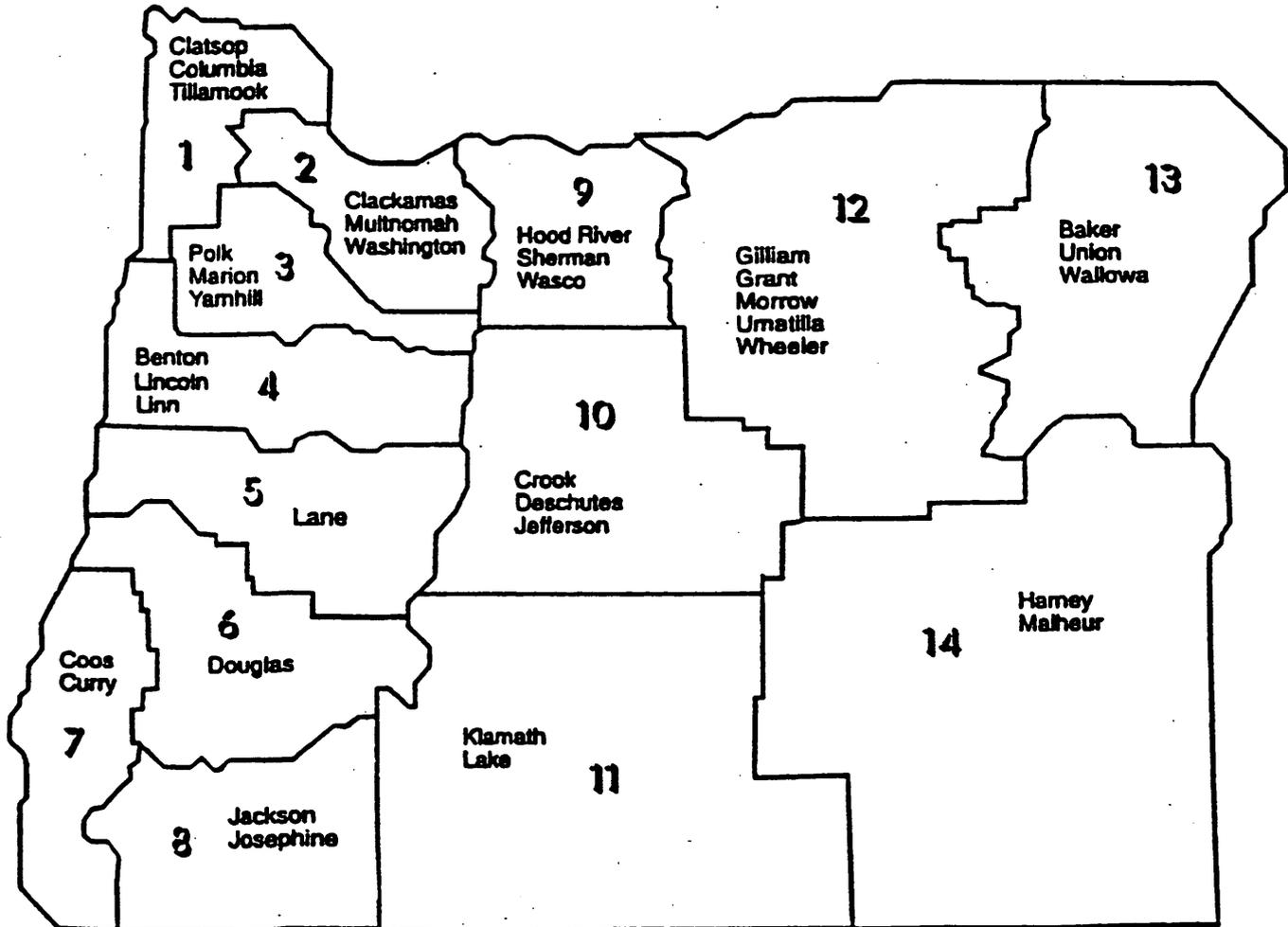
4. Is there a rate listed next to the classification?

If so, use it.

5. If the book directs you to "See Appendix," go to the back of the book and use the rate listed in the Appendix pages. It may include a group number and/or zone pay.

6. If you still don't know, CALL BOLI at (503) 731-4709.

PREVAILING WAGE RATE REGIONS



DEFINITIONS OF COVERED OCCUPATIONS

1. Asbestos Workers/Insulators

Install insulation on mechanical systems for thermal and acoustical purposes. Also install 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.

NOTE: See also #16 - Hazardous Materials Handlers.

2. Boilermakers

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

3. Bricklayers/Stonemasons

Bricklayers

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

Stonemasons

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

4. Carpenters

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

Carpenters, 1

Includes Auto Nailing Machine Operators, Form Strippers, Floor Layers, Stationary Power Saw Operators. Includes installation of furniture systems by attaching furniture to floor or walls. Includes Framers. Also includes scaffold erection if 14 feet or over, unless erecting for Masons or Plasterers.

NOTE: See also #36 - Tenders to Masons and #37 - Tenders to Plasterers.

Carpenters, 2

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

Drywall/Acoustical Carpenters

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

DEFINITIONS OF COVERED OCCUPATIONS

Carpenters (Continued)

Marine Carpenters

Includes Bridge, Dock and Wharf Builders, Piledrivermen, Boom Men, and Marine Piledrivers.

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

Composition Worker includes installation of epoxy and other resinous toppings and power machine operation.

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

NOTE: Tenders to Cement Masons are found under #19 - Concrete/Cement Laborers.

6. Divers & Divers' Tenders

Divers

Work underwater supplied with air, usually by a pipeline from the surface. Lay foundations for bridge piers, reconstruct underwater walls, and use underwater cutting and welding tools and the cement gun. May also do underwater carpentry, steel plating and shipwright's work.

Divers' Tenders

Work on the surface to monitor gauges for divers.

7. Dredgers

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 #30 - Power Equipment Operators). This classification includes Assistant Engineers (including Machinists, Mechanics, Oilers, Watch Engineers, and Welders), Assistant Mates ("Deckhands"), Boatmen, Fill Equipment Operators, and Levermen.

8. Drywall Applicators (Drywall/Wetwall) See #4 - Carpenters, Drywall/Acoustical Carpenters.

9. Drywall Tapers

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

DEFINITIONS OF COVERED OCCUPATIONS

10. 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 Handlers

Handle and maintain 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. The Electrical Material Handler may perform clean-up work in connection with the work of an electrical contractor.

11. Elevator Construction

Installers and Mechanics

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

Assistants to Mechanics

Work at direction of Elevator Mechanics.

12. Fence Erectors (Metal)

Erect and renovate *metal* fences, fence gates and ornamental metal fencing around highways, industrial and commercial establishments, using hand and power tools.

NOTE: See also #19 – Laborers, Group 1 for Wood Fence Builders.

13. Flaggers

Control vehicular traffic by means of brightly colored flags and/or signs.

14. Floor Covering Layers (Soft tile, linoleum and carpet) See #34 - Soft Floor Layers.

15. Glaziers

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

16. Hazardous Materials Handlers/Mechanics

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 (#19).

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.

DEFINITIONS OF COVERED OCCUPATIONS

17. 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. Include Installers of any device or application of any material used in lieu of paint for traffic delineation, such as buttons, tapes, plastics, rumble bars, etc.

18. Ironworkers

Bridge, Structural, Ornamental & Reinforcing Metal Workers

Raise, place, install and erect all structural steel beams, columns, steel joists and trusses, including prefabricated or pre-cast beams to form completed structures and structural frameworks. The erection and structural steel work of pre-engineered metal buildings, including bolting of members, girts, perkins, and attaching sheet metal siding, roofing, insulation, down spouts, gutters, and flashing to same. Reinforcing metal work such as performing layout work for rods within project area. Fastening rods in place with wire or pliers, bending or adjusting as required, using cutting, welding or rod bending machine. Performing layout work and placing steel in concrete forms, including prefabricated assembly for placement complete in forms. Fabrication, and installation of ornamental metal such as balconies, stairs, walkways, catwalks, and handrails. May spin suspension bridge cables or perform other related ironwork duties.

19. Laborers, Material Movers (Hand), Flaggers

Include all General Laborers, Material Movers, and 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 #36 and #37 for Tender classifications.) Also includes scaffold erection when scaffold is under 14 feet and is not for the Mason or Plasterers trade.

Applicators	Concrete Curing Laborers	Form Strippers
Asbestos Removal (Scrapped and Contained)	Concrete Power Buggymen	General Laborers
Asphalt Rakers	Concrete Saw Operators	Grade Checkers
Asphalt Spreaders	Crusher Feeders	Guardrail, Median Rail
Batch Weighmen	Demolition, Wrecking (Charred Materials)	Gunite / Sandblasting Pot Tenders
Bit Grinders	Demolition, Wrecking, Moving (Building)	Gunite Nozzleman Tenders
Broomers	Demolition, Wrecking, Moving (Industrial)	Gunite Nozzlemen
Brush Burners/Cutters	Doping & Wrapping Pipe	Handlers or Mixers of materials of an irritating nature, including cement and lime
Brush Cutters	Drill Doctors	High Scalers
Burners	Drill Operators	Landscape Laborers - see #20
Car and Truck Loaders	Driller Assistants	Laser Beam Operators
Carpenter Tenders	Drillers	
Cement/Concrete Laborers (hand)	Dry-Shack Men	
Change-House Men	Dumpers, Road Oiling Crew	
Chipper Operators	Dumpmen for Grading Crew	
Choke Setters	Elevator Feeders	
Choker Splicers	Erosion Control Specialists	
Clary Power Spreaders	Fine Graders	
Clean-Up Laborers	Fire Watchers	
Clean Up Laborers (Building)	Flaggers (<i>NOTE: See #13 - Flaggers.</i>)	
Clean Up Nozzlemen-Green Cutters		

DEFINITIONS OF COVERED OCCUPATIONS

Laborers (Continued)

Laser Beam Operators
(tunnel), applicable when
employee is assigned to
move, set up, align laser
beam
Levermen or Aggregate
Spreaders
Loading Spotters
Loop Installers
Manhole Builders
Material Yard Men
Motormen - Dinky
Locomotive
Nippers and Timbermen
Nuclear Plant Workers (lead
shield)
Pipe Layers (all types)
Post Hole Diggers (air, gas
or electric)
Powderman Helpers
Powdermen

Power Saw Operators
Power Tool Operators
Pumpcrete Nozzlemen
Railroad Track Laborers
Ribbon Setters
Rip Rap Men (hand placed)
Road Pump Tenders and
Movers
Sandblasting Operators
(wet)
Sandblasting Operators (dry)
Scaffold Tenders
Sewer Laborers
Sewer Timbermen
Shield Operators
Signalmen
Skipmen
Slopers
Spraymen
Stake Chasers
Stake Setters
Stockpilers
Strippers

Tampers
Tie Back Shoring Laborers
Timber Fallers / Buckers
(hand labor)
Toolroom Men (job site)
Track Liners
Tugger Operators
Tunnel - Chuck Tenders
Tunnel Bull Gang Laborers
(above ground)
Tunnel Miners
Tunnel Muckers /Brakemen/
Concrete Crew/Bull Gang
(underground)
Tunnel Powdermen
Vibrating Screed
Vibrators (all)
Water Blasters
Weight-Man-Crushers
Welders
Wood Fence Builders

20. Landscape Construction

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

Landscape Laborers/Technicians

Perform 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 under ground 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 trelliswork, play equipment, benches and picnic tables.

21. Lathers (Drywall/Wetwall)

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

22. Limited Energy Electricians

May only be used for electrical work not exceeding 100 va in class II and III installations (as defined in Article 725 of the National Electrical Code). This classification includes computer cabling, telephone and cable television line installation, and security alarm installation.

DEFINITIONS OF COVERED OCCUPATIONS

23. Line Constructors

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. This classification includes cable splicers and troubleshooters. Excludes repairers of transformers and substation equipment and telephone and telegraph communications workers.

Cable Splicers, Leadmen, Pole Sprayers

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

This classification also includes:

Certified Lineman Welders
Groundmen
Head Groundmen
Heavy Line Equipment Men

Jackhammer Men
Line Equipment Men
Linemen

Pole Sprayers
Powdermen
Tree Trimmers

24. Marble Setters

Cut, tool and set marble slabs in floors and walls of buildings and renovate and polish slabs previously set in buildings. Trim, face and cut marble to specified size using power sawing, cutting and facing equipment and hand tools. Drill holes in slabs and attach brackets. Spread mortar on bottom of slab and on sides of adjacent slabs. Set blocks in position, tamp them into place, and anchor bracket attachments with wire. Fill joints with grout. Remove excess grout from marble with sponge. Clean and bevel cracks or chips on slabs using hand tools and power tools. Heat cracked or chipped area with blowtorch and fill defect with composition mastic that matches grain of marble. Polish marble and other ornamental stone to high luster, using power tools or by hand.

25. Marine Carpenters (See #4 - Carpenters, Marine Carpenters)

26. Millwrights/Machine Erectors

Work as mechanics specializing in setting and aligning or removing mechanical, hydraulic, pneumatic, electrical machinery (new and used) in commercial and industrial sites.

27. Painters

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 apply wall coverings.

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

28. 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.

Nozzlemen
Swinging Scaffold
All Other Work

DEFINITIONS OF COVERED OCCUPATIONS

29. 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. Fabricate on site and install piping and tubing systems, which are to conduct water, steam, air, and other fluids or gases in and around buildings. Also install vacuum piping systems. Install drainage and sewage lines (laterals) from buildings to the point of attachment to mains. Install plumbing fixtures such as sinks, faucets, drinking fountains, commodes, etc. Install refrigeration equipment. Perform 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 #35 – Sprinkler Fitters.

30. Power Equipment Operators (equipment used on construction site)

Asphalt Paving Equipment: Asphalt Paver Operators, Asphalt Plant Operators, Roller Operators, Screed Operators (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 operators (any asphalt mix, breakdown or finish). Excludes any residential work.

Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operators, Concrete Planer, Grinder or Grooving Machine Operators

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). Classification includes removal and recycling of asphalt road surface material.

Auxiliary Equipment: Operators of 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. Operate other auxiliary equipment not otherwise classified (tool grinders, conveyor tender).

Blade: Blade/Grader Operators

Operate 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.

Bulldozer, Rubber-Tired Scraper, Material Haulers: Bulldozer Operators, Rubber-Tired Scraper Operators 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/Rollers (not asphalt): Operators

Operate Compactors, Rollers or similar equipment used for compacting crushed rock, dirt or other fill material on construction site (includes airport runways, taxiways and roadbeds).

DEFINITIONS OF COVERED OCCUPATIONS

Power Equipment Operators (Continued)

Concrete: Batch Plant and or Wet Mix Operators, Concrete Finishing Machine, Brooming, Tining or Wire Mat Machine Operators, Concrete Spreader/Placer Operators, Pump Operators (concrete or grout), Concrete Slip Form Paving Machine Operators (for installing curbs/gutters, guardrails and/or street paving), Concrete Curing Equipment Operators, Concrete Saw Operators.

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 Operators (Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell); Signalmen

Operate boom and cable equipment to lift and move materials, machines, or other items in a variety of directions on a construction site. Includes operations, remote or otherwise, such as hoisting, piledriver, clamshell, dragline, skip box or bucket to place material.

Crushing: Crusher Plant Operators or Oilers

Operate 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 Operators (horizontal & vertical), Directional Drilling (includes well 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

Operators of Floating Crane (or "Derrick Barge"), Clamshell or Pile Driver used in conjunction with a construction project, Underwater Equipment Operators (excludes Dredging Operations, which is a separate classification; See #7).

Operate any floating equipment. Classification includes any assistants to operators (such as Boatmen, Deckhands, Diesel-Electric Engineers, Firefighters, etc.); underwater equipment operators, remote or otherwise.

Fork Lifts: Industrial Lift Truck Operators and Material Handlers

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 Operators (all types), Guardrail Punch Oilers, Operators of Combination Guardrail Machines (Punch, Auger, etc.)

Operate any power equipment used to install guardrails.

DEFINITIONS OF COVERED OCCUPATIONS

Power Equipment Operators (Continued)

Repairmen, Heavy Duty (Mechanics, Welders) and Oilers

Repair 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. This also includes maintenance workers who change parts, lubricate machinery, and perform other routine maintenance functions at the construction site.

Sweepers

Include Broom Operators, self-propelled, Sweeper Operators (Wayne type) self-propelled.

31. Riggers

NOTE: 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.

32. Roofers: General roofing materials and irritable bituminous materials

(For sheet metal roof, see #33 - Sheet Metal Workers).

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.

33. 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. (Includes metal roofs)

34. 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.

35. Sprinkler Fitters

Install all piping and auxiliary devices which are necessary for the complete installation of sprinkling systems for fire protection in buildings. Excludes systems operated with steam.

NOTE: See also #29 - Plumbers and Steamfitters/Pipefitters.

DEFINITIONS OF COVERED OCCUPATIONS

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

Directly assist Brickmasons and Stonemasons by performing duties of lesser skill. Duties include mixing, supplying and holding materials or tools, and cleaning work area and equipment. Performed on block walls and may include scaffolding work. Erect scaffolding for Masons, any height.

NOTE: Exclude cement and concrete flat work and cement pumping which is performed by concrete/cement laborers. (See #19 for Laborer classifications.)

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

Assist plasterers or stucco masons by performing duties of lesser skill. Duties include supplying or holding materials or tools and cleaning work area and equipment. Erect scaffolding for Plasterers, any height.

NOTE: Exclude construction or maintenance laborers who do not primarily assist plasterers or stucco masons (See #19 for Laborer classifications).

38. Tile Setter/Terrazzo Worker: Hard Tile Setters

Apply tile to walls, floors, ceilings and promenade roof decks following design specifications. Apply glazed, unglazed, mosaic and other ceramic tiles which are used as a surface on floors, walls, ceilings, and other surfaces and which must be set to a specified grade. Apply and float all setting beds into which these tiles are set. Level and plumb these tiles to the specified grade.

NOTE: Tenders for tile setters and terrazzo workers are classified under #39 - Tile, Terrazzo and Marble Finishers

39. Tile, Terrazzo and Marble Finishers

Supply and mix construction materials for Marble Setter, Terrazzo Worker and Tile Setter. Apply grout and finish surface of installed marble, terrazzo and tile. Mix mortar and grout, move mortar and grout manually or using wheelbarrow. Clean installed marble, terrazzo and tile surfaces, work and storage areas. May renovate and fill chipped, cracked or broken pieces. May assist Marble Setter, Terrazzo Worker, and Tile Setter. Grind and polish surfaces.

40. Truck Drivers, Heavy or Tractor-Trailer

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

Group 1

A-frame or Hydra-Lift Truck w/load bearing surface
Battery Rebuilders
Bus or Man-Haul Drivers
Concrete Buggy Drivers (power operated) Drivers
Dump Trucks, side, end and bottom dumps up to and including 10 cu. yds., including semi-trucks and trains or combinations thereof
Fork Lifts used in loading, unloading and transporting material on job site

Fuel Truck Drivers
Lift Jitney Drivers
Loader and/or Leverman on concrete dry batch plant, manually operated
Lubrication Men
Pilot Car Drivers
Slurry Truck Drivers or Levermen
Solo Flat Bed Drivers (and misc. body trucks)
Steam Cleaner or combination
Tiremen
Transit Mix & Wet or Dry Mix Truck Drivers, 5 cu. yds. and under

DEFINITIONS OF COVERED OCCUPATIONS

Truck Drivers Group 1 (Continued)

Truck and Truck Mechanic Assistants
Wash Rack Operators

Water Wagons, up to 3,000 gallons

Group 2

Dumpsters or similar equipment
Flaherty Spreader Drivers or Levermen
Low Bed Equipment, Flat Bed Semi-Truck &
Trailer or doubles drivers transporting
equipment or wet or dry materials
Lumber Carriers, Driver-Straddle Carriers
used in loading, unloading and
transportation of material on job site

Oil Distributor Drivers or Levermen
Transit Mix and Wet or Dry Mix Truck
Drivers, over 5 cu. yds. and including 7 cu.
yds.
Water Wagons, 3,000 to 5,000 gallons

Group 3

Body Repairmen
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 including 11 cu. yds.
Truck Mechanics – Welders – Body
Repairmen
Water Wagons, 5,000 to 10,000 gallon

Group 4

Dump Trucks, side, end and bottom dumps
over 30 cu. yds. and including 50 cu.
yds., including semi-trucks and trains or
combinations thereof

Transit Mix and Wet or Dry Mix Trucks, over
11 cu. yds. and including 15 cu. yds.
Water Wagons, 10,000 to 15,000 gallons

Group 5

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

Group 6

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

Group 7

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

41. Welders

NOTE: 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

JANUARY 1, 2003

AMENDMENT TO OREGON DETERMINATION 2003-01

REGION #3

Marion, Polk and Yamhill 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 1 & 2	\$21.01	\$7.46
Cement Masons	\$21.13	\$8.90
Divers/Divers' Tenders	See Appendix	See Appendix
Dredgers	See Appendix	See Appendix
Drywall Applicators/Acoustical Carpenters (Drywall/Wetwall)	See Appendix	See Appendix
Drywall Tapers (Painters and Drywall Tapers)	See Appendix	See Appendix
Electricians	See Appendix	See Appendix
Elevator Constructors, Installers and Mechanics	See Appendix	See Appendix
Fence Constructors (not metal)	\$18.57	\$6.24
Fence Erectors (metal)	\$16.89	\$3.19
Flaggers (Laborers)	See Appendix	See Appendix
Floor Covering Layers (soft tile, linoleum and carpet)	\$20.89	\$4.11
Glaziers	See Appendix	See Appendix
Hazardous Materials Handlers/Mechanics	See Appendix	See Appendix
Highway and Parking Stripers	See Appendix	See Appendix
Ironworkers	See Appendix	See Appendix
Laborers and Material Movers (Hand)	\$18.57	\$6.24
Landscape Laborers/Technicians	\$14.02	\$2.63
Lathers (Drywall/Wetwall)	See Appendix	See Appendix
Limited Energy Electricians	See Appendix	See Appendix
Line Constructors	See Appendix	See Appendix
Marble Setters	See Appendix	See Appendix
Marine Carpenters	See Appendix	See Appendix
Millwrights; Machine Erectors	\$21.53	\$7.49
Painters	See Appendix	See Appendix
Plasterers and Stucco Masons (Plasterers)	See Appendix	See Appendix
Plumbers and Steamfitters/Pipefitters (Plumbers)	See Appendix	See Appendix
Power Equipment Operators I:		
Auxiliary Equipment: Compressors, Generators, Pumps		
Compactors/Roller Operators: (not asphalt)		
Crushing: Crusher Plant Operators or Oilers		
Drilling: Earth Boring Machine Operators (horizontal & vertical), Directional Drilling	\$20.47	\$5.37
Fork Lifts: Industrial Lift Truck Operators and Material Handlers		
Repairmen, Heavy Duty (Mechanics, Welders) & Oilers Sweepers		

AMENDMENT TO OREGON DETERMINATION 2003-01

REGION #3

Marion, Polk and Yamhill Counties

OCCUPATION	PREVAILING WAGE RATE	FRINGE RATE
Power Equipment Operators II:		
Asphalt Paving Equipment: Asphalt Paver Operators, Asphalt Plant Operators, Roller Operators, Screed Operators (any asphalt mix)		
Asphalt/Concrete Profilers: Roto-Mill, Pavement Profiler Operators, Concrete Planers, Grinder or Grooving Machine Operators		
Blade: Blade/Grader Operators		
Bulldozers, Rubber-Tired Scrapers, Material Haulers: Bulldozer Operators, Rubber-Tired Scraper Operators, and Material Haulers (including "Cat wagons", DJB's, Volvos and other similar models)	\$21.68	\$5.88
Concrete: Batch Plant and or Wet Mix Operators, Concrete Finishing Machine, Brooming, Tining or Wire Mat Machine Operators, Concrete Spreader/Placer Operators, Pump Operators (concrete or grout), Concrete Slip Form Paving Machine (for installing curbs/gutters, guardrails, and/or street paving), Concrete Curing Equipment, Concrete Saw		
Front End Loaders, Hydraulic Hoes, Excavators		
Power Equipment Operators III:		
Crane Operation: Hydraulic, Tower, Whirley, Lattice Boom, Dragline & Clamshell, Signal Men		
Floating Construction Equipment: Floating Crane (or "Derrick Barge"), Clamshell or Pile Driver used in conjunction with a construction project, Underwater Equipment Operators (excluding Dredging Operations, which is a separate classification - see "Dredgers").	See Appendix	See Appendix
Guardrail Equipment: Guardrail Punch Operator (all types), Guardrail Punch Oiler, Combination Guardrail Machines, Punches, Augers, etc.		
Riggers	Receive rate for craft performing operation to which rigging is incidental.	Receive rate for craft performing operation to which rigging is incidental.
Roofers	See Appendix	See Appendix
Sheet Metal Duct Installers; Sheet Metal Workers	\$20.34	\$8.53
Sprinkler Fitters	See Appendix	See Appendix
Telephone and Data Cabling (Limited Energy Electricians)	See Appendix	See Appendix
Tenders to Mason Trades: Brick and Stonemasons	See Appendix	See Appendix
Tenders to Plasterers and Stucco Masons	See Appendix	See Appendix
Tile, Terrazzo, Brick and Marble Finishers	See Appendix	See Appendix
Tile Setter/Terrazzo Workers: Hard Tile Setters	See Appendix	See Appendix
Tree Trimmers (Line Constructors)	See Appendix	See Appendix
Truck Drivers	\$16.00	\$4.33
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, 2003**

NOTE: THE APPENDIX SECTION IS TO BE USED ONLY FOR REGIONS/TRADES SPECIFIED IN PAGES 16 THROUGH 43. REFER TO PAGES 16 THROUGH 43 BEFORE USING RATES IN THIS SECTION.

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TRADE	BASIC	
	HOURLY FRINGE	
	RATE	

TRADE	BASIC	
	HOURLY FRINGE	
	RATE	

ASBESTOS WORKERS 28.96 10.54

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

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

HAZARDOUS MATERIALS
HANDLERS/ MECHANICS
15.00 5.90

*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 27.22 13.55

BRICKLAYERS/STONEMASONS
(This trade is tended by "Tenders to Masons")

Area 1 26.62 10.10
(Add \$0.75 per hour to Fringe for Refractory repair work.)

Area 2 25.40 9.75
(Add \$0.75 per hour to Fringe for Refractory repair work.)

BRICKLAYERS/STONEMASONS (Continued)

Area 1

Benton (a)	Columbia	Marion	Tillamook
Clackamas	Lincoln (a)	Multnomah	Washington
Clatsop	Linn (a)	Polk	Yamhill

Area 2

Benton (b)	Klamath	Lake	Lane
Lincoln (b)	Linn (b)		

a) North Half b) South Half

CARPENTERS

Zone 1 (Base Rate)

Group 1	26.12	10.05
Group 2	26.27	10.05
Group 3	26.62	10.05
Group 4	26.77	10.05
Group 5	26.62	10.05
Group 6	26.77	10.05
Group 7	27.12	10.05

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.

Reference Cities for Group 1 and 2 Carpenters

Albany	Goldendale	Medford	Roseburg
Astoria	Grants Pass	McMinnville	St. Helens

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

**BASIC
HOURLY FRINGE
RATE**

TRADE

**BASIC
HOURLY FRINGE
RATE**

CARPENTERS (Continued)

Reference Cities for Group 1 and 2 Carpenters (Cont.)

Baker	Hermiston	Newport	Salem
Bend	Hood River	Oregon City	The Dalles
Brookings	Klamath Falls	Ontario	Tillamook
Burns	LaGrande	Pendleton	Vancouver
Coos Bay	Lakeview	Portland	
Corvallis	Longview	Port Orford	
Eugene	Madras	Reedsport	

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 Strippers
 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	22.24	11.70
Group 2	22.68	11.70
Group 3	22.68	11.70
Group 4	23.13	11.70

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.

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.

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

BASIC
HOURLY FRINGE
RATE

TRADE

BASIC
HOURLY FRINGE
RATE

CEMENT MASONS (Continued)

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	3.00

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 80 miles.

Zone 5: More than 80 miles.

Reference Cities

Bend	Longview	Portland	The Dalles
Corvallis	Medford	Salem	Vancouver
Eugene			

DIVERS & DIVERS' TENDERS

Divers	62.50	9.54
Divers' Tenders	28.08	9.54

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.

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

DIVERS & DIVERS' TENDERS (Continued)

Zone 1: Projects within 30 miles of city hall in the cities listed below.

Zone 2: More than 30 miles, but less than 40 miles.

Zone 3: More than 40 miles, but less than 50 miles.

Zone 4: More than 50 miles, but less than 60 miles.

Zone 5: More than 60 miles, but less than 70 miles.

Zone 6: More than 70 miles, but less than 100 miles.

Zone 7: More than 100 miles from the city hall of the employee's home local.

Reference Cities for 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
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Divers' Depth Pay:

<u>Depth of Dive</u>	<u>Hourly Depth Pay</u>
50 - 100 ft.	([Total ft- 50] x \$1.00)/hr.
100 - 150 ft.	\$ 50 + ([Total ft-100] x \$1.50)/hr.
150 - 200 ft.	\$125 + ([Total ft-150] x \$2.00)/hr.

Divers' Enclosure Pay (working without vertical escape):

<u>Distance Traveled In the Enclosure</u>	<u>Hourly Enclosure Pay</u>
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.

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE	BASIC	
	HOURLY	FRINGE
	RATE	

TRADE	BASIC	
	HOURLY	FRINGE
	RATE	

DREDGERS

Zone 1 (Base Rate)

Leverman (Hydraulic, Dipper, Floating Clamshell)	32.43	8.50
Asst. Engineer (including Watch Engineer, Welder, Mechanic, Machinist)	30.25	8.50
Tenderman (Boatman, Attending Dredge Plant); Fireman	29.25	8.50
Fill Equipment Operator	28.44	8.50
Assistant Mate (Deckhand); Oiler	27.35	8.36

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)	25.23	10.76
Wetwall (Lather)	24.94	11.05

ELECTRICIANS

Area 1

Electricians	24.44	7.81
Cable Splicers	27.32	7.94

Area 2

Electricians	28.75	10.59
Cable Splicers	30.19	10.64

Area 3

Electricians	27.25	10.67
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ELECTRICIANS (Continued)

Area 4

Electricians	29.44	11.59
Cable Splicers	32.39	11.68
Electrical Material Handler	13.30	5.48

Area 5

Electricians	31.00	12.76
Cable Splicers	31.25	12.77
Electrical Material Handler	17.52	8.38

Zone Pay for Area 5 Electricians
(Add to Basic Hourly Rate)

Zone 1	31-50 miles	1.00
Zone 2	51-70 miles	3.00
Zone 3	71-90 miles	5.00
Zone 4	91 or more	8.50

There shall be a 30-mile free zone from downtown Portland City Hall and a similar 15-mile free zone around the following cities:

Astoria	Seaside	Tillamook
Hood River	The Dalles	

Further, the free zone at the Oregon coast shall extend along Hwy 101 west to the ocean Hwy 101 east 10 miles if not already covered by the above 15-mile free zone.

Area 6

Electricians	27.00	9.81
Cable Splicers	27.00	9.81

Reference Counties

Area 1

Malheur

Area 2

Baker
Gilliam
Grant
Morrow
Umatilla
Union
Wallowa
Wheeler

Area 3

Coos
Curry
Lincoln
Douglas (a)
Lane (a)

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE	BASIC HOURLY FRINGE RATE	TRADE	BASIC HOURLY FRINGE RATE
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LABORERS (Continued)

Zone 1 – Projects within 30 miles of city hall in the cities listed below.

Zone 2 – More than 30 miles but less than 40 miles.

Zone 3 – More than 40 miles but less than 50 miles.

Zone 4 – More than 50 miles but less than 80 miles.

Zone 5 – More than 80 miles.

Reference Cities

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

Group 1

Asphalt Spreader	Leverman or Aggregate Spreader (d)
Batch Weighman	Loading Spotter
Broomer	Material Yard Man (e)
Brush Burner/Cutter	Powderman Assistant
Car & Truck Loader	Railroad Track Laborer
Carpenter Tender	Ribbon Setter (f)
Change-House Man	Rip Rap Man (Hand Placed)
Chipper Operator (a)	Road Pump Tender/Mover
Choker Setter	Scaffold Tender
Clean up Laborer ***	Sewer Laborer
Curing, Concrete	Signalman
Demolition, wrecking, moving (Industrial)***	Skipman
Driller Assistant	Sloper
Dry-shack Man	Sprayman
Dumpers, road oiling crew	Stake Chaser
Dumpman for Grading crew	Stockpiler
Elevator Feeder	Tie Back Shoring
Erosion Control Specialist	Timber Faller/Bucker (Hand Labor)
Fine Grader	Toolroom Man (Job Site)
Fire Watch	Traffic Control Supervisor (Certified)
Form Stripper (b)	Weight-Man Crusher (g)
General Laborer ***	Wood Fence Builder
Guardrail, Median Rail (c)	

- 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 (Continued)

Group 2

Applicator (a)	Handler/Mixer (f)
Brush Cutter (b)	Doping & Wrapping Pipe
Burner	Post Hole Digger, Air, Gas or Electric
Choker Splicer	Power Tool Operator (g)
Clary Power Spreader (c)	Ribbon Setter (head)
Clean up Nozzleman - Green Cutter (d)	Rip Rap Man (head) (hand placed)
Concrete Laborer	Sand Blasting (wet)
Concrete Power Buggyman	Stake Setter
Crusher Feeder	Tamper
Demolition/Wrecking (e)	
Gunite Nozzleman Tender	
Gunite or Sandblasting Pot Tender	

- 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 Operator (c)
Bit Grinder	Sand Blasting (dry)
Concrete Saw Operator	Sewer Timberman
Drill Doctor	Track Liner (d)
Drill Operator (a)	Tugger Operator
Laser Beam (b)	Vibrating Screenshot
Manhole Builder	Vibrator (all)
Nipper & Timberman	Water Blaster
Nuclear Plant Worker – Lead Shield	Welder

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

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE	BASIC HOURLY FRINGE RATE	TRADE	BASIC HOURLY FRINGE RATE
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LABORERS (Continued)

Group 4

Asphalt Raker	Pipe Layer (all)
Guniting Nozzleman	Powderman
Grade Checker	Pumpcrete Nozzleman
High Scaler, Stripper, Driller (a)	Shield Operator
Laser Beam (Tunnel), applicable when employee assigned to move, set up, align laser beam	Tunnel Bull Gang (above ground)
Loop Installation	Tunnel Chuck Tender
Motorman-Dinky Locomotive	Tunnel Miner
	Tunnel Mucker/Brakeman/Concrete Crew/Bull Gang (underground)
	Tunnel Powderman

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 Laborer (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 re-roofing will occur.

LIMITED ENERGY ELECTRICIANS

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

Area 1	24.44	7.94
Area 2	25.00	8.48
Area 3	19.81	7.99
Area 4	21.26	7.59
Area 5	25.15	9.30
Area 6	21.00	6.13

<u>Area 1</u>	<u>Area 2</u>	<u>Area 3</u>
Malheur	Baker	Coos
	Gilliam	Curry
	Grant	Douglas (a)

LIMITED ENERGY ELECTRICIANS (Continued)

Area 2 (Cont.)

Morrow	Lane (a)
Umatilla	Lincoln
Union	
Wallowa	
Wheeler	

Area 3(Cont.)

Area 4

Benton
Crook
Deschutes
Jefferson
Lane (b)
Linn
Marion
Polk
Yamhill (c)

Area 5

Clackamas
Clatsop
Columbia
Hood River
Multnomah
Sherman
Tillamook
Wasco
Washington
Yamhill (d)

Area 6

Harney
Jackson
Josephine
Klamath
Lake
Douglas (b)

- (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

LINE CONSTRUCTION

Area 1

Group 1	37.95	9.17
Group 2	33.88	9.02
Group 3	20.27	6.93
Group 4	29.14	7.07
Group 5	25.41	6.93
Group 6	23.72	6.87

Area 2

Cable Splicer	30.51	8.17
Journeyman Lineman	27.65	7.94
Line Equip. Oper.	23.41	7.61
Groundman	17.09	5.96

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

**BASIC
HOURLY FRINGE
RATE**

TRADE

**BASIC
HOURLY FRINGE
RATE**

PLUMBERS & STEAMFITTERS/PIPEFITTERS

(Continued)

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
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.

Area 2 (Both)	28.95	13.49
Area 3 (Both)	31.73	12.77

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

a) Except Northwest Portion

b) Except Southwest Portion

POWER EQUIPMENT OPERATORS

Zone 1 (Base Rate)

Group 1	29.30	8.95
Group 2	28.07	8.95
Group 3	27.31	8.95
Group 4	26.79	8.95
Group 5	26.19	8.95
Group 6	23.84	8.95

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) 731-4723.

POWER EQUIPMENT OPERATORS (Cont.)

Zone Rates

Zone 2	1.50
Zone 3	3.00

For the Following Metropolitan Counties:

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

- See map on page 61 for Zone 1 of this classification

(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 for all classifications.

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

BASIC
HOURLY FRINGE
RATE

TRADE

BASIC
HOURLY FRINGE
RATE

POWER EQUIPMENT OPERATORS (Cont.)

(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
- 6 Raker
- 5 Extrusion Machine Operator
- 5 Roller Operator (*any asphalt mix*)
- 5 Asphalt Burner and Reconditioner Operator (*any type*), 84
- 5 Roto-Mill, pavement profiler, ground man
- 4 Screed Operator
- 4 Asphalt Paver Operator
- 4 Diesel-Electric Engineer, Plant
- 4 Roto-Mill, pavement profiler, operator, under six (6) ft. lateral cut
- 2 Roto-Mill, pavement profiler, operator, six (6) ft. lateral cut and over
- 2 Asphalt Plant Operator (*any type*)

CLEARING

Group

- 4 Log Skidder
- 4 Chipper (*Assistant to Engineer if required*)
- 4 Incinerator (*Assistant to Engineer if required*)
- 4 Stump Splitter (*loader mounted or similar type*)
- 4 Stump Grinder (*loader mounted or similar type*)
- 4 Tub Grinder (*used for wood debris*)
- 4 Land Clearing Machine (*track mounted forestry mowing & grinding machine*)
- 4 Hydro Axe (*loader mounted or similar type*)

CRANE

Group

- 6 Tugger or Coffin Type Hoist Operator
- 6 Truck Crane Oiler-Driver
- 6 Oiler

POWER EQUIPMENT OPERATORS (Cont.)

CRANE (Cont.)

Group

- 6 Fireman, all equipment
- 6 A-Frame Truck Operator, single drum
- 5 Hoist Operator, single drum
- 5 Helicopter Hoist Operator
- 5 Elevator Operator
- 5 Boom Truck Operator
- 5 A-Frame Truck Operator, double drum
- 4 Lift Slab Machine Operator
- 4 Hoist Operator, two (2) drum
- 4 Hoist Operator, three (3) or more drums
- 4 Hoist Operator, stiff leg, guy derrick or similar type, fifty (50) ton and over
- 4 Derrick Operator, under 100 tons (two operators required when swing control is remote from hoist)
- 4 Chicago Boom and similar types
- 4 Cherry Picker or similar type crane-hoist, five (5) ton capacity or less
- 4 Cableway Operator, up to twenty-five (25) ton
- 4 Bridge Crane Operator, Locomotive, Gantry, Overhead
- 4 Boom type lifting device, five (5) ton capacity or less
- 2 Cableway Operator, twenty-five (25) ton and over
- 1 Helicopter Operator, when used in erecting work

HYDRAULIC CRANE OPERATOR

Group

- 5 Hydraulic Boom Truck Operator, Pittman
- 4 Hydraulic Crane Operator, under fifty (50) tons
- 3 Hydraulic Crane Operator, fifty (50) tons through 89 tons (with luffing or tower attachment takes Group 2 classification)
- 2 Hydraulic Crane Operator, ninety (90) tons through 199 tons (with luffing or tower attachment takes Group 1 classification)
- 1 Hydraulic Crane Operator, two hundred (200) tons and over (with luffing or tower attachment shall receive the Group 1 classification plus 5%)

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE
BASIC
HOURLY FRINGE
RATE

TRADE
BASIC
HOURLY FRINGE
RATE

POWER EQUIPMENT OPERATORS (Cont.)

TOWER/WHIRLEY OPERATOR

- Group
 2 Tower Crane Operator
 2 Whirley Operator, under ninety (90) ton
 1 Whirley Operator, ninety (90) ton and over

LATTICE BOOM CRANE OPERATOR

- Group
 4 Lattice Boom Crane Operator, under fifty (50) tons
 3 Lattice Boom Crane Operator, fifty (50) tons through 89 tons, (& less than 150 ft. boom)
 2 Lattice Boom Crane Operator, ninety (90) tons through 199 tons, (and/or 150 ft-200 ft boom)
 1 Lattice Boom Crane Operator, two hundred (200) tons through 299 tons, (and/or over 200 ft. boom)
 1 Lattice Boom Crane Operator, two hundred (200) tons through 299 tons, with over 200 ft. boom shall receive the Group 1 classification rate plus 5%
 1 Lattice Boom Crane Operator, three hundred (300) tons through 399 tons shall receive Group 1 classification rate plus 5%
 1 Lattice Boom Crane Operator, three hundred (300) tons through 399 tons, with over 200 ft. boom shall receive the Group 1 classification rate plus 10%
 1 Lattice Boom Crane Operator, four hundred (400) tons and over, shall receive the Group 1 classification rate plus 10%

DRILLING

- Group
 6 Drill Assistant
 6 Directional Drill Locator
 6 Auger Oiler
 5 Directional Drill Operator less than 20,000 LBS. pullback
 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

POWER EQUIPMENT OPERATORS (Cont.)

DRILLING (Cont.)

- 4 Cat Drill (*John Henry*)
 4 Directional Drill Operator over 20,000 LBS pullback

FLOATING EQUIPMENT

- Group
 6 Deckhand
 6 Boatman
 5 Fireman
 4 Piledriver Operator (*not crane type*)
 4 Licensed Boatman
 4 Jack Operator, elevating barges, Barge Operator, self-unloading
 4 Floating Crane (*derrick barge*) Operator, less than 30 ton
 4 Floating Clamshell, etc. Operator, under 3 cu. yd.
 4 Diesel-Electric Engineer
 2 Floating Crane (derrick barge) Operator, 30 ton but less than 150 ton
 2 Floating Clamshell, etc. Operator, 3 cu. yd. and over
 1 Floating Crane, two hundred fifty (250) ton and over shall receive the Group 1 classification rate plus 5%.
 1 Floating Crane, three hundred fifty (350) ton and over shall receive the Group 1 classification rate plus 10%.
 1 Floating Crane, 150 ton and over but less than 250 ton

FORK LIFT

- Group
 6 Self-Propelled Scaffolding Operator Construction job site (*excluding working platform*)
 6 Fork Lift or Lumber Stacker Operator, construction job site
 6 Ross Carrier Operator, construction job site
 5 Lull Hi-Lift Operator or similar type
 5 Fork Lift, over five (5) ton and/or Robotic
 3 Rock Hound Operator

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

BASIC
HOURLY FRINGE
RATE

TRADE

BASIC
HOURLY FRINGE
RATE

POWER EQUIPMENT OPERATORS (Cont.)

GUARDRAIL EQUIPMENT

Group

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

HYDRAULIC HOES-EXCAVATORS

Group

- 5 Hydraulic Backhoe Operator, wheel type (Ford, John Deere, Case type)
- 5 Hydraulic Backhoe Operator, track type up to and including 20,000 LBS.
- 4 Robotic Hydraulic Backhoe Operator, track and wheel type up to and including 20,000 LBS. with any or all attachments.
- 4 Excavator Operator over 20,000 LBS. through 80,000 LBS.
- 3 Excavator Operator over 80,000 LBS. through 130,000 LBS
- 2 Excavator Operator over 130,000 LBS and above

LOADERS

Group

- 6 Bucket Elevator Loader Operator, Barber-Greene and similar types
- 6 Bobcat, Skid Steer (under 1 yard)
- 5 Loaders, rubber-tired type, 25,000 LBS
- 5 Elevating Loader Operator, Athey and similar types
- 5 Elevating Grader Operator, Tractor towed requiring Operator or Grader
- 4 Loader Operator, front end and overhead, 25,000 LBS and less than 60,000 LBS
- 4 Elevating Grader Operator by Tractor Operator, Sierra, Euclid or similar types
- 4 Belt Loaders Kolman and Ko Cal types
- 3 Loader Operator, 60,000 LBS and less than 120,000 LBS
- 2 Loader Operator, 120,000 LBS and above

POWER EQUIPMENT OPERATORS (Cont.)

PILEDRIVERS

Note: Crane rates apply when driving or pulling piling

Group

- 4 Hammer Operator
- 4 Piledriver Operator (*not crane type*)

PIPE LINE – Sewer Water

Group

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

RAILROAD EQUIPMENT

Group

- 6 Brakeman
- 6 Oiler
- 6 Switchman
- 6 Motorman
- 6 Ballast Jack Tamper Operator
- 5 Locomotive Operator, under 40 tons
- 5 Ballast Regulator Operator
- 5 Ballast Tamper Multi-Purpose Operator
- 5 Track Liner Operator
- 5 Tie Spacer Operator
- 5 Shuttle Car Operator
- 5 Locomotive Operator, 40 tons and over

REMOTE CONTROL

Group

- 4 Vacuum Blasting Machine Operator/Mechanic
- 4 Ultra High Pressure Water Jet Cutting Tool System Operator/Mechanic
- 4 Concrete Cleaning Decontamination Machine Operator

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE	BASIC
	HOURLY FRINGE
	RATE

TRADE	BASIC
	HOURLY FRINGE
	RATE

POWER EQUIPMENT OPERATORS (Cont.)

REMOTE CONTROL (Cont.)

- 2 Remote controlled earth-moving equipment
- 2 Master Environmental Maintenance Mechanic
- 2 Heavy Equipment Robotics Operator
- 2 Heavy Equipment Robotics Mechanic

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

Group

- 6 Oiler
- 6 Grader Oiler
- 6 Grade Checker
- 6 Fireman
- 4 Diesel-Electric Engineer
- 4 Stationary Drag Scraper Operator
- 4 Shovel, Dragline, Clamshell, Operator under 3 cu. yd.
- 4 Grade-all Operator
- 3 Shovel, Dragline, Clamshell, Operator 3 cu. yds., but less than 5 cu. yds.
- 2 Shovel, Dragline, Clamshell, Operator, 5 cu. yds. and over

SIGNALMAN

Group

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

SURFACING (BASE) MATERIAL

Group

- 6 Tamping Machine Operator, mechanical, self-propelled
- 6 Roller Operator, grading of base rock (*not asphalt*).
- 6 Hydrographic Seeder Machine Operator, straw, pulp or seed
- 5 Roller Operator, Oiling, C.T.B.
- 5 Rock Spreaders, self-propelled
- 5 Pulva-Mixer or similar types
- 5 Lime Spreading Operator, construction job site
- 5 Chip Spreading Machine Operator

POWER EQUIPMENT OPERATORS (Cont.)

SURFACING (BASE) MATERIAL (Cont.)

- 4 Blade Mounted Spreaders, Ulrich and similar types

TRENCHING MACHINE

Group

- 6 Oiler
- 6 Grade Oiler
- 5 Trenching Machine Operator, maximum digging capacity 3 ft. depth
- 4 Trenching Machine Operator, maximum digging capacity over 3 ft. depth
- 4 Back Filling Machine Operator
- 2 Wheel Excavator, under 750 cu. yds. Per hour
- 2 Canal Trimmer
- 2 Wheel Excavator, over 750 cu. yds. per hour
- 2 Band Wagon (*in conjunction with wheel excavator*)

TUNNEL

Group

- 4 Mucking Machine Operator
- 6 Dinkey
- 6 Conveyor Operator (*any type*)
- 4 Shield Operator
- 6 Air Filtration Equipment Operator

UNDERWATER EQUIPMENT

Group

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

ROOFERS

Area 1

Roofers	23.65	6.23
Handling coal tar pitch	26.02	6.23
Remove fiberglass insulation	26.02	6.23

Clackamas	Clatsop	Columbia	Multnomah
Tillamook	Washington		

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE	BASIC	FRINGE
	HOURLY	RATE
	RATE	

TRADE	BASIC	FRINGE
	HOURLY	RATE
	RATE	

ROOFERS (Continued)

Area 2 (a)*

Roofers	18.05	6.90
Douglas Marion Polk Yamhill		

Area 2 (b)*

Roofers	17.05	5.80
Benton Lane Lincoln Linn		

* Add \$2.00 to basic hourly rate for application, spudding and cutting or removal of coal tar products.

* Add \$0.50 per hour to base hourly rate for application, spudding and cutting or removal of fiberglass insulation.

SHEET METAL WORKERS

<u>Area 1</u>	29.23	11.83
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Add \$1.00 to base rate for work performed on any swinging platform, swinging chair or swinging ladder.

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

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

<u>Area 2</u>	21.71	9.33
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Add \$1.75 to base rate for work performed whenever it is possible for worker to fall 30 ft. or more.

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

<u>Area 3</u>	25.22	11.59
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Add \$1.00 to base rate for work where it is necessary to wear a chemically activated face mask.

SHEET METAL WORKERS (Continued)

Add \$1.00 to base rate for work where employees are required to wear a fresh air mask due to nuclear related work.

Add \$0.45 to base rate for work on a swinging stage, swinging scaffold or bosun chair in excess of 30 feet above the ground.

<u>Area 4</u>	25.01	10.90
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<u>Area 5</u>	24.15	10.82
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<u>Area 1</u>	<u>Area 2</u>	<u>Area 3</u>	<u>Area 4</u>	<u>Area 5</u>
Clackamas	Baker	Morrow	Douglas	Coos
Clatsop		Umatilla	Lane	Curry
Columbia		Union		
Gilliam		Wallowa		
Grant				
Multnomah				
Tillamook				
Washington				
Wheeler				

<u>SOFT FLOOR LAYERS</u>	22.28	8.68
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Soft tile, linoleum and carpet

<u>SPRINKLER FITTERS</u>	27.65	10.05
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<u>TENDERS TO MASON TRADES</u>	23.79	7.40
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Tenders to Bricklayers and Stone Masons, Mortar Mixers

Add \$0.50 to base rate for refractory work.

Add to base rate an amount equal to that received for safety belt requirements or other unusual job conditions by the mechanic this worker is tending.

<u>TENDERS TO PLASTERERS</u>	22.54	7.40
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AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

**BASIC
HOURLY FRINGE
RATE**

TRADE

**BASIC
HOURLY FRINGE
RATE**

TILE SETTER/TERRAZZO WORKERS

23.90 8.23

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

Add \$0.50 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**

17.99 6.17

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

Add \$0.50 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 \$0.75 to fringe for refractory repair work.

TRUCK DRIVERS

Group 1	22.60	9.50
Group 2	22.72	9.50
Group 3	22.85	9.50
Group 4	23.11	9.50
Group 5	23.33	9.50
Group 6	23.49	9.50
Group 7	23.69	9.50

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. yds & 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 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 including 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

AMENDMENT TO OREGON DETERMINATION 2003-01

TRADE

BASIC
HOURLY FRINGE
RATE

TRADE

BASIC
HOURLY FRINGE
RATE

TRUCK DRIVERS (Continued)

Group 4 (Continued)

Transit Mix and Wet or Dry Mix Trucks, over
11 cu. yds and including 15 cu. yds
Water Wagons, 10,000 to 15,000 gallons

Group 5

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

Group 6

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

Group 7

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

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 16, 2003**

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. Joseph K. Adesida 5331 NE Killingsworth Street Portland, OR 97218	March 14, 2002	March 13, 2005
2. Tracy Alexander 16004 SW Tualatin-Sherwood, Suite 256 Sherwood, OR 97140	May 15, 2000	May 14, 2003
3. American Pipe Lining, Inc. 7945 Dunbrook Road, Suite C San Diego, CA 92126	October 29, 2002	October 28, 2005
4. Avery Backhoe, Inc. 3414 NE 52 nd Street, #B Vancouver, WA 98661	January 16, 2002	January 15, 2005
5. Sanford Beals 61000 Brosterhaus Road #373 Bend, OR 97703	October 11, 2000	October 10, 2003
6. Black Hawk, Inc. dba Columbia Construction Company Steven W. Francis P.O. Box 352 Longview, WA 98632	December 4, 2000	December 3, 2003
7. Robert Blair and Barbara Blair aka Barbara Groce dba Mid Valley Mechanical 34058 Oakville Road Albany, OR 97321	October 29, 2002	October 28, 2005
8. Cameron Creations Steven Cameron Nancy Cameron PO Box 2 Lowell, OR 97452	May 25, 2000	Not to be Removed
9. Cascade Concrete Construction, Inc. 1262 Duncan Creek Road Skamania, WA 98648	December 4, 2000	December 3, 2003
10. Curtis A. Chaves 1262 Duncan Creek Road Skamania, WA 98648	December 4, 2000	December 3, 2003
11. Collier Company, Inc., of Oregon 2305-C Ashland Street #407 Ashland, OR 97520	February 26, 2002	February 25, 2005
12. Jeannie M. Collier 262 Prairie Landing Drive Eagle Point, OR 97524	February 26, 2002	February 25, 2005

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 16, 2003
PAGE 2**

13. Stephen E. Collier 262 Prairie Landing Drive Eagle Point, OR 97524	March 14, 2002	September 13, 2003
14. Collier Mechanical Contractors, Inc. Aaron Collier PO Box 743 North Bend, OR 97459	March 29, 2001	March 28, 2004
15. Diamond Drywall 61000 Brosterhous Road #373 Bend, OR 97703	December 4, 2000	December 3, 2003
16. Michael Duquette 19428 Seminole Circle Bend, OR 97702	February 6, 2001	February 5, 2004
17. Emerald Tower Inc. c/o Habibollah Matin 6107 SW Murray Blvd. #433 Beaverton, OR 97008	October 29, 2002	October 28, 2005
18. Energy Exchange, Inc. dba Energy Exchange 4204 SE Crystal Springs Portland, OR 97206	May 10, 2001	May 9, 2004
19. Four Seasons Heating & Cooling Specialists, Inc. PO Box 536 224 Leisure Street Glide, OR 97443	October 10, 2001	October 9, 2004
20. William C. Fraser, Jr. PO Box 536 224 Leisure Street Glide, OR 97443	October 10, 2001	October 9, 2004
21. Wayne Fromdahl 900 NE Butler Market Road #V-2 Bend, OR 97701	October 11, 2000	October 10, 2003
22. Gregory D. Jones Gregg's Custom Carpet Installation 42958 SE Wildcat Mountain Drive Sandy, OR 97055	October 25, 2000	October 24, 2003
23. Arthur A. Harding III dba Arthur Harding Mason Contractor Arthur Harding Masonry Art Harding Masonry 602 SE 28 th Avenue Portland, OR 97214	August 2, 2001	August 1, 2004
24. Bruce D. Huhta P.O. Box 352 Longview, WA 98632	July 2, 2001	July 1, 2004
25. I-5 Excavating, Inc. dba I-5 Contracting, Inc. E. F. Dunn 3655 Brooklake Road Brooks, OR 97305	July 25, 2001	July 24, 2004
26. Interstate Concrete, Inc. 1262 Duncan Creek Road Skamania, WA 98648	December 4, 2000	December 3, 2003

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 16, 2003
PAGE 3**

27. J.B.M. Services, Inc PO Box 11104 Portland, OR 97211 2420 N Hayden Island Drive, Bldg. E Portland, OR 97214	March 14, 2002	March 13, 2005
28. Julie M. Loveday, dba Jewels Flagging Service PO Box 2013 Redmond, OR 97756	October 10, 2001	October 9, 2004
29. Karl Johnson 576 Clearview Roseburg, OR 97470	September 6, 2000	September 5, 2003
30. Johnson Builders, Inc. Laine Johnson 3545 SW Falcon Portland, OR 97219	October 25, 2000	October 24, 2003
31. Kylemac 4413 Zirkle Court Longview, WA 98632	December 4, 2000	December 3, 2003
32. LaMear, Inc Patrick LaMear Connie LaMear PO Box 4191 Bellevue, WA 9800	February 26, 2002	February 25, 2005
33. Scott Little Rhonda Little 9106-BN NE Highway 99 Vancouver, WA 98665	April 25, 2000	April 24, 2003
34. Anthony Lockett, Sr. 16004 SW Tualatin-Sherwood, Suite 256 Sherwood, OR 97140	May 15, 2000	May 14, 2003
35. Magic Numbers Estimating, Inc. 529 S 47 th St Springfield, OR 97478	July 15, 2002	July 14, 2005
36. Don J. McMillin Constructors Inc. Donald J. McMillin 10411 S952 PR Kennewick, WA 99338	May 1, 2002	April 30, 2005
37. Millennium Interior Contractors, Inc. 1501 W 8th Street Vancouver, WA 98660	September 16, 2002	September 15, 2005
38. Steven H. Mori 1320 Trail Dust Ave. San Diego, CA 92129	October 29, 2002	October 28, 2005
39. John Nakamura 7860 SW Hall Blvd. #3 Beaverton, OR 97008	October 29, 2002	October 28, 2005
40. Heidi Navarre 5410 103 rd Street Vancouver, WA 98686	September 16, 2002	September 15, 2005
41. North American Construction & Consulting, Inc. 1863 Pioneer Parkway E, PMB 220 Springfield, OR 97478	July 15, 2002	July 14, 2005

**LIST OF CONTRACTORS INELIGIBLE
TO RECEIVE PUBLIC WORKS CONTRACTS
PUBLICATION DATE: JANUARY 16, 2003
PAGE 4**

42. Denise E. Oistad Jonathan Oistad 25829 N. 41 st Dr. Glendale, AZ 85310-2438	September 16, 2002	September 15, 2005
43. Frank Pausz, dba Bee Electric Service 11165 NW Marylee Court Portland, OR 97229-4821	January 16, 2003	January 15, 2006
44. Frank Pausz PO Box 1681 Beaverton, OR 97075	January 16, 2003	January 15, 2006
45. Pedro Ramos, dba P & A Painting Enterprises P & A Painting Enterprises, Inc. 3027 NW Overlook Drive, #925 Hillsboro, OR 97124	August 2, 2001	August 1, 2004
46. Quality Homes N.W., Inc. 9106-BN NE Highway 99 Vancouver, WA 98665	April 25, 2000	April 24, 2003
47. Ebrahim Sahebi aka Abraham Sahebi 10320 SW Mockingbird Way Beaverton, OR 97007-6176	October 29, 2002	October 28, 2005
48. Sierra West Corporation 4960 Industry Dr Central Point, OR 97502	September 16, 2002	September 15, 2005
49. Michael D. Slover 4204 SE Crystal Springs Portland, OR 97206	May 10, 2001	May 9, 2004
50. Keith Testerman dba Testerman Masonry 1940 NE Sams Loop, #4 Bend, OR 97701	June 6, 2000	June 5, 2003
51. Top Notch Construction & Roofing Top Notch Construction William George Allmendinger 84920 Ridgeway Road Pleasant Hill, OR 97455	January 8, 2001	January 7, 2004
52. Welkin Construction, Inc. 8000 SW Pfaffle Street Portland, OR 97223	May 1, 2002	April 30, 2005
53. Welkin Engineering, P.C. 8000 SW Pfaffle Street Portland, OR 97223	May 1, 2002	April 30, 2005
54. Western Integrity Drywall 16004 SW Tualatin-Sherwood, Suite 256 Sherwood, OR 97140	May 15, 2000	May 14, 2003

**DAN GARDNER, COMMISSIONER
OREGON BUREAU OF LABOR AND INDUSTRIES**

PREVAILING WAGE RATE FORMS

- WH-38 Certified Payroll Form**
- WH-39 Public Work Contract Fee Information Form**
- WH-40 Public Work Contract Fee Adjustment Form**



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. 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, base 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, and 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 - BASE HOURLY RATE OF PAY: Enter the base 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 base 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 wages 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 Base 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 Base 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) 731-4723.

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

PRIME CONTRACTOR

SUBCONTRACTOR

Business Name (DBA): _____ Phone: () _____ CCB Registration Number: _____
 Project Name: _____ Project Number: _____ 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

THIS SECTION FOR SUBCONTRACTORS ONLY

Public Contracting Agency Name: _____
 Phone: () _____
 Date Contract Specifications First Advertised for Bid: _____
 Contract Amount: _____

Subcontract Amount: _____
 Prime Contractor Business Name (DBA): _____
 Prime Contractor Phone: () _____
 Prime Contractor's CCB Registration Number: _____
 Date You Began Work on the Project: _____

(1)	(2)	(3) DAY AND DATE	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)							
NAME AND ADDRESS OF EMPLOYEE	TRADE, CLASSIFICATION (INCLUDE GROUP # IF APPLICABLE)	HOURS WORKED EACH DAY							TOTAL HOURS	BASE HOURLY RATE OF PAY	HOURLY FRINGE BENEFIT AMOUNTS 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															
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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)								TOTAL HOURS	BASE HOURLY RATE OF PAY	HOURLY FRINGE BENEFIT AMOUNTS 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															
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CERTIFIED STATEMENT

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

(1) THAT I PAY OR SUPERVISE THE PAYMENT OF THE PERSONS EMPLOYED BY: _____ ON THE _____
 (CONTRACTOR, SUBCONTRACTOR OR SURETY) (BUILDING OR WORK)

THAT DURING THE PAYROLL PERIOD COMMENCING ON THE ____ DAY OF _____ 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
 (CONTRACTOR, SUBCONTRACTOR OR SURETY)

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



CONTRACT FEE SECTION
PREVAILING WAGE RATE UNIT
BUREAU OF LABOR AND INDUSTRIES
800 N.E. OREGON ST., #32
PORTLAND, OR 97232
PHONE: (503) 731-4723
FAX: (503) 731-4606

PUBLIC WORK CONTRACT FEE INFORMATION FORM

For use only by contractors who have contracted directly with a public agency on a public works project regulated by ORS 279.348 to 279.380 in compliance with ORS 279.375)

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)



CONTRACT FEE SECTION
PREVAILING WAGE RATE UNIT
BUREAU OF LABOR AND INDUSTRIES
800 N.E. OREGON ST., #32
PORTLAND, OR 97232
PHONE: (503) 731-4723
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 AWARDING 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)

PART 2

CONTRACT FORMS

CONTRACT FOR CONSTRUCTION

THIS CONTRACT, made and entered into this 29th day of JULY, 2003, by and between the CITY OF NEWBERG, OREGON, a municipal corporation, hereinafter called the "OWNER", and

TOO SAUNDERS
of The Saunders Company
901 N Brutscher #201, Newberg, OR 97132

hereinafter called the "CONTRACTOR".

WITNESS:

Said Contractor, in consideration of the sum to be paid him by the said Owner and of the covenants and agreements herein contained, hereby agrees at his 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 Crater Lane LID Gravity Sewer and Force Main Project to the extent of the Bid made by the Contractor on the 19th day of JUNE, 2003, all full compliance with Contract Documents referred to herein.

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

In consideration of the faithful performance of the work herein embraced, as set forth in these Contract Documents, and in accordance with the direction of the Community Development Director and to his 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 two years 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, shall be paid at the rate of two hundred fifty dollars (\$250.00) per consecutive calendar day. Sundays and legal holidays shall be excluded in determining days in default.

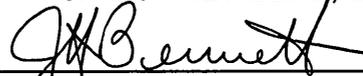
The provisions of ORS 279.350 relating to prevailing wage rates are made a part of this Contract as completely as if the same were fully set forth herein.

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 N.E. Oregon Street, #32
Portland, OR 97232

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

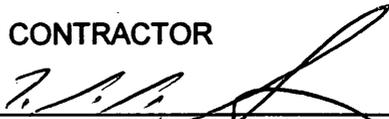
CITY OF NEWBERG, OREGON

By 

Print Name James Bennett

Title City Manager

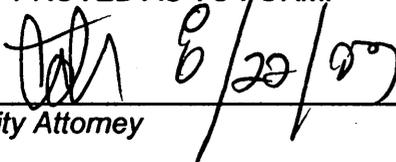
CONTRACTOR

By 

Print Name Todd W. Saunders

Title PRESIDENT

APPROVED AS TO FORM:


City Attorney

GREAT AMERICAN INSURANCE COMPANY®

580 WALNUT STREET • CINCINNATI, OHIO 45202 • 513-369-5000 • FAX 513-723-2740

The number of persons authorized by
this power of attorney is not more than

No. 0 13866

THREE

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the GREAT AMERICAN INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Ohio, does hereby nominate, constitute and appoint the person or persons named below its true and lawful attorney-in-fact, for it and in its name, place and stead to execute in behalf of the said Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of the said Company on any such bond, undertaking or contract of suretyship executed under this authority shall not exceed the limit stated below.

Name	Address	Limit of Power
RICK ZAROSINSKI	ALL OF	ALL
JOHN A. PIERCE	PORTLAND,	UNLIMITED
JOHN A. MARTIN	OREGON	

This Power of Attorney revokes all previous powers issued in behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF the GREAT AMERICAN INSURANCE COMPANY has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 2nd day of February, 1999

Attest

GREAT AMERICAN INSURANCE COMPANY



Assistant Secretary

Divisional Senior Vice President

STATE OF OHIO, COUNTY OF HAMILTON — ss:

On this 2nd day of February, 1999, before me personally appeared DOUGLAS R. BOWEN, to me known, being duly sworn, deposes and says that he resided in Cincinnati, Ohio, that he is the Vice President of the Bond Division of Great American Insurance Company, the Company described in and which executed the above instrument; that he knows the seal; that it was so affixed by authority of his office under the By-Laws of said Company, and that he signed his name thereto by like authority.



MAUREEN DOUGHERTY
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 08-12-03

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of Great American Insurance Company by unanimous written consent dated March 1, 1993.

RESOLVED: That the Division President, the several Division Vice Presidents and Assistant Vice Presidents, or any one of them, be and hereby is authorized, from time to time, to appoint one or more Attorneys-In-Fact to execute on behalf of the Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; to prescribe their respective duties and the respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and the signature of any of the aforesaid officers and any Secretary or Assistant Secretary of the Company may be affixed by facsimile to any power of attorney or certificate of either given for the execution of any bond, undertaking, contract or suretyship, or other written obligation in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

CERTIFICATION

I, RONALD C. HAYES, Assistant Secretary of Great American Insurance Company, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of March 1, 1993 have not been revoked and are now in full force and effect.

Signed and sealed this 23rd day of June, 2003



Assistant Secretary

GREAT AMERICAN INSURANCE COMPANY

OHIO

Bond No. FS1625371

Premium: \$6808.00

CAUTION: You should use an original AIA document which has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced.

PERFORMANCE BOND

The American Institute of Architects, A.I.A. Document No. A311 (February, 1970 Edition)

KNOW ALL MEN BY THESE PRESENTS: that (Here insert full name and address or legal title of Contractor)

The Saunders Company, Inc.

as Principal, hereinafter called Contractor, and (Here insert full name and address or legal title of Surety)

GREAT AMERICAN INSURANCE COMPANY

580 Walnut Street, Cincinnati, Ohio 45202

as Surety, hereinafter called Surety, are held and firmly bound unto (Here insert full name and address or legal title of Owner)

The City of Newberg, Oregon

as Obligee, hereinafter called Owner, in the amount of

Dollars (\$ **334,973.80**) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, **The Saunders Company, Inc.**

Contractor has by written agreement dated **June 23, 2003** entered into a contract with Owner for

Crater Lane LID Gravity Sewer and Force Main Project
in accordance with Drawings and Specifications prepared by (Here insert full name and address or legal title of Architect)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

- 1) Complete the Contract in accordance with its terms and conditions, or
- 2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder

and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this 23rd day of June, 2003

(Witness)

The Saunders Company, Inc. (Seal)

(Principal)

(Title)

(Witness)

GREAT AMERICAN INSURANCE COMPANY (Seal)

(Surety)

(Title)

John A. Martin, Attorney-in-Fact

Performance Bond. This bond is issued simultaneously with Labor and Material Bond F.9635

(Perf Bond F9633g)

* three hundred thirty four thousand, nine hundred seventy three and 80/100

GREAT AMERICAN INSURANCE COMPANY

OHIO

Bond No. FS1625371

CAUTION: You should use an original AIA document which has this caution printed in red. An original assures that changes will not be obscured as may occur when documents are reproduced.

LABOR AND MATERIAL PAYMENT BOND

The American Institute of Architects, A.I.A. Document No. A311 (February, 1970 Edition)
THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND IN FAVOR OF THE OWNER CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT

KNOW ALL MEN BY THESE PRESENTS: that (Here insert full name and address or legal title of Contractor)

The Saunders Company, Inc.
as Principal, hereinafter called Principal, and (Here insert full name and address or legal title of Surety)

GREAT AMERICAN INSURANCE COMPANY
580 Walnut Street, Cincinnati, Ohio 45202

as Surety, hereinafter called Surety, are held and firmly bound unto (Here insert full name and address or legal title of Owner)

The City of Newberg, Oregon
as Obligee, hereinafter called Owner, for the use and benefit of claimants as hereinbelow defined, in the amount of *

Dollars (\$ 334,973.80.

(here insert a sum equal to at least one-half of the contract price)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, **The Saunders Company, Inc.**
Principal has by written agreement dated **June 23, 3003** entered into a contract with Owner for
Crater Lane LID Gravity Sewer and Force Main Project
in accordance with Drawings and specifications prepared by (Here insert full name and address or legal title of Architect)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.
4) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

- 1) A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract
- 2) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
- 3) No suit or action shall be commenced hereunder by any claimant:
 - a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named,

Signed and sealed this 23rd day of June, 2003

(Witness)

The Saunders Company, Inc.

(Principal)

(Seal)

(Title)

(Witness)

GREAT AMERICAN INSURANCE COMPANY

(Surety)

(Seal)

(Title)

John A. Martin, Attorney-in-Fact

Labor and Material Payment Bond. This bond is issued simultaneously with Performance Bond F.9633-(8/97)

(Labor Mat F9635A.dot)

* three hundred thirty four thousand, nine hundred seventy three and 80/100



TERRORISM COVERAGE RIDER

NOTICE-DISCLOSURE OF TERRORISM COVERAGE AND PREMIUM

The Terrorism Risk Insurance Act of 2002 establishes a program within the Department of the Treasury, under which the federal government shares, with the insurance industry, the risk of loss from future terrorist attacks. The Act applies when the Secretary of the Treasury certifies that an event meets the definition of an Act of Terrorism. The Act provides that, to be certified, an Act of Terrorism must cause losses of at least five million dollars and must have been committed by an individual or individuals acting on behalf of any foreign person or foreign interest to coerce the government or population of the United States.

To be attached to and form part of Bond No. FS1625371, effective June 23, 2003
In accordance with the Terrorism Risk Insurance Act of 2002, we are providing this disclosure notice for bonds on which Great American Insurance Company, its affiliates (including, but not limited to Great American Alliance Insurance Company, Great American Insurance Company of New York and Great American Assurance Insurance Company) is the surety.

The United States Government, Department of the Treasury, will pay a share of terrorism losses insured under the terms of the Act. The federal share equals 90% of that portion of the amount of such insured losses that exceeds the applicable insurer retention.

This Coverage Part/Policy covers certain losses caused by terrorism. In accordance with the Federal Terrorism Risk Insurance Act of 2002, we are required to provide you with a notice disclosing the portion of your premium, if any, attributable to the coverage arising from losses for Terrorist Acts Certified under that Act.

The portion of your annual premium that is attributable to coverage for Terrorist Acts Certified under the Act is : \$:00.

**SUBCONTRACTOR'S ELIGIBILITY
FOR A PUBLIC WORKS SUBCONTRACT**

Crater Lane LID Gravity Sewer + Force Main
project name

signature of person completing form

print name

title

with legal authority from

name of contracting company

telephone

business address

fax

hereinafter referred to as Subcontractor, certifies that the Subcontractor is eligible to provide construction work for the above referenced Project as set forth in ORS 279.361. The Subcontractor further agrees to provide this certification to be filed with the City prior to such Subcontractor commencing any subcontract work under the contract.

Please provide a brief description of subcontract work:

NO SUBCONTRACTORS DECLARED - SEE BIDDER'S
DISCLOSURE FORM.

date of commencing subcontract work

estimated completion date

[Signature]
signature of person completing form

Tom W. Saunders
print name

PRESIDENT
title

7/29/03
date

**VERIFICATION OF PAYMENT TO
SUBCONTRACTORS AND/OR SUPPLIERS**

for the month of _____, 2003

The Contractor shall provide a copy of this form to all Subcontractor(s) and Supplier(s). It is the responsibility of all Subcontractor(s) and Supplier(s) to complete this form and give it to the City prior to the 7th day of each month following work or material supplied, until either the end of project is reached or full/final/complete payment is made by the Contractor.

CRATER LAKE LID GRAVITY SEWER AND FORCE MAIN
project name

_____ *name of contracting company*

_____ *telephone*

_____ *business address*

_____ *fax*

The City hereby requests the Subcontractor(s) and Supplier(s) to disclose to the City, payment status on work and/or material furnished for the above project for the month indicated above. The purpose is to determine if all claims, indebtedness for material, labor and other services performed in connection with this project have been paid in a timely manner by the Contractor. This information is necessary for the City to evaluate further payment request to the Contractor, in compliance with the contract documents, the plans, and the specifications.

_____ *name of subcontracting company*

_____ *telephone*

_____ *business address*

_____ *fax*

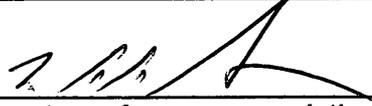
_____ *dates of billing*

_____ *payment status: (when, full, partial, non, overdue, etc.)*

_____ *expected date of completion of subcontract work*

Comments: NO SUBCONTRACTORS DECLARED - SEE

BIDDER'S DISCLOSURE FORM.


signature of person completing form

TODD W. SAUNDERS
print name

PRESIDENT
title

7/29/03
date

CERTIFICATE OF COMPLIANCE

_____ *project name*

_____ *name of contracting company*

_____ *telephone*

_____ *business address*

_____ *fax*

I, (We) hereby certify that all work has been performed and materials supplied in accordance with the contract documents, the plans and the specifications for the above project, and that:

1. Not less than the prevailing rates of wages as ascertained by the Contracting Agency have been paid to laborers, workers and mechanics employed on this project;
2. There have been no unauthorized substitutions or assignment of subcontractors, nor have any subcontracts been entered into without the names of the subcontractors having been submitted to the Engineer prior to the start of such subcontracted work;
3. All claims and indebtedness for material and labor and other services performed in connection with this project have been paid;
4. All moneys due the State Industrial Accident Fund, the State Unemployment Compensation Trust Fund (ORS 279.510), the State Department of Revenue (ORS 316.162 thru 316.212), hospital associations and/or others (ORS 279.320) have been paid;
5. All private property and easement areas have been satisfactorily restored in accordance with the contract.

Comments: _____

_____ *signature of person completing form*

_____ *print name*

_____ *title*

_____ *date*

CERTIFICATE OF COMPLETION

_____ *project name*

_____ *name of contracting company*

_____ *telephone*

_____ *business address*

_____ *fax*

_____ *contract date*

_____ *contract expiration date*

_____ *completion date*

_____ *delinquent - yes/no*

CITY:

The City hereby accepts the project as complete, in compliance with the contract documents and the plans and specifications.

_____ *project inspector*

_____ *date*

_____ *project manager*

_____ *date*

CONTRACTOR:

I, (We) certify that I (we) have completed the contract, furnished the materials, and performed all the required work for the project, and declare the beginning of the two year maintenance warranty period on the project, in accordance with the contract documents, the plans and specifications.

_____ *contractor*

_____ *date*

_____ *title*

PART 3

CONDITIONS OF THE CONTRACT

**GENERAL CONDITIONS
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GENERAL CONDITIONS

101 DEFINITIONS AND ABBREVIATIONS

Unless otherwise defined in the Contract Documents the following definitions and abbreviations shall apply wherever used.

The words directed, required, permitted, ordered, requested, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory, or words of like import, refer to actions, expressions, and prerogatives of the Engineer.

Command type sentences are used but are not exclusive of other directives, throughout these Specifications. In all cases the command expressed or implied is directed to the Contractor.

101.01 DEFINITIONS

Acceptance of Work

All work required by the Contract Documents will be considered accepted upon approval of the Certificate of Completion by Owner.

Acts of God

An act of God is to be construed to mean an earthquake, flood, cloudburst, tornado, hurricane or other phenomenon of nature of catastrophic proportions or intensity.

Advertisement

The public announcement inviting bids for work to be performed or materials to be furnished.

Attorney

The City Attorney of the City of Newberg, Oregon.

Bid

The offer of a Bidder, titled Proposal, which is the basis of the Contract, submitted on Owner's official Bid form, to perform stated work at a price or prices quoted.

Bid Bond

The bond required to be submitted with each Bid as described in Subsection 102.06 as a Bid Guaranty, which assures that the bidder will enter into a contract if his bid is accepted, synonymous with bid security.

Bidder

Any individual, firm, co-partnership, corporation, or combination thereof, submitting a Bid in response to the advertisement calling for bids on the work contemplated in the Contract.

Business Day

Definition is the same as for "Working Day".

Certificate of Completion

Standard Owner's form which must be signed by the Contractor.

Certificate of Compliance

Standard Owner's form which must be signed by the Contractor stating compliance with the Contract Documents.

Change Order

A written order issued by the Engineer to the Contractor directing changes in the work, subject to approval of Owner.

Construction Manager

A Project Engineer who manages the project from construction to completion after the award of the Contract.

Contract Cost

The aggregate amount of price promised to be paid by Owner to Contractor upon fulfillment of the Contract.

Contract

The document entitled contract or agreement which is executed by the Contractor and the Owner, authorizing ordinance, the advertisement calling for bids, the bid, instructions to bidder, plans, all specifications, addenda, permits, performance bond, insurance certificates, and change order for any approved revisions made during the performance of the work to any of the above listed documents, collectively referenced as the contract documents.

Contract Item

A specific unit of work for which a price or basis of payment is provided in the Contract.

Contractor

Any individual, firm, co-partnership, corporation or any combination thereof who has or have entered into a Contract with the Owner for a particular project. In the case of work being done under permit issued by the Owner, the permittee shall be construed to be the Contractor.

Day

Calendar day, any and every day shown on the calendar, Sundays and Holidays included.

Easement

The right to use a defined area of property for specific purpose or purposes as set forth in the specifications.

Engineer

The City Engineer of the City of Newberg acting either directly or through authorized representatives.

Foreign Contractor

Contractor who is not domiciled in or registered to do business in the State of Oregon.

Holidays

The following shall be recognized as legal holidays: Veteran's Day, Thanksgiving Day, Christmas Eve, Christmas Day, New Year's Day, Martin Luther King Jr. Birthday, and President's Day.

Improvement

General term encompassing all phases of work to be performed under a Contract for a Local Improvement District and is synonymous with the term Project or work.

Inspector

The authorized representative of the Engineer whose authority, instructions, and decisions shall be limited to the particular duties and responsibilities entrusted to him in making detailed inspections of any or all portions of the work or materials therefor.

Lump Sum

A method of payment providing for one all-inclusive payment for the work described to be done, complete and accepted without further measurement, as such work is covered under the applicable lump sum pay item.

Manager

The City Manager of the City of Newberg acting either directly or through authorized representatives.

Notice

A written communication delivered by hand or by mail to the authorized individual, member of the firm or officer of the corporation for which it is intended. If delivered or sent by mail it shall be addressed to the last known business address of the individual, firm or corporation. In the case of a Contract with two (2) or more persons, firms or corporations, notice to one shall be deemed notice to all.

OSHD Standard Specification

The latest edition of the Specification Document published by the State of Oregon entitled Standard Specifications for Highway Construction, Oregon State Highway Division. This document is available from the Oregon State Highway Division, Salem, Oregon.

Owner

The City of Newberg, acting through its legally constituted City Council.

Performance and Payment Bond

The bond submitted by the Contractor and his surety as specified in the Contract and as more fully described in Subsection 103.06.

Plans

The official plans, profiles, cross sections, elevations, details and other working, supplementary and detail drawings, or reproductions thereof, signed by the Engineer, which show the location, character, dimensions and details of the work to be performed. Plans may either be bound in the same book as the balance of the Contract Documents or bound in separate sets, and are a part of the Contract Documents, regardless of the method of binding.

Prequalification

Process for pre-screening Contractors.

Project

General term encompassing all phases of the work to be performed under the Contract and is synonymous with the term Improvement or Work.

Project Manager

Definition is the same as for "Construction Manager".

Proposal

See Bid.

Provide

When related to an item of work, the word provide shall be understood to mean furnish and install the work complete in place.

Reference Specifications

Bulletins, standards, rules, methods of analysis or test, codes and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. All such references specified herein refer to the latest edition thereof, including any amendments thereto which are in effect and published at the time of advertising for bids or of issuing the permit for the project.

Responsible and Responsive Bidder

This term denotes a bidder who has the capability in all respects to perform fully the contract, and the integrity and reliability which will assure good faith performance and who has submitted a bid under a competitive sealed bid which conforms in all respects to the invitation for bids so that all bidders may stand on equal footing with respect to method and timeliness of submission and as to the substance of any resulting contract.

Right-of-Way

A general term denoting public land, property, or interest therein, acquired for or devoted to a public street, public access or public use.

Roadway

That portion of a street and its appurtenances between curbs, gutters, or ditches, primarily used for vehicular traffic.

Shop Drawings and Submittals

Supplementary plans or data or other information which the Contract requires the Contractor to submit to the Engineer.

Shown

As used herein, the word shown, or as shown, shall be understood to refer to work shown on the Plans in the Contract.

Special Provisions

Definition is the same as for "Special Specifications".

Special Specifications

Requirements peculiar to the project and changes and modifications of the Standard Specifications.

Specified

As used herein, the word specified, or as specified, means as required by the Contract.

Standard Plans or Drawings

Details of structures, devices, or instructions adopted by Owner as a standard and referred to in the Contract.

Standard Specifications

The terms, directions, provisions and requirements set forth herein.

Station

A distance of 100 feet measured horizontally along the established centerline of a street, sewer, or other work, unless specified otherwise.

Street

Any street, avenue, boulevard, alley, lane, bridge, bicycle path, road, public thoroughfare or public way and any land over which a right-of-way has been obtained or granted for any purpose of public travel.

Subcontractor

An individual, partnership, firm, corporation, or any combination thereof, to whom the Contractor sublets part of the Contract.

Substantial Completion

The work (or a specified part thereof) has progressed to the point where, in the opinion of the Engineer, it is sufficiently complete in accordance with the Contract Documents, so that the work (or specified part) can be utilized for the purposes for which it is intended.

Surety

The corporate body which is bound with and for the Contractor, for the acceptable performance of the Contract, and for his payment of all obligations arising out of the Contract.

Unit Price

A Contract item of work providing for payment based on specific unit of measurement; e.g., linear foot or cubic yard.

Use of Pronoun

As used herein, the singular shall include the plural, and the plural the singular; any masculine pronoun shall include the feminine or neuter gender; and the term "person" includes natural person or persons, firm, co-partnership, corporation or association, or combination thereof.

Utility

Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, owned, operated or maintained in or across a public right-of-way or easement.

Work

All material, labor, tools, equipment, and all appliances, machinery, transportation, and appurtenances necessary to perform and complete the Contract, and such additional items not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated and as required by good practice to provide a complete and satisfactory system or structure.

Working Day

Calendar day, any and every day shown on the calendar, excluding Saturdays, Sundays and Legal Holidays.

101.02 ABBREVIATIONS

AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGC	Associated General Contractors of America
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BOLI	Bureau of Laborer and Industries
CRSI	Concrete Reinforced Steel Institute
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
ITE	Institute of Traffic Engineers
MUTCD	Manual on Uniform Traffic Control Devices
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NLMA	National Lumber Manufacturer's Association
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Administration
OSHD	Oregon State Highway Division
PCA	Portland Cement Association
UBC	Uniform Building Code
UL	Underwriters' Laboratories, Inc.
USASI	United States of America Standards Institute
WWPA	Western Wood Products Association

102 INSTRUCTIONS TO BIDDERS

102.01 EEO AFFIRMATIVE ACTION

Bidders must comply with the City of Newberg's Equal Opportunity Policy for Contractors. The policy is included in and made a part of these Contract Documents.

102.02 PREQUALIFICATION OF BIDDERS

All bidders must be prequalified. The Contractor's Statement of Qualifications form included with the Bid Documents must be submitted to the Owner at least fourteen (14) calendar days prior to the bid opening date. Contractors approved for bidding will be notified by addendum at least seven (7) calendar days prior to the bid opening date. A notice of disqualification can be given orally. An oral disqualification notice will be followed by written notice and bear the date of the oral notice.

102.03 FORM OF BID

A. Bidders shall enclose the bid, bid bond, certified check or cashier's check in a sealed, labeled, and addressed envelope and file as required in the Notice to Contractors. The outside of the envelope should plainly identify: the Project name and the Bid Opening date.

B. All bids must be clearly and distinctly typed or written with ink or indelible pencil and be on the form furnished by Owner, and in addition to necessary unit price items and total prices in the column of totals to make a complete bid, all applicable blanks giving general information must be filled in and the bid signed by the Contractor or a duly authorized agent. Any statement accompanying and tending to qualify a bid may cause rejection of such bid, unless such statement is required in a bid embracing alternative bids.

C. Unless otherwise specified, bidders shall bid on all bid items included in the bid and the low bidder shall be determined as noted in Subsection 103.01, AWARD OF CONTRACT. Except as provided herein, bids which are incomplete, or fail to reply to all items required in the bid may be rejected.

D. State whether business is being done as an individual, a co-partnership, a corporation, or a combination thereof, and if incorporated, in what state, and if a co-partnership, state names of all partners. The person signing on behalf of a corporation, a co-partnership or combination thereof shall state his position with the firm or corporation, and state whether the corporation is licensed to do business in the State of Oregon.

102.04 WITHDRAWAL, MODIFICATION OR ALTERATION OF BID

A. A bid may only be withdrawn on written or telegraphic request of the bidder and received by the Owner prior to the scheduled closing time for filing bids.

B. Prior to Bid Opening, changes may be made provided the change is initialed by the bidder or his agent. If the intent of the bidder is not clearly identifiable, the interpretation most advantageous to Owner will prevail.

102.05 LATE BIDS

Bids received after the scheduled closing time for filing bids, as set forth in the invitation for bids will be rejected and returned unopened to the bidder unless such closing time is extended by Owner.

102.06 BID GUARANTY AND ORGANIZATION

Unless covered by an annual bid bond, filed with the Owner, in an unencumbered amount sufficient to cover all pending bids, all bids must be accompanied by a Bid guaranty guaranteeing that the bid will be irrevocable for 60 days, unless specified otherwise, in the form of a certified check or cashier's check payable to the order of the Owner, or a bidder's bond in such form as is approved by the City Attorney in an amount of at least ten percent (10%) of the amount of the bid. Such bid guaranty shall be forfeited as liquidated damages if the bidder shall fail or neglect to furnish a performance-payment bond and insurance, if required, and to execute and return the contract within fifteen (15) days after issuance of the Contract.

102.07 INTERPRETATION OF CONTRACT AND ADDENDA

A. If it should appear to a Bidder that the work to be done or matters relative thereto are not sufficiently described or explained in the Contract Documents or that Contract Documents are not definite and clear, or the Bidder requests additional information or an interpretation of the contract, the Bidder may make written inquiry regarding same to the Engineer at least five (5) days before the scheduled closing time for filing bids.

B. If, in the opinion of the Engineer, additional information or interpretation is required, an addendum will be issued to all known specification holders.

C. Any addendum or addenda issued by the Owner which may include changes, corrections, additions, interpretations or information, and issued forty-eight (48) hours or more before the scheduled closing time for filing bids, Saturday, Sunday and legal holidays not included, shall be binding upon the Bidder. Owner shall supply copies of such addenda to all Contractors who have obtained copies of the Contract for the purpose of bidding thereon, but failure of the Contractor to receive or obtain such addenda shall not excuse him from compliance therewith if he is awarded the contract.

ORAL INSTRUCTIONS OR INFORMATION CONCERNING THE CONTRACT OR THE PROJECT GIVEN OUT BY OFFICERS, EMPLOYEES OR AGENTS OF THE OWNER TO PROSPECTIVE BIDDERS SHALL NOT BIND THE OWNER.

102.08 EXAMINATION OF CONTRACT, SITE OF WORK AND SUBSURFACE DATA

A. Bidders shall determine for themselves all the conditions and circumstances affecting the project or the cost of the proposed work, including without limitation utility interferences, by personal examination of the site, careful review of the Contract and by such other means as the Bidder feels may be necessary. It is understood and agreed that information regarding subsurface or other conditions, or obstructions indicated in the Contract Documents, is provided by Owner only for the convenience of Bidders and such information is not expressly or tacitly warranted to accurately represent actual conditions. Bidder's use of such information shall be at Bidder's sole risk, and Bidder is responsible to confirm any information provided from such independent sources as Bidder feels may be necessary.

B. Logs of test holes, test pits, soils reports, ground-water levels and other supplementary subsurface information are offered as information of underlying materials and conditions at the locations actually tested. Owner will not be liable for any loss sustained by the Contractor as a result of any variance between conditions contained in or interpretations of test reports and the actual conditions encountered during progress of the work.

C. The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the site subsurface conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished, and as to the requirements of the Contract.

102.09 FAMILIARITY WITH LAWS AND ORDINANCES

The Bidder is presumed to be familiar with all Federal, State, and local laws, ordinances, and regulations which in any manner affect those engaged or employed in the work or the materials or equipment used in the proposed construction, or which in any way affect the conduct of the work. If the Bidder, or Contractor, shall discover any provision in the Contract which is contrary to or inconsistent with any law, ordinance or regulation, he shall immediately report it to the Owner in writing.

102.10 UNIT BIDS

A. The estimate of quantities of work to be done under unit price bids is approximate and is given only as a basis of calculation for comparison of bids and award of the Contract. The Owner does not warrant that the actual amount of work will correspond to the amount as shown or estimated. Payment will be made at unit prices under a contract, only for work actually performed or materials actually furnished according to actual measurement.

B. Bidders must include in their bid prices the entire cost of each item of work set forth in the bid, and when, in the opinion of the Owner, the prices in any bid are obviously unbalanced, such bid may be rejected.

C. The unit contract prices for the various bid items of the contract shall be full compensation for all labor, materials, supplies, equipment, tools and all things of whatsoever nature required for the complete incorporation of the item into the work the same as though the item were to read "In Place."

102.11 REJECTION OF BIDS

A. Owner reserves the right to reject any or all bids in whole or in part or waive irregularities.

B. This invitation to bid does not commit the City to pay any costs incurred by any Bidder in the submission of a proposal, or in making necessary studies or designs for the preparation thereof, or for procuring or contracting for the items to be furnished under the invitation to bid.

102.12 CONFLICT OF INTEREST

A bidder filing a bid thereby certifies that no officer, agent, or employee of the City who has a pecuniary interest in this bid has participated in the contract negotiations on the part of the City, that the proposal is made in good faith without fraud, collusion, or connection of any kind with any other Bidder for the same call for bids, and that the Bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm.

102.13 INELIGIBILITY FOR PUBLIC CONTRACTS FOR FAILURE TO PAY PREVAILING RATE OF WAGE

The bidder, in submitting the bid, does thereby certify that the bidder is not ineligible to receive a contract for a public work, as set forth in ORS 279.361 and agrees, if awarded a contract, that every subcontractor will be required to certify compliance thereto, said certification to be filed with the Engineer prior to such subcontractor commencing any work under the contract.

102.14 ORS 654.150 SANITARY FACILITIES AT CONSTRUCTION PROJECTS

If the contract price is estimated (itemized bid) or bid (lump sum) by Contractor at \$500,000 or more, Contractor shall be responsible for all costs (which costs shall be included in the bid whether or not a specific bid item is provided therefore) that may be incurred in complying with or in securing exemption or partial exemption from

the requirements of ORS 654.150, (Sanitary facilities at construction projects; standards, exemptions) and the rules adopted pursuant thereto. Whether or not ORS 654.150 is applicable to the project is the sole responsibility of the Contractor.

103 AWARD AND EXECUTION OF CONTRACT

103.01 AWARD OF CONTRACT

A. The award will be made by Owner to the Bidder submitting the lowest, responsible and responsive bid. In determining the lowest acceptable bid, Owner may take into account, among other factors, the prices bid, discounts, if any, time of completion or delivery proposed, as between equal bids, the relative merits and performance of any item specifically proposed by the Bidder, any variation in maintenance and guaranty period specially proposed by the Bidder in excess of any minimums specified, the realistic balance of prices in the bids for various parts or units of work and the experience and ability of Bidder to perform the work.

B. While price extensions are required as a matter of convenience, in the event of error in extensions, the unit prices bid shall govern. In the event of discrepancy between the written and numerical amounts, the written prices will govern.

C. Determination of the lowest Bidder and award are subject to review and determination by the Attorney as to legal sufficiency of any bid submitted.

D. Award and tender of contract, if it be awarded, shall be made within forty-five (45) calendar days, unless otherwise specified, after the date of opening of bids.

103.02 EXECUTION OF CONTRACT

The Bidder to whom award is made shall execute and return the Contract in the required number of copies, and shall furnish a performance-payment bond and other required bonds and insurances satisfactory to Owner within fifteen (15) days after issuance of the Contract.

103.03 FAILURE TO EXECUTE CONTRACT

Failure on the part of the Bidder to whom the Contract is awarded to execute the Contract and to deliver the Contract and required performance payment bond and insurance as provided for in Subsection 103.02 shall be just cause for cancellation of the award, withdrawing tender of the Contract and forfeiture of the Bid Guaranty to Owner. The forfeited Bid Guaranty shall become property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible and responsive Bidder, or the work may be re-advertised, or otherwise, as the Owner may decide.

103.04 RETURN OF BID GUARANTY

Upon the execution of the contract and bond by the successful bidder, the bid guaranty shall be returned. The bidder who is awarded a contract and who fails promptly and properly to execute the contract or bond shall forfeit the bid guaranty that accompanied the bid. The bid guaranty of unsuccessful bidders will be returned after the bids have been opened and the contract has been awarded, and shall not be retained after the contract has been duly signed. The Owner reserves the right to retain the bid security of the three (3) lowest bidders until the award contract has been signed and returned.

103.05 TRANSFER OF CONTRACT AND INTERESTS THEREIN

A. Excepting Surety assignment under the performance and payment bond, the Contract is not assignable to any other party or parties without the prior written consent of Owner. In case of such attempted transfer without permission, Owner may refuse to carry out the Contract either with the transfer or the transferee, but all rights of action for any breach of the Contract by said Contractor are reserved to the Owner.

No officer of Owner, nor any person employed in its service is or shall be permitted any share or part of the Contract or is or shall be entitled to any benefit which may arise from the contract.

B. Any assignment of money shall be subject to all proper setoffs and withholdings in favor of Owner and to all deductions provided for in the Contract, and particularly all money withheld, whether assigned or not, shall be subject to being used by Owner for completion of the work in the event Contractor should be in default therein.

103.06 PERFORMANCE AND PAYMENT BOND

At the time of execution of the Contract, the Contractor shall furnish Performance and Payment Bond or Bonds approved by the Owner and Attorney in an amount equal to the amount of the Contract based upon the estimate of quantities or lump sum as set forth in the Proposal, conditioned upon a compliance with and fulfillment of all terms and provisions of the Contract, including maintenance, repair and replacement, and all applicable laws and prompt payment, as due, to all persons supplying labor and/or material for prosecution of the work.

103.07 PROOF OF CARRIAGE OF INSURANCE

Work shall not commence until all insurance required in the Contract has been obtained and a certificate thereof has been approved by the Attorney. Contract shall maintain insurance throughout the life of the Contract which will hold Owner harmless and shall indemnify Owner for any and all losses to third persons or to Owner arising out of the operations, including any contingent liability arising therefrom.

103.08 FOREIGN CONTRACTOR

A foreign Contractor awarded a contract with a price exceeding \$10,000, under provisions of ORS Chapter 279, shall promptly report to the Department of Revenue on forms to be provided by the Oregon Department of Revenue the total contract price, terms of payment, length of contract and such other information as may be required before final payment can be received on the public contract. Final payment shall not be made until this provision has been accomplished.

104 SCOPE OF WORK

104.01 PLANS AND SPECIFICATIONS

The Contract Documents will govern the work to be done. Anything mentioned in the Specifications and not shown on the Plans and detailed drawings, or shown on the Plans and detailed drawings and not mentioned in the Specifications, shall be of like effect as though shown or mentioned in both. Specifications and Plans referred to in any of the Contract Documents shall be considered as being included in the document in which such reference is made. When a particular Standard Plan or Specification is referred to, such reference shall be to the Standard Plan or Specification which is in force at the time of advertising for bids. The phrases, "Contractor shall", "Contractor will", etc. may not always be specifically stated in all paragraphs but is considered understood where not specifically stated otherwise.

104.02 PRECEDENCE OF CONTRACT DOCUMENTS

In case of conflict, the order of precedence of the following documents in controlling the work shall be:

1. Contract
2. Addenda
3. Bid
4. Permits from outside agencies required by law
5. Special Specifications (Provisions)
6. Plans
7. Standard Plans and Standard Details
8. Standard/Technical Specifications

Change orders, supplemental agreements and approved revisions to Plans and Specifications will take precedence over Contract Documents listed above.

104.03 SHOP DRAWINGS AND OTHER SUBMITTALS

A. Plans furnished and included with Specifications indicate the work proposed and the results that are intended to be accomplished.

B. Unless otherwise specified, furnish six (6) copies of all layout, detail, shop and working drawings requested by the Engineer. Shop drawings shall be of sufficient size and scale to clearly show details. After review and approval by the Engineer, two copies will be returned to the Contractor.

C. By approving and submitting shop drawings, product data and samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the Contract Documents and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the contract documents and that he is satisfied they conform to the contract documents.

D. All required shop drawings, product data and samples shall be furnished to the Engineer for his review and any required testing before any of the work or related work is performed or products or material ordered prior to the Engineer's review and completion of any testing will be at Contractor's risk.

E. The Engineer will review all shop drawings, product data and samples and conduct such tests as are required by the contract documents within a reasonable time but in no event will Engineer be required to complete such review or conduct such tests in less than fourteen (14) days after submission. The Engineer will return marked-up submittal copies indicating one of the following actions:

1. If review and checking indicate no exceptions, copies will be returned marked "NO EXCEPTIONS TAKEN" and work may begin immediately on incorporating the material or equipment covered by the submittal into the work.

2. If review and checking indicate limited corrections are required, copies will be returned marked "Make Corrections noted," and upon making the corrections noted, work may begin immediately to incorporate the material or equipment covered by the submittal into the work.

3. If review and checking indicate insufficient or incorrect data have been submitted, copies will be returned marked "REVISE AND RESUBMIT." No work may begin on incorporating the material or equipment covered by this submittal into the work until the submittal is revised, resubmitted, and returned marked either "NO EXCEPTIONS TAKEN" OR "MAKE CORRECTIONS NOTED."

4. If review and checking indicate the material or equipment submittal is unacceptable, copies will be returned marked "REJECTED." No work may begin on incorporating the material or equipment covered by this submittal into the work until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" OR "MAKE CORRECTIONS NOTED."

5. If review and checking indicate additional information is required, copies will be returned marked "SUBMIT SPECIFIED ITEM." Work may begin immediately on incorporating the material or equipment covered by the submittal into the work, only if it is not affected by the item to be submitted. If any material or equipment is affected, no work may begin on incorporating that material or equipment into the work until it and the submittal are submitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

F. The review by the Engineer of any shop drawings, product data, samples, construction methods and equipment or other submittals is only for conformance with the general design concept of the project and does not extend to consideration of structural integrity, safety, detailed compliance with contract requirements, or any other obligation of the Contractor. Any action shown is subject to the requirements of the plans and specifications. The Contractor is responsible for confirming and correlating all dimensions; fabricating and construction techniques; coordinating his entire work in strict accordance with the contract documents. The review does not relieve Contractor from his obligation fully to perform all contract requirements, nor shall such review give rise to any right of action or suit in favor of Contractor or third persons, against Engineer or Owner.

104.04 CHANGES IN THE WORK

A. Without invalidating the Agreement and without notice to a surety by the Owner, Owner may, at any time, order additions, deletions or revisions in the Work: these will be authorized by a written amendment, a Change Order, or a work directive change.

B. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

104.05 FORCE ACCOUNT WORK

A. The Contractor shall perform work on a force account basis upon written notice by the Engineer. If the Engineer determines the work increases the amount due under the Contract, payment will be made pursuant to Subsection 109.04 A 3 Method 3 FORCE ACCOUNT WORK.

B. The Contractor must maintain records in such a manner as to provide a clear distinction between direct cost of work performed on force account basis and costs of all other operations performed in connection with the Contract.

C. Daily, furnish to Engineer signed reports itemizing materials used and setting forth the cost of labor and charges for equipment rental, delineating whether said equipment is Contractor or Subcontractor owned. Provide names, identifications, and classifications of workmen, the hourly rate of pay and hours worked, and the size, type, and identification number of equipment and hours of equipment operation.

D. Substantiate material charges by vendor's invoices, submit such invoices with the reports; or, if not available, submit with subsequent reports. In the event said vendor's invoices are not submitted within 30 days after completion of the force account work, Owner reserves the right to establish the cost of such materials.

E. The Engineer will compare his records with the reports furnished by the Contractor, make any necessary adjustments, compile the costs of work paid for on a force account basis and issue a change order covering the work.

104.06 SALVAGE

A. When shown or specified, carefully salvage and stockpile within the construction area all castings, pipe and any discarded facilities, to be disposed of by Owner.

105 CONTROL OF WORK

105.01 AUTHORITY OF THE ENGINEER

A. The Engineer will decide all questions which may arise as to quantity, quality, and acceptability of materials furnished and work performed, the rate of progress of the work; interpretation of the Plans and Specifications; the measurement of all quantities; and the acceptable fulfillment of the Contract on the part of the Contractor. The Engineer's estimates, decisions and approval signify favorable opinion and qualified consent; it does not carry with it certification or assurance of completeness, quality or accuracy concerning details. Such approval does not relieve Contractor from responsibility for errors, improper fabrication, improper construction methods, non-conformance to requirements or for deficiencies within his control.

B. It is further understood that all work to be done under the Contract will not be considered completed until it has passed final inspection by the Engineer and is accepted by the Owner. It is further understood that the authority of the Engineer is such that the Contractor shall at all times carry out and fulfill the instructions and directions of the Engineer insofar as they concern the work to be done under the Contract.

C. The Engineer shall have the authority to order unacceptable work to be corrected, removed or replaced, and unauthorized work to be removed and, pending completion of such order, to deduct the estimated cost thereof from any monies due, including retainage, or to become due the Contractor. This authority shall take precedence over any and all requirements of the specifications for payment set forth elsewhere in the specifications.

D. In the Engineer's sole discretion, minor defects in the work may be accepted subject to a reasonable deduction from the Contract price or other credits to the Owner. Such determination by Engineer shall be final.

E. The Engineer is not authorized to waive any written notice required of the Contractor by the Contract.

105.02 AUTHORITY AND DUTIES OF INSPECTORS

A. Engineer may appoint assistants to inspect all materials used and all work done. Such inspection may extend to any or all parts of the work and to the preparation or manufacture of materials to be used. Inspectors will not be authorized to revoke, alter, enlarge, or relax the provisions of the contract. An Inspector is placed on the work to keep the Engineer informed of progress of the work and the manner in which it is being done. In addition, the Inspector shall call to the attention of Contractor any deviation from the Plans, or Specifications.

B. An Inspector will not be authorized to approve or accept any portion of the work or to issue instructions contrary to the Plans and Specifications under this Contract. Furthermore, the Inspector is not authorized to waive any written notices required by the Contract. The Inspector will have authority to reject defective material and to suspend any work that is being improperly done, subject to final decision by the Engineer.

105.03 RESPONSIBILITY OF CONTRACTOR

A. Do all work and furnish all labor, materials, equipment, tools, and machines necessary for the performance and completion of the project in accordance with the Contract. Be obligated to determine and be responsible for the method of construction.

B. Contractor shall be solely liable for any accident, loss or damage happening to work referred to in the Contract prior to completion and acceptance thereof.

105.04 NOTIFICATION OF UTILITIES AND AGENCIES

A. Obtain prior approval from the Engineer for closing or partial closing of any street. Give at least two (2) business days advance notice of such closure to all agencies providing emergency services, including without limitation police, fire and ambulance services. Notification shall include, but not be limited to the time of commencement and completion of work, names of streets or location of alleys to be closed, or partially closed, schedule of operations and routes of detours where applicable.

B. When performing work in streets and easements, whether inside or outside Owner's legal boundaries, notify all of the affected utilities and local agencies about the operations so as to properly coordinate and expedite the work in such a manner as to cause the least amount of conflict and interference between the operations and those of other agencies.

C. The Contractor and its subcontractors must comply with all provisions of ORS 757.541 to 757.571 including notification of all Owners of underground facilities at least forty-eight (48) business day hours but not more than ten (10) business days before beginning work. Notify the following utilities and agencies in writing at least two business days before commencing any work on the project:

One Call Locating Services	1-800-332-2344
Locators, Inc.	503-581-1265
City of Newberg, Public Works Division	503-537-1233
Yamhill County Public Works	503-434-7515
General Telephone Exchange	503-639-9025
Newberg School District	503-538-8361
AT & T Cable Service	503-370-2770
Northwest Natural Gas Co.	1-800-422-4012
Portland General Electric Company	1-800-542-8818

D. Owner shall relocate or cause to be relocated all privately or publicly owned utility conduits, lines, poles, mains, pipes and such other facilities within the jurisdiction and control of Owner where such relocation is necessary in order to conform said utility and other facilities with the plans and ultimate requirements of the project. If desirable for specific reasons, or for convenience of field operations, contact the above listed utilities.

105.05 UTILITIES AND EXISTING IMPROVEMENTS

A. Information shown as to location of existing water courses, drains, sewer lines or utility lines is provided for Contractor's information and convenience and is not, in any way, warranted to be accurate by Owner. Contractor shall verify all such information and shall deal with varying conditions at its own expense.

B. Operation of water valves and hydrants by unauthorized personnel is strictly prohibited. Obtain written permission from and pay any fee required from the City of Newberg prior to using hydrant water.

C. Provide for the flow of sewers, drains, or water courses interrupted during the progress of the work, and restore such drains or water courses as approved by the Engineer, at no additional cost to Owner.

D. Be responsible for all costs for the repair of any and all damage to any utility, whether previously known or disclosed during the work, as may be caused by the work. Maintain in place utilities not shown on the drawings to be relocated or altered by others. If Contractor requires temporary relocation, for his convenience or because of his method of construction or as a result of site conditions, Contractor shall bear all costs for said temporary relocation. Maintain utilities which have been relocated by others in their relocated positions in order to avoid interference with structures which cross the project work.

E. Make excavations and borings ahead of work, as necessary, to determine the exact location of interfering utilities or underground structures. When this is not feasible or practical or the need for such work was not foreseen, the utility owners or the Owner shall have the right to enter upon the right-of-way and upon any structure therein for the purpose of making new installations, changes or repairs. Conduct operations so as to provide the time needed for such work to be accomplished during the progress of the improvement, at no additional cost to the Owner.

F. It is understood that there will be interfering utilities, service laterals, and other underground pipes, drains or structures encountered on underground projects that are not shown or are shown incorrectly on the plans and/or have not been previously discovered in the field. Contractor agrees this is a normal and usual occurrence in the construction of underground improvements. Furthermore, bidders understand and agree that work in some cases must be done in close proximity to said utilities and underground pipes, drains, and structures not shown or shown incorrectly on the plans which may require a change in operations and may cause sloughing of the trench, additional traffic control, additional pavement and backfill costs, and time; the Contractor agrees that a reasonable number of these occurrences are usual and ordinary on underground projects and are reflected in the bid and plan of operation.

G. The Engineer will require a reasonable amount of time to perform design changes necessitated by directly conflicting utilities and/or the utility owners will require a reasonable amount of time to make necessary utility relocations.

H. The Bidders agree to provide for these conflicts and interferences and agree to provide for a reasonable amount of time for design changes and/or utility relocations due to said interference in the bid and understand that no additional compensation for interruption of schedule, extended overhead, delay or any other impact claim or ripple effect or any other costs whatsoever or additional time will be made for these conflicts or interferences.

105.06 SURVEY SERVICE

A. Give notice to Engineer not less than three (3) business days in advance of when survey services will be required in connection with the laying out of any portion of the work.

B. Engineer will furnish and set construction stakes establishing lines and grades as he determines necessary for all work under the Contract.

C. Engineer will furnish appropriate offset lines and grades as he deems necessary for all projects involving trenching operations. Contractor will be responsible for the transfer of the offset lines or grades into the ditch, to batter boards, or any other point within the work. Work done without lines and grades having been established by the Engineer or work done beyond the lines and grades will be considered as unauthorized and will not be paid for and may be ordered removed, replaced, or corrected at no expense to the Owner.

105.07 PROTECTION OF SURVEY MARKERS

A. Permanent Survey Markers

Notify the Engineer not less than three (3) business days prior to starting work in order that the Engineer may take necessary measures to ensure the preservation of survey monuments, stakes, lot stakes and bench marks. Do not disturb permanent survey monuments, stakes, lot stakes or bench marks without

the consent of Engineer, and notify Engineer and bear the expense of hiring a licensed surveyor to replace any that may be disturbed.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, preserve the monument and adjust the monument cover to the new grade at no expense to Owner.

B. Construction and Survey Markers

Preserve construction survey stakes and marks for the duration of their usefulness during construction. If any construction survey stakes are lost or disturbed through negligence of Contractor, and in the judgment of the Engineer need to be replaced, such replacement shall be by the Engineer at the expense of Contractor. The cost of replacement shall be charged against, and shall be deducted from payments for Contract work.

105.08 PROTECTION OF PROPERTY

A. Protect all public and private property, insofar as it may be endangered by operations and take every reasonable precaution to avoid damage to such property.

B. Restore and bear the cost of any public or private improvement, facility, structure, or land and landscaping within the right-of-way or easement which is damaged or injured directly or indirectly by or on account of an act, omission, or neglect in the execution of the work. Restore to a condition substantially equivalent to that existing before such damage or injury occurred, by repairing, rebuilding, or otherwise effecting restoration thereof, or if this is not feasible, make a suitable settlement with the Owner of the damaged property.

C. Give reasonable notice to occupants of buildings on property adjacent to the work to permit the occupants to remove vehicles, trailers and other possessions as well as salvage or relocate plants, trees, fences, sprinkler systems, or other improvements in the right-of-way which are designated for removal or which might be destroyed or damaged by work operations.

D. Protect all designated trees, lawns and planted areas within the right-of-way or easements. Restore all on-surface disturbed areas, by methods as set forth in the technical specifications. If conditions are such that the method specified cannot be done, provide erosion control surface covering of such quality and quantity as will prevent erosion from occurring, without adverse impacts to the environment, if required by conditions existing at the site, at no additional cost to the Owner.

E. Review with Engineer the location, limits and methods to be used prior to clearing work. Clearing and grubbing shall be performed in strict compliance with all local, State and Federal laws and requirements pertaining to clearing and burning, and particularly in conformity with the provisions of ORS Chapter 477, and all subsequent amendments, which require, among other things, filing with the State Forester a general description of the right-of-way to be cleared before the start of clearing operations. Obtain the required permit from the State Forester and perform clearing work in conformance thereto.

105.09 USE OF WORK DURING CONSTRUCTION

A. Owner shall have the right to take possession of and use any completed or partially completed portions of the Work. Such use shall not be considered as final acceptance of the Work or portions thereof.

B. Such action by Owner will not relieve the Contractor of responsibility for injury or damage to said completed portions of the work resulting from use by public traffic, action of the elements, Contractor's operations, defective work, or negligence, or from any other cause, except for injury or damage resulting from Owner's negligence. Contractor will not be required to again clean up such portions of the Work prior to final

acceptance, excepting for such clean up as results from Contractor's operations or defective work. Use of any completed or partially completed portions of the work does not relieve Contractor from the warranty responsibility nor shall the warranty period commence to run until final completion and acceptance of the work.

105.10 FURNISHING TEMPORARY SERVICES AND FACILITIES

Install, furnish and maintain temporary light, power, water and any temporary services or facilities complete with connecting piping, wiring, lamps, and similar equipment during construction of the work, including testing and start up. Remove temporary facilities upon completion of work. Obtain all permits and bear all costs in connection with temporary services and facilities. Conform to applicable statues, rules, codes, and other requirements in the use of these facilities.

105.11 VERBAL AGREEMENTS OR REPRESENTATIONS

No verbal agreement or conversation by or with any officer, agent or employee of the Owner, either before or after execution of the Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract. Any such verbal agreement or conversation is in no way binding upon Owner.

105.12 WATER AND AIR POLLUTION CONTROL

A. During the term of the Contract, Contractor's operations shall conform to applicable laws and regulations of the Oregon Department of Environmental Quality, and other agencies of the State and Federal government, City of Newberg guidelines, as well as other local Ordinances and Resolutions designed to prevent, control, and abate water and air pollution.

B. During all phases of the work, or when directed, protect work sites, storage and disposal areas from washout and erosion, and take precautions to control or abate dust nuisance and air pollution by cleaning up, sweeping, sprinkling, covering, enclosing or sheltering work areas, and stockpiles, and by promptly removing from paved streets earth or other material which may become airborne or may be washed into waterways or drainage systems.

105.13 NOISE

A. Conform and comply with applicable noise regulations of the City of Newberg.

105.14 ACCESS TO THE WORK

A. Provide access to the work for representatives of the Owner, the State of Oregon, the Federal Government, and other entities having jurisdiction in the area.

B. Allow access to Engineer or his representatives to all parts of the work and to plants of manufacturers at all times. Furnish them with every reasonable facility for ascertaining if the work meets requirements and intent of the Contract.

105.15 DEFECTIVE OR UNAUTHORIZED WORK

A. All work which does not conform to the requirements of the Contract shall be considered as unacceptable.

B. Upon discovery immediately remove unacceptable and defective work and replace by work and materials which conform to the Contract. This provision shall have full effect regardless of the fact that the unacceptable work may have been done or the defective materials used with the full knowledge of the Inspector.

105.16 RAILROAD CROSSINGS OR RIGHT-OF-WAY

Submit a schedule of proposed operations to the Engineer whenever the project or work thereunder involves the crossing of any railroad line or the encroachment on any railroad right-of-way. This schedule shall be approved by the appropriate railroad officials and the Engineer before the work is started within such area. Pay for services of flag persons and/or watch persons furnished by the railroad company and provide and drive piling, set cribbing, build bridges or tunnels, install enclosing pipe and do all other work required by the railroad company or necessary for safety or maintenance of railroad traffic, including working on weekends, holidays and providing extra shifts. Furnish any bond or insurance required of the Owner by the railroad company as a result of such intended operations and indemnify Owner for any and all expenses incurred by Owner, and assume any and all liability or claims thereof imposed on Owner as a result of operations in railroad right-of-way area. Bear all costs resulting from interferences, obstructions or liabilities set forth in this Specification, whether or not herein specifically mentioned.

106 CONTROL OF MATERIALS

106.01 PREFERENCE FOR USE OF OREGON PRODUCTS

Preference may be given to services, articles or materials produced or manufactured in Oregon, if price, fitness, availability and quality are otherwise equal. These provisions do not apply to Contracts on projects financed wholly or in part by Federal funds.

106.02 QUALITY OF WORK

Materials, parts, products and equipment which are to be incorporated into the work shall be new and shall conform to the Contract Documents.

106.03 SAMPLING AND TESTING

A. Tests of the work may be made by Owner at any time during construction of the work or during the production, fabrication, or preparation and use of materials, parts, products and equipment.

B. Owner reserves the right to require samples and to test products for compliance with pertinent requirements irrespective of prior certification of the products by the manufacturer.

C. When such tests of the work are necessary, as determined by the Engineer, such tests will be made by and at the expense of Owner unless otherwise specified. Provide such facilities and cooperate as required for collecting and forwarding samples and do not incorporate into the work until tests have been made and found acceptable. In all cases furnish the required samples without charge and in ample time to permit testing prior to use. Provide safety measures and devices to protect those who take the samples.

D. In the absence of any reference Specification it shall be understood that materials shall meet the Specifications and requirements of the American Society for Testing and Materials (ASTM), or the American Association of State Highway and Transportation Officials (AASHTO), as directed by the Engineer. When there is no pertinent coverage under ASTM or AASHTO, the material concerned shall meet Specifications and requirements of applicable Commercial Standards of the Commodity Standards Division of the U.S. Department of Commerce. Lacking such coverage, materials shall meet requirements established by reputable industry for a high-quality product of the kind involved.

E. All testing shall be performed by the testing laboratory or by the Engineer or as directed by the Engineer.

F. In the event Engineer requests tests, and the work fails, the Contractor shall bear all costs for all subsequent testing necessary to meet specified requirements.

106.04 CERTIFICATION

The Engineer in his sole discretion may in lieu of any other required sampling and testing accept from Contractor two copies of the manufacturer's certification with respect to the product involved, under conditions set forth as follows:

1. Certification shall state that the named product conforms to Owner's requirements and that representative samples thereof have been sampled and tested as specified.
2. Certification shall either be accompanied with a certified copy of test results, or certify that such test results are on file with the manufacturer and will be furnished to Engineer upon request.
3. Certification shall give the name and address of the manufacturer and the testing agency and the date of tests; and shall set forth the means of identification which will permit field determination of the product delivered to the project as being the product covered by the certification.
4. Contractor shall not be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith.

106.05 INSPECTION BY OTHERS

Inspection of work by persons other than representatives of the Owner will not constitute inspection by Owner.

106.06 STORAGE AND PROTECTION OF ITEMS OF WORK

Store items to be incorporated into the work to assure the preservation of their quality and fitness for the work. Stored items, even though approved before storage, may be reinspected and are subject to rejection prior to being incorporated into the work. Stored items shall be located so as to facilitate their prompt inspection.

106.07 TRADE NAMES, EQUALS OR SUBSTITUTIONS

A. In order to establish a basis of quality, certain processes, types of machinery or equipment or kinds of materials may be specified either by description of process or by designating a manufacturer by name and referring to his brand or product designation or by specifying a kind of material. It is not the intent of these specifications to exclude other processes, equipment or materials of equal value, utility or merit.

B. Whenever a process is designated or a manufacturer's name, brand or item designation is given or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or equal" follow such name, designation, or description, whether in fact they do so or not. This "or equal" clause is not a warrantee, either expressed or implied by Owner that an equal exists.

C. The Contractor may offer to furnish materials or equipment of equal or better quality and performance other than that specified as a substitute after the contract is executed. If the offer necessitates changes to or coordination with any other portion of the work, the data submitted shall include drawings and details showing all such changes. Contractor agrees to perform these changes as part of the substitution of material or equipment. Acceptance by the Engineer shall not relieve the Contractor from full responsibility for the efficiency, sufficiency, quality and performance of the substituted material or equipment in the same manner and degree as the material and equipment specified by name. Any cost differential associated with a substitution shall be reflected in the Contract price and the contract shall be appropriately modified by Change Order.

D. If the Bid includes a list of equipment, materials or articles for which Contractor must name the manufacturer at time of submission of the bid, no substitutions therefore will be permitted.

E. All materials or equipment of equal or better quality offered by the Contractor for substituting shall be approved by the Engineer prior to incorporation into the project.

107 LEGAL RELATIONS AND RESPONSIBILITIES

107.01 LAWS AND REGULATIONS

A. Comply with all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of work. Observe and comply with all such laws, ordinances, regulations, orders and decrees. Protect and indemnify Owner and his representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by Contractor, his subcontractors, suppliers of materials or services, or others engaged by the Contractor, or their employees.

B. In addition to those set forth herein, the Statutes of the State of Oregon for public works contracts, Chapter 279, are incorporated by reference into the Contract.

107.02 SUBCONTRACTORS

A. After contract award and notice of Contractor/ subcontractor agreements have been submitted, work shall not be transferred or subcontracted without prior consent of Owner.

B. Use of subcontractors, material suppliers or equipment suppliers shall in no way release Contractor from any obligations of contract with Owner.

C. Contractor will provide in all subcontract agreements that the Subcontractor, material supplier and equipment supplier will be bound by the terms and conditions of this Contract to the extent that they relate to the Subcontractor's work, material or equipment. All Subcontractor's agreements will also provide that they are assignable to the Owner at Owner's option, in the event this agreement is terminated for default of Contractor.

107.03 NO WAIVER OF LEGAL RIGHTS

Owner shall not be precluded or estopped by any measurement, estimate or certificate made either before or after completion and acceptance of work or payment therefore, from showing the true amount and character of work performed and materials furnished by the Contractor, or from showing that any such measurement, estimate or certificate is untrue or incorrectly made, or that work or materials do not conform in fact to the Contract. Owner shall not be precluded or estopped, notwithstanding any such measurement, estimate or certificate, or payment in accordance therewith, from recovering from the Contractor and his Sureties such damages as it may sustain by reason of his failure to comply with terms of the Contract, or from enforcing compliance with the Contract. Neither acceptance by Owner, or by any representative or agent of the Owner, of the whole or any part of the work, nor any extension of time, nor any possession taken by Owner, nor any payment for all or any part of the project, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or any right to damages herein provided. A waiver of any breach of the Contract shall not be held to be a waiver of any other breach.

107.04 OTHER CONTRACTS

A. The Owner reserves the right to award other contracts or issue permits for work that may require coordination with the work to be performed under this contract.

B. When separate contracts or permits are awarded or issued for different portions of the Project, "the Contractor" in the contract documents in each case shall be the Contractor who signs each separate contract.

C. Mutual Responsibility of Contractors - The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate his Work with theirs.

D. If any part of the Contractor's Work depends for proper execution or results upon the work of any other separate Contractor, the Contractor shall inspect and promptly report to the Engineer any apparent discrepancies or defects in such work that render it unsuitable for such proper execution and results. Failure of the Contractor to inspect and report shall constitute an acceptance of the other Contractor's work as fit proper to receive the Work, except as to defects which may develop in the other separate Contractor's work after the execution of the Contractor's Work.

E. Should the Contractor cause damage to the work or property of any separate Contractor which results in a claim against the Owner, and if the claim is not satisfied by Contractor and the separate Contractor sues the Owner or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall defend if requested such proceedings at the Contractor's expense, and if any judgment or award against the Owner arises therefrom the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney's fees and court or arbitration costs which the Owner has incurred.

F. The Contractor shall be responsible for any cutting, fitting and patching that may be required to complete the Work except as otherwise specifically provided in the Contract. The Contractor shall not endanger any work of any other Contractors by cutting, excavating or otherwise altering any work and shall not cut or alter the work of any other Contractor. Any costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

G. If a dispute arises between the separate Contractors as to their responsibility for cleaning up, the Owner may clean up and charge the cost thereof to the several Contractors as the Engineer shall determine to be just.

107.05 LIABILITY AND INDEMNIFICATION

The Contractor shall assume all responsibility for the work and shall bear all losses and damages directly or indirectly resulting to the Contractor, to the Owner, to the Engineer, and to their officers, agents, and employees on account of (a) the character or performance of the work, (b) unforeseen difficulties, (c) accidents, or (d) any other cause whatsoever.

The Contractor shall defend, indemnify, and hold harmless the Owner, the Design Engineer, and their officers, agents and employees from all claims, loss, damage, and injury of every kind directly or indirectly arising out of this Contract. The Contractor shall assume this responsibility even if (a) fault is the basis of the claim, and (b) any act, omission or conduct of the Owner connected with the Contract is a condition or contributory cause of the claim, loss, damage or injury.

The Contractor shall not be liable for, nor be required to defend, or indemnify the Owner or the Design Engineer relative to any claim, loss, damage, or injury resulting solely from acts or omissions by the Owner, the Design Engineer, or their officers, agents or employees. The Contractor shall not be liable for, not be required to defend, or indemnify the Owner or the Design Engineer relating to any claim loss, damage, or injury arising from the use of any maps, drawings, reports, surveys, designs, or specifications furnished by the Owner, Design

Engineer, or their officers, agents, or employees. Any specific duty or liability imposed or assumed by the Contractor, as may be otherwise set forth in the Contract documents, shall not be construed as a limitation or restriction of the general liability or duty imposed upon the Contractor by this section.

The Contractor shall assume all responsibility for the work.

107.06 INSURANCE

A. General

1. The Contractor shall provide and maintain during the life of this Contract the insurance coverage designated hereafter. All costs for such insurance shall be born by the Contractor and shall be included in the contract price.

2. Prior to execution by the Owner and before commencing work under this Contract, Contractor shall furnish the Engineer with certificates of insurance specified herein showing the name of the insurance carrier, coverage, type, amount (or limits), policy numbers, effective and expiration dates, description of operations covered, and containing substantially the following cancellation provision:

"The insurance covered by this certificate will not be canceled or materially reduced, except after 30 days written notice has been received by the Owner."

3. In case of the breach of any provision of this Article, the Owner, at its option, may take out and maintain, at the expense of the Contractor, such insurance as the Owner may deem proper. The Owner may deduct the cost of such insurance from any monies which may be due or become due the Contractor under this Contract.

B. Review and Approval of Insurance

The Contractor shall not commence work under this Contract nor allow any subcontractor to commence work on a subcontract until the Contractor has obtained all the insurance required hereunder and such insurance has been approved by the Attorney. All policies or insurance and certificates of insurance shall be satisfactory to the Owner. Approval of the insurance shall not relieve or decrease the liability of the Contractor hereunder.

C. Workers' Compensation, the Federal Longshoremens' and Harborworkers' Act and the Federal Jones Act

1. The Contractor shall provide and shall require all subcontractors to provide workers' compensation coverage for all persons employed under this Contract including the Contractors' partners and any individual regardless of relation to the Contractor's partners and any individual regardless of relation to the Contractor or to the partners who provide work under this Contract. The Contractor shall be required to assure that subject workers will receive the compensation for compensable injuries provided in ORS Chapter 656 either by:

- a. a carrier-insured employer; or
- b. a self-insured employer as provided by ORS 656.407.

In addition to the statutory benefits outlined above, the Contractor and all subcontractors shall provide employers' liability insurance with limits of not less than:

- \$100,000 each accident for bodily injury by accident
- \$100,000 each employee for bodily injury for disease
- \$500,000 policy limit for bodily injury by disease

2. Evidence of such coverage, including the guaranty or warrant period, shall be filed with the City and maintained for the duration of the Contract.

3. The Contractor shall defend, indemnify, and hold harmless, the City and the City's officers, agents, and employees against any liability that may be imposed upon them by reason of the Contractor's or subcontractor's failure to provide workers' compensation and employers liability coverage.

4. Where work under this Contract is subject to the Federal Longshoremens' and Harborworkers' Act or the Federal Jones Act, the Contractor shall provide coverage for such exposure.

D. General Liability and Automobile Liability

1. The Contractor shall provide a general liability policy that provides coverage for bodily injury including personal injury and property damage liability insurance and automobile liability insurance. Such insurance must protect the Contractor, the Owner, and their officers and employees from all things or damage which may arise out of this Contract or in connection therewith, including all operations of Subcontractors. Such insurance shall provide coverage for not less than the amounts for which public bodies are responsible as set forth in Oregon Revised Statutes Chapter 30, Tort Actions against Public Bodies, but in no event less than the following limits of liability:

\$1,000,000 each occurrence

\$1,000,000 general aggregate

\$1,000,000 product and completed operations aggregate

\$1,000,000 personal and advertising injury

\$1,000,000 combined single limit automobile liability for owned, non-owned, and hired automobiles.

The policy shall contain an endorsement that the aggregate applies separately to this Contract.

The insurance shall be written on a comprehensive form which includes broad form property damage on an occurrence basis. Unless excluded by Special Specification, the general liability policy shall include, without deductible, coverage for premises operations, explosion and collapse hazard, underground hazard, products, completed operations, contractual insurance, and independent Contractors. Such insurance shall be maintained until the expiration of the guaranty period required by the Contract. Failure to maintain liability insurance as provided above shall, at Owner's option, be cause for immediate termination of the Contract.

2. The Contractor shall provide a letter from the insurance company which states that such insurance shall be without prejudice to coverage otherwise existing.

3. The City of Newberg, its officers, agents, and employees, shall be named additional insureds in the Contractor's General Liability Insurance policy by attaching ISO Endorsement number CG 20 09 11 85 ADDITIONAL INSURED - Owners, Lessees, or Contractors (Form A) or its equivalent.

The policy shall also provide for a Cross Liability Endorsement or Separation of Insured's Endorsement.

The policy shall be endorsed to provide an AMENDMENT - AGGREGATE LIMITS OF INSURANCE (per project) specifying that a separate aggregate limit of liability applies to this Contract.

If there are insufficient insurance proceeds and assets of the Contractor to fully indemnify the City of Newberg, its officers, employees, agents, and the Engineer, then the City, its officers, employees, and agents would be indemnified first with any remaining insurance proceeds and assets to be used to indemnify the developer's or consulting Engineer.

4. If set forth in the Special Specifications, additional insureds may be the Owner's consultant, Engineer, other governmental bodies with jurisdiction in the area involved in the project, and their officers and employees and such agents as may be specified.

E. Claims on Project

1. The Contractor, when notified of a claim by an affected party shall:
 - a. Refer claim to the Contractor's insurance carrier or claims administrator.
 - b. Contractor's insurer will copy Owner on acknowledgment of claim.
 - c. Contractor's insurer will copy Owner on notice to claimant of disposition of claim.

F. Builders Risk Insurance

During construction, Contractor shall obtain and maintain for the benefit of the parties to the Contract as their interest may appear, all-risk Builder's Risk insurance to the extent of 100 percent of the value of the project. Coverage shall also include: (1) formwork in place; (2) form lumber on site; (3) temporary structures; (4) equipment; and (5) supplies related to the work while at the site. Such insurance shall be endorsed to require thirty days' written notice to the City prior to cancellation or change of the policy. One copy of the policy and two certificates of such insurance shall be delivered to the City before commencing work and shall be subject to review and approval by the City. The City may temporarily waive delivery of the copy of the policy. In the event Contractor fails to maintain such insurance, the City may arrange therefore; and any premium incurred shall be to the account of Contractor.

107.07 ROYALTIES AND PATENTS

Pay all royalties and license fees required to perform the Work. Defend and indemnify Owner, from all loss or damage that may result from the Contractor's wrongful or unauthorized use of any patented article or process.

107.08 PERMITS

Secure all Municipal, County, State, Federal or other permits or licenses, necessary or incident to performance of the work under this Contract. Comply with all permit requirements pertaining to the project. The Owner will reimburse the Contractor for all permit fees.

107.09 COMPLIANCE WITH OREGON REVISED STATUTES CHAPTER 279 (Public Contracts)

A. Comply, and require all Subcontractors to comply with the cities public contracting requirements, the requirements of the applicable State statutes, and be subject to the applicable liabilities provided in Oregon Revised Statutes Chapter 279 (Public Contracts), such as, but not limited to, the statutes that are numbered and referenced, and incorporated herein by an abbreviated subject matter, and listed below and the statutes required to be set forth as conditions in public contracts, which follows:

LIST:

1. ORS 279.021 Award of contract; Bond; Waiver of bond in case of emergency
2. ORS 279.334 Maximum hours of labor on public contracts; holidays; exceptions.
3. ORS 279.338 Length of day's labor on public works.

4. ORS 279.350 Workers on public works to be paid not less than prevailing rate of wage.
5. ORS 279.354 Certification of rate of wage by Contractor or Subcontractor.
6. ORS 279.355 Inspection to determine whether prevailing rate of wage being paid; proceedings to require payment of prevailing rate of overtime.
7. ORS 279.356 Liability for violations.
8. ORS 279.400 Withholding of retainage.

B. The statutes required as conditions in public contracts are as follows:

1. 279.021 – Preferences; Foreign Contractor

a. The public contracting agency shall prefer goods or services that have been manufactured or produced in their State if price, fitness, availability, and quality are otherwise equal.

b. Where a public contract is awarded to a foreign Contractor and the contract price exceeds \$10,000, the Contractor shall promptly report to the Oregon Department of Revenue on forms to be provided by the Department of Revenue the total contract price, terms of payment, length of contract and such other information as the Department of Revenue may require before final payment can be received on the public contract. The public contracting agency shall satisfy itself that the requirement of this subsection has been complied with before it issues a final payment on a public contract.

For purposes of this subsection, a foreign Contractor is one who is not domiciled in or registered to do business in the State of Oregon.

2. 279.029 – Conditions of award of contract regarding resident bidder.

a. In determining the lowest responsible bidder, a public contracting agency shall, for the purpose of awarding the contract, add a percent increase on the bid of a nonresident bidder equal to the percent, if any, of the preference given to that bidder in the state in which the bidder resides.

b. Resident bidder means a bidder that has paid unemployment taxes or income taxes in this state during the 12 calendar months immediately preceding submission of the bid, has a business address in this state and has stated in the bid whether the bidder is a "resident bidder" pursuant to this subsection.

3. 279.312 – Conditions of public contracts concerning payment of laborers and material men, contributions to Industrial Accident Fund, liens and withholding taxes. The Contractor shall:

a. Make payment promptly, as due, to all persons supplying to such Contractor labor material for the prosecution of the work provided for in such contract.

b. Pay all contributions or amounts due the Industrial Accident Fund from such Contractor or subcontractor incurred in the performance of the contract.

c. Not permit any lien or claim to be filed or prosecuted against the state, county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished.

d. Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

4. 279.314 – Condition concerning payment of claims by public officers.

a. If the Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with the public contract as such claim becomes due, the proper officer or officers representing the state, county, school district, municipality, municipal corporation or subdivision thereof, as the case may be, may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due the Contractor by reason of such contract.

b. The payment of a claim in the manner authorized in this section shall not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

5. 279.316 – Condition concerning hours of labor. No person shall be employed for more than eight hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, and in such cases the laborer shall be paid at least time and a half pay for all overtime in excess of eight hours a day and for work performed on Saturday and on any legal holiday specified in ORS 279.334.

6. 279.318 – Provisions relating to environmental and natural resources laws and rules; change orders. A public contract for a public improvement shall make specific reference to federal, state and local agencies that have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the performance of the contract. If the successful bidder is delayed or must undertake additional work by reason of existing regulations or ordinances of agencies not cited in the public contract or due to the enactment of new or the amendment of existing statutes, ordinances or regulations relating to the prevention of environmental pollution and the preservation of natural resources occurring after the submission of the successful bid, the awarding agency shall grant a time extension and issue a change order setting forth the additional work that must be undertaken. The change order shall not invalidate the contract and there shall be, in addition to a reasonable extension of the contract time, a reasonable adjustment in the contract price to compensate the successful bidder for all costs and expenses incurred, including overhead and profits, as a result of such delay or additional work.

7. 279.320 – Condition concerning payment for medical care and attention to employees. The Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all moneys and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

8. 279.352 – Provision in Contract for minimum rate of wage. The existing prevailing rate of wage that may be paid to workers in each trade or occupation under this Contract is contained in the Special Specifications. Such workers shall be paid not less than such specified minimum hourly rate of wage.

107.10 LABOR

Upon notification in writing from the Engineer, remove immediately from the job for its duration any laborer, workman, mechanic, foreman, superintendent, or other person employed who is found to be incompetent, intemperate, troublesome, disorderly or otherwise objectionable, or who fails or refuses to perform his work properly or acceptably.

Comply with provisions of Owner's Equal Opportunity Policy and to Chapter 659, Oregon Revised Statutes relative to unlawful employment practices and discrimination by employers against any employee or applicant for employment because of race, religion, color, sex, or national origin. Particular reference is made to ORS 659.030, which states that it is unlawful employment practice for any employer, because of the race, religion,

color, sex, or national origin of any individual, to refuse to hire or employ or to bar or discharge from employment such individual or to discriminate against such individual in compensation or in terms, conditions or privileges of employment.

107.11 OVERTIME

A. In addition to the requirement set forth in Specification 107.09 (ORS 279.316), Contractor shall notify the Engineer of any overtime operations as soon as possible. The Contractor must provide documentation to the Engineer's satisfaction justifying the overtime work.

B. In the event that the Contractor wishes to proceed with an overtime operation, the Contractor must first notify and obtain approval from the Engineer to do so, prior to commencing such work.

C. For overtime work requested by the Contractor, the Contractor shall pay the applicable wage rate for the Engineer's Inspector, engineering and operations personnel, and other staff required at the project during the overtime hours.

D. This section does not apply to labor performed in the manufacture or fabrication of any material ordered by the Contractor or manufactured or fabricated in any plant or place other than the place where the main Contract is to be performed.

107.12 SAFETY

A. Employee Safety:

The Contractor shall at all times be responsible for the safety of his employees and his subcontractor's employees. The Contractor shall maintain the job site and perform the work in a manner which meets the Owner's responsibility under statutory and common law for the provision of a safe place to work and which complies with the Owner's written safety regulations, if any.

Conduct the project with proper regard for the safety and convenience of the public. When the project involves use of public ways, provide necessary flag persons and install and maintain means of reasonable access to all fire hydrants, service stations, warehouses, stores, houses, garages and other property. Private residential driveways shall be closed only with approval of the Engineer or specific permission of the property owner. Do not interfere with normal operation of public transit vehicles unless otherwise authorized. Do not obstruct or interfere with travel over any public street or sidewalk without approval. At all times provide open trenches and excavations with secured and adequate barricades or fences of an approved type which can be seen from a reasonable distance. Close up or plate all open excavations at the end of each business day in all street areas unless approved otherwise by the Engineer and in all other areas when it is reasonably required for public safety or as directed by the Engineer. At night, mark all open work and obstructions by lights. Install and maintain all necessary signs, lights, flares, barricades, railings, runways, stairs, bridges and facilities. Observe all safety instructions received from the Engineer or governmental authorities, but following of such instructions shall not relieve Contractor from its responsibility or liability for accidents to workmen or damage or injury to person or property.

B. Public Safety and Convenience:

The Contractor shall at all times conduct his work so as to insure the least possible obstruction to traffic and convenience to the general public and residents in the vicinity of the work and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of the Engineer and proper governmental authority. Fire hydrants on or adjacent to the work shall be kept accessible to fire fighting equipment at all times. Temporary provisions shall be made by the Contractor to insure the use of sidewalks, private and public driveways and proper functioning of all gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses. The Contractor shall minimize inconvenience to others due to mud and dust.

C. Safety Program:

The Contractor shall adopt a written safety program complying with the requirements of employee and public safety set forth hereinabove. The Safety Program shall also comply with O.A.R. Chapter 437, Division 3, Rules 1926.20 through 1926.32 regarding general safety and health provisions.

107.13 RIGHTS-OF-WAY, EASEMENTS, AND PREMISES

A. Confine construction activities within property lines, right-of-way, limits of easements and limits of construction permits as shown or specified in the Contract Documents unless arrangements are made with owner(s) of adjacent private property. If additional space or property is needed to accommodate Contractor's

method for construction of the Work or for the convenience of the Contractor, Contractor shall bear all related costs and responsibilities. Prior to the use of any private property outside the specified boundaries, file with the Engineer written permission from the property owner(s).

B. Do not unreasonably encumber the specified work areas with materials and equipment. Obtain and bear the costs of permits for special occupancy and use of the specified work areas from the proper agencies. Comply with all requirements regarding signs, advertisements, fires and smoking.

107.14 TWO (2) YEAR MAINTENANCE AND WARRANTY

A. In addition to and not in lieu of any other warranties required under the Contract make all necessary repairs and replacements to remedy, in a manner satisfactory to the Engineer and at no cost to Owner, any and all defects, breaks, or failures of the Work occurring within two (2) years following the date of completion due to faulty or inadequate materials or workmanship. Repair damage or disturbances to other improvements under, within, or adjacent to the Work, whether or not caused by settling, washing, or slipping, when such damage or disturbance is caused, in whole or in part, from activities of the Contractor in performing his duties and obligations under this Contract when such defects or damage occur within the warranty period. The two-year maintenance period required shall, with relation to such required repair, be extended two years from the date of completion of such repair.

B. If Contractor, after written notice, fails within ten (10) days to proceed to comply with the terms of this section, Owner may have the defects corrected, and Contractor and Contractor's Surety shall be liable for all expense incurred. In case of an emergency where, in the opinion of the Engineer, delay would cause serious loss or damage, repairs may be made without notice being given to Contractor and Contractor or Surety shall pay the cost of repairs. Failure of the Engineer to act in case of an emergency shall not relieve Contractor or Surety from liability and payment of all such costs.

108 PROSECUTION AND PROGRESS OF WORK

108.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

Within thirty (30) days of Contract award or one (1) week in advance of starting work, whichever is earlier, SUBMIT FOR WRITTEN APPROVAL a proposed construction schedule to the Engineer. Contractor may not commence work until construction schedule is approved by the Engineer.

If it is desirable to carry on operations in more than one location simultaneously, submit a schedule for each location at least one (1) week in advance of beginning such operations. In the event that the Contractor's proposed construction schedule does not meet the necessary construction program schedule as determined

by Owner, immediately resubmit a schedule that conforms as approved. Contractor shall not commence work until schedule is approved by the Engineer.

The schedule shall show the proposed order of work and indicate the time required for completion of the major items of work. This working schedule shall take into account the passage and handling of traffic with the least practicable interference therewith and the orderly, timely and efficient prosecution of work. It will also be used as an indication of the sequence of the major construction operations and as a check on the progress of work.

108.02 PRECONSTRUCTION CONFERENCE

Attend a preconstruction conference, if requested, at a time, prior to start of work, designated by the Engineer. Comply with information and instructions provided at the preconstruction conference as recorded in the minutes of the meeting.

108.03 NOTICE TO PROCEED

A. Unless stated otherwise in the Special Specifications, written Notice to Proceed will be given by the Engineer within thirty (30) days after the Performance and Payment Bond and all required insurances have been filed with and approved by the Owner and the Contract has been executed. Do not commence work under the Contract until such written notice has been given.

B. Notice to proceed may be delayed up to an additional thirty (30) days (for a total of sixty (60) days) from date of Contract by Engineer if, in the Engineer's opinion, necessary easements or permits have not been obtained, or required utility relocation, construction, or reconstruction has not been completed or has not progressed to a degree that will allow initial contract work to commence.

C. Commence work within five (5) business days after the date of the Notice to Proceed, or such other date as may be fixed by the Notice to Proceed, which date shall establish the date for commencement of the Contract time. Notify Engineer forty-eight (48) hours in advance of the time and place work will be started.

108.04 CONTRACT TIME

A. Time shall be considered the essence of the Contract.

B. Upon commencement of work, Contractor shall provide adequate labor, materials, and equipment, and work shall be performed vigorously and continuously in accordance with a schedule which will ensure completion within the specified time limit. Failure to diligently pursue the work may jeopardize additional contract time.

108.05 SUSPENSION OF WORK

A. If the work is suspended for convenience: Temporarily suspend work on the Project wholly or in part for convenience of Owner as directed by the Engineer. In the event of such suspension, Engineer shall, except in emergency, and except as hereinafter provided, give Contractor three (3) days notice. Work shall be resumed within five (5) days after notice has been given by Engineer to Contractor to do so. Engineer shall allow Contractor an extension of time for completion corresponding to the total period of temporary suspension, and shall reimburse Contractor for necessary rental of unused equipment, services of watch persons, and other unavoidable expenses accruing by reason of the suspension, as stipulated in Section 108.05 (E), Delays and Extensions of Time.

B. If work is suspended by the Engineer: Immediately suspend work on the project, wholly or in part, as directed by the Engineer, for reasonable periods of time as the Engineer may deem necessary, when conditions are unsuitable for satisfactory performance of the work. The Owner shall allow the Contractor an

extension of time for completion corresponding to the total period of suspension, but the Contractor shall not be entitled to reimbursement for any costs or damages arising under this clause.

C. If work is suspended for cause: Immediately suspend work on the Project wholly or in part as directed by the Engineer for such periods as the Engineer may deem necessary due to: (1) failure to correct unsafe conditions for working personnel, the general public, or Owner's employees, (2) failure to immediately correct defective and unacceptable work in accordance with Subsection 105.15, (3) failure to carry out provisions of the Contract Documents, and (4) failure to carry out orders or directives.

D. Voluntary suspension by Contractor: There shall be no voluntary suspension or slowing of operations without the prior written approval of the Engineer and such approval shall not relieve Contractor from the responsibility to complete the Contract work within the prescribed Contract time. Should operations be discontinued, Contractor shall notify, in writing, the Engineer at least twenty-four (24) hours in advance of resuming operations.

E. Responsibilities of Contractor:

1. At the commencement of and during any suspension of Work, protect all work performed to prevent any damage or deterioration of the Work. Provide temporary protection devices to warn, safeguard, protect, guide and inform traffic during suspension, the same as though the work had been continuous and without interferences.

2. Bear all costs for providing suitable provisions for traffic control and for maintenance and protection of the work during suspension unless the suspension was for convenience.

F. In all cases of suspension, except voluntary suspension by Contractor, work will be resumed only upon written order of the Engineer or Owner.

108.06 DELAYS AND EXTENSIONS OF TIME

A. If the Contractor is significantly delayed due to court orders enjoining the prosecution of this Project, unavoidable strikes, Acts of God, unusual and extraordinary action of the elements that are of such severity to stop all progress of the work, or act or neglect of Owner not authorized by the Contract, the Contractor shall, within forty-eight (48) hours of the start of the occurrence, give notice to the Engineer of the cause of the potential delay and estimate the possible time extension involved. Within ten (10) days after the cause of the delay has been remedied the Contractor shall give notice to the Engineer of any actual time extension requested as a result of the aforementioned occurrence in accordance with Section 109.05 Claims and Notice.

B. No extension of time will be considered for weather conditions normal to the area and time of year in which the work is being performed. Delays in delivery of equipment or material purchased by the Contractor or his Subcontractors (including Owner-selected equipment) shall not be considered as a just cause for delay, when timely ordering would have made the equipment available. The Contractor shall be fully responsible for the timely ordering, scheduling, expediting, delivery, and installation of all equipment and materials. Extensions of time will be considered for delayed delivery of Owner specified equipment "without equal".

C. Within a reasonable period after the Contractor submits to the Engineer a written request for an extension of time the Engineer will make the decision on each request, for City Manager approval.

D. An adjustment of Contract time as herein provided shall be the Contractor's sole remedy for any delay in completion of the project arising from causes beyond the control of the Contractor, except for unreasonable delay caused by acts or omissions of the Owner or persons acting therefor. In no event shall the Contractor be entitled to collect or recover any damages, loss or expense incurred by reason of such delay, except for an unreasonable delay caused by acts or omissions of the Owner or persons acting therefor.

However, if Contractor is delayed due solely to a breach by Owner, Contractor will be entitled to recover damages limited to reimbursement for necessary rental of unused equipment, services of watch persons, documented direct overhead costs, documented direct unavoidable expenses accruing by reason of the suspension, plus fifteen percent (15%) of the foregoing damages to cover normal Contractor profit. Contractor shall not be entitled to indirect costs or any other damages arising out of the delay, including but not limited to, interruption of schedules, or any other impact claim or ripple effect. If a delay is caused by Owner and Contractor (joint delay), Contractor shall be entitled to a time extension only, by reason of such joint delay.

108.07 LIQUIDATED DAMAGES

A. Time shall be considered the essence of the Contract. If Contractor fails to complete the project or to deliver the supplies or perform the services within the time specified in the Contract or any extension thereof by Owner, the actual damage to Owner for the delay will be substantial but will be difficult or impractical to determine.

B. It is therefore agreed that Contractor will pay to Owner, not as a penalty but as liquidated damages, the per diem amount, as set forth in the following given Schedule of Liquidated Damages or modification thereof as given in the Special Provisions for each and every calendar day elapsed in excess of the Contract time or the final adjusted Contract time applicable to the work required under the Contract.

SCHEDULE OF LIQUIDATED DAMAGES

Original Amount of Contract		Per Diem Amount of Liquidated Damages	
For More Than	To and Including	Calendar Day*	Business Day
\$ 0	\$ 25,000	\$ 40	\$ 55
25,000	50,000	65	85
50,000	100,000	110	150
100,000	500,000	150	210
500,000	1,000,000	225	315
1,000,000	2,000,000	300	420
2,000,000	5,000,000	450	630

* Calendar day amounts are applicable when the contract time is expressed on the calendar day, calendar workday or fixed date basis.

C. Permitting Contractor to continue and finish the work or any part thereof after the Contract time or adjusted Contract time, as pertinent, has expired shall in no way operate as a waiver on the part of Owner or any of its rights under the Contract.

D. Payment of liquidated damages shall not release Contractor from obligations in respect to the fulfillment of the entire Contract, nor shall the payment of such liquidated damages constitute a waiver of Owner's right to collect any additional damages which may be sustained by failure of Contractor to carry out the terms of the Contract, it being the intent of the parties that said liquidated damages be full and complete payment only for failure of Contractor to complete the work on time.

108.08 CONTRACTOR'S REPRESENTATIVE

Designate, in writing before starting work, an authorized representative who shall have complete authority to represent and to act for Contractor, in all directions given by the Engineer. Contractor, or its authorized representative shall supervise the work, and shall be present on site continually during its progress.

If Contractor or its authorized representative is not present, directions may be given by Engineer or his authorized representative to the workmen and such order shall be received and followed. Any direction will be confirmed in writing upon request from the Contractor.

Keep a complete copy of the Plans and Specifications on or near the site at all time.

108.09 CONFLICTS, ERRORS, OMISSIONS, AND ADDITIONAL DRAWINGS

Check and compare all Plans and Specifications prior to construction and notify Engineer of any discrepancies or omissions in order to permit correction by Engineer. Coordination of Plans and Specifications is intended. Furnish labor and materials as required for the work. Should any work or materials be reasonably required or intended for carrying the project to completion which are omitted on the Plans and Specifications, furnish same as fully as if particularly delineated or described. The intent of the Plans and Specifications is to show and describe a complete project within the limits stated. Dimensions shown on Plans shall be followed, rather than scale measurements. Whenever it appears that the Plans are not sufficiently detailed or explicit, the Engineer may furnish additional detail drawings or written instructions and Contractor shall perform the work in accordance with the additional details or instructions.

108.10 OWNER'S RIGHT TO DO WORK

Failure or refusal to comply with any of the terms or conditions of the Contract will permit Owner to supply or correct any deficiency or defect or take other appropriate action without prejudice to any other remedy. Such action by Owner shall be taken only after seven (7) days notice by Engineer to Contractor and his Surety, unless in the judgment of the Engineer an emergency or danger to the work or to the public exists, in which event action of Owner as set forth above may be taken without any notice whatsoever. The cost of such action by Owner shall be deducted from the payment then or thereafter due Contractor. Pay Owner any costs in excess of such payment due.

108.11 TERMINATION FOR DEFAULT

A. If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of insolvency, or if he should refuse to or fail to supply enough properly skilled workmen or proper materials for the efficient prosecution of the Project, disregard laws, ordinances or the instructions of the Engineer, or otherwise be in violation of any provision of the Contract, the Owner may, without prejudice to any other right or remedy and after giving the Contractor and its Surety seven (7) days written notice, terminate the services of the Contractor and take possession of the premises and of all materials, tools and appliances thereon as well as all other materials whether on the premises or not, on which the Contractor has received partial payment and finish the work by whatever method it may deem expedient.

B. In the event action as above indicated is taken by the Owner, the Contractor, or its Surety, shall provide the Engineer with immediate and peaceful possession of all of the materials, tools and appliances located on the premises as well as all other materials whether on the premises or not, on which the Contractor has received any progress payment. Upon termination, in the event that the Surety does not complete the Contract, at the election of the Owner, Contractor shall assign any and all subcontractors and material contracts to Owner or Owner's designee. Further, the Contractor shall not be entitled to receive any further payment until the work is completed. On completion of the work, determination shall be made by the Engineer

of the total amount the Contractor would have been entitled to receive for the work, under the terms of the Contract, had Contractor completed the work. If the difference between said total amount and the sum of all amounts previously paid to the Contractor, which difference will hereinafter be called the "unpaid balance," exceeds the expense incurred by the Owner in completing the work, including expense for additional managerial and administrative services, such excess will be paid to the Contractor, with the consent of the Surety. If, instead, the expense incurred by the Owner exceeds the unpaid balance, the amount of the excess shall be paid to the Owner by the Contractor or his Surety. The expense incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, shall be as determined and certified by the Engineer.

C. In addition to and apart from the above-mentioned right of the Owner to terminate the employment of the Contractor, the Contract may be canceled at the election of the Owner for any willful failure or refusal on the part of the Contractor to faithfully perform the Contract according to all of its terms and conditions; provided, however, that in the event the Owner should cancel the Contract, neither the Contractor nor its Surety shall be relieved from damages or losses suffered by the Owner on account of the Contractor's breach of Contract.

D. The Owner may, at its discretion, avail itself of any or all of the above rights or remedies and that its invoking of any one of the above rights or remedies will not prejudice or preclude the Owner from subsequently invoking any other right or remedy set forth above or elsewhere in the Contract.

E. None of the foregoing provisions shall be construed to require Owner to complete the work, not to waive or in any way limit or modify the provisions of the Contract relating to the fixed and liquidated damages suffered by Owner on account of failure to complete the Project within the time prescribed.

108.12 TERMINATION IN THE PUBLIC INTEREST

A. It is hereby agreed that the Owner has the right to terminate the Contract in whole or in part when it is considered to be in the public interest.

B. In the event the Contract is terminated as being in the public interest the Contractor shall be entitled to a reasonable amount of compensation for preparatory work and for all costs and expenses arising out of the termination excluding lost profits.

The amount to be paid to the Contractor:

1. Shall be determined on the basis of the contract price in the case of any fully completed separate item or portion of the work for which there is a separate or unit contract price; and

2. In respect to any other work, the Contractor will be paid a percent of the Contract price equal to the percentage of the work completed.

109 MEASUREMENT AND PAYMENT

109.01 MEASUREMENT OF QUANTITIES

A. Payments shall be based on measurements of completed work in accordance with the United States Standard Measures, and as set forth in the applicable divisions of these specifications.

B. Volume of materials measured in the vehicles by which they are transported will require computing of the volume of the vehicles to the nearest 0.1 cubic yard for its approved capacity, and

identification of the vehicle and its capacity. Pay quantities will be determined by vehicle measurement at point of delivery with no allowance for settlement of material during transit.

Loads shall be level and uniform. Payment will not be made for material in excess of the approved capacity of the vehicle and deductions will be made for loads below approved capacity.

C. Volume of concrete and masonry in structures will be measured according to neat lines as shown on the Plans or as altered on order of the Engineer.

D. Volume of earthwork, particularly excavation and embankment, will be computed by the average end area method or by other methods of equivalent accuracy.

E. Weight – When payment for materials other than bituminous cements is on a weight basis and unless otherwise set forth in the specification under which material is to be furnished, pay quantities will be determined by weighing material on weigh scales provided by the Contractor as set forth hereinafter. Such weighing is to be of material in the hauling vehicle as loaded for delivery. Determination of tare weights and weight of loaded vehicles will be to the nearest ten (10) pounds. Tare weights will be determined by weighing empty vehicles at intervals of such frequency as the Engineer deems necessary to ensure accuracy of pay load weights.

F. Scales – When the Contract calls for materials which are to be measured by weighing on scales, provide suitable scales and transport materials to scales at no expense to the Owner. Before use of scales is commenced, and as frequently as the Engineer may deem necessary to ensure accuracy, have the scales examined by an official of the State's Sealer of Weights and Measures, and bear all resulting costs. Maintain the scales in accurate condition at all times.

G. Furnish and so locate scales that the amount of hauling involved in the delivering of materials is no greater than if no weighing were required; if not, bear expense of whatever extra hauling is required. If hauling of materials is to be paid for as a separate pay item, the distance shall be via the most direct practicable route and no allowance will be made for any extra hauling required to reach the scales.

H. If material is weighed on public scales, a representative of the Owner may be present at all times to witness the weighing and to check and compile records of scale weights.

109.02 SCOPE OF PAYMENT

A. Quantities listed in the Bid do not govern final payment. Payments to the Contractor will be made only for actual quantities of Contract items performed in accordance with terms of the Contract and for items of work actually performed under Change Orders.

B. The Contractor shall accept the compensation, as herein provided, in full payment for furnishing all materials, labor, tools and equipment necessary to the completed work and for performing all work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work until the final acceptance by the Owner.

109.03 COMPENSATION FOR ALTERATION OF CONTRACT

A. Unless changes and alterations in the Plans, or quantities, or details of construction materially change the character of the work to be performed or the unit costs thereof, the Contractor shall accept as payment in full, so far as Contract items are concerned, payment at the same unit prices as are provided under the Contract for the accepted quantities of work done. If the Contract is done on a lump sum basis, the adjustment for increases or decreases may be based, at the sole discretion of the Engineer, on a theoretical

unit price. This price will be determined by dividing the Contractor's applicable breakdown category price (as listed in the Special Specifications or as set forth in the Bid) by the estimated quantities of all units of work within the applicable breakdown category.

B. If either (1) the total project (total bid) cost of the work, using original bid quantities and unit prices, or (2) the total quantity of any major contract item, using original bid quantities changes more than 25 percent, then that part of the increase or decrease exceeding 25 percent shall be adjusted as the parties agree. A major bid item is any contract item, except lump sum items, having an original contract value greater than 10 percent of the total amount of the contract. If the parties cannot agree, the Engineer will determine the equitable adjustment of time, payment, or both. The basis of the equitable adjustment of time will be in accordance with Subsection 108.06. The basis of the equitable cost adjustment for decreases will take into account a redistribution of fixed costs. The basis of the equitable cost adjustment for increases will be by using one of the following methods:

1. Unit contract prices.
2. Other means of establishing costs.
3. Force account.

C. The Contractor shall obtain written consent of the surety or sureties if: (1) changed work increases the total cost by more than 25 percent of the original total contract, or (2) the Engineer requests such consent. The City will not adjust for increases or decreases if the City has entered the amount for the item in the proposal only to provide a common basis for bidders. The Contractor shall bear all costs that result from increased or decreased in such common-bid-basis amounts.

109.04 PAYMENT FOR CHANGE ORDERS

A. Payment or credit for any alterations covered by a Change Order shall be determined by one or a combination of the methods set forth in 1, 2, 3, or 4 below:

1. **METHOD 1. UNIT PRICES.** If applicable, those unit prices stipulated in the Proposal, or unit prices negotiated and mutually acceptable to the Contractor and Owner.

2. **METHOD 2. LUMP SUM.** A total sum for the work negotiated and mutually acceptable to the Contractor and Owner.

3. **METHOD 3. FORCE ACCOUNT WORK**

a. The Contractor shall perform work on a force account basis upon written notice from the Engineer. Payment will be made as set forth herein.

b. The Contractor must maintain records in such a manner as to provide a clear distinction between direct cost of work performed on force account basis and costs of all other operations performed in connection with the Contract.

c. Daily, furnish to Engineer signed reports itemizing materials used and setting forth the cost of labor and charges for equipment rental, delineating whether said equipment is Contractor or Subcontractor owned. Provide names, identifications, and classifications of workmen, the hourly rate of pay and hours worked, and the size, type and identification number of equipment and hours of equipment operation.

d. Substantiate material charges by vendor's invoices, submit such invoices with the reports; or, if not available, submit with subsequent reports. In the event said vendor's invoices are not submitted within forty-five (45) days after completion of the force account work Owner reserves the right to establish the cost of such materials.

e. When work is ordered to be paid for on a force account basis, such work will be paid for on the basis of cost, plus a negotiated percentage allowance, not to exceed the maximum set forth herein.

f. Items of cost for which payment will be made and to which payment will be restricted, together with the maximum percentage allowance applicable to the respective items, are as follows:

Items of Cost for Which Payments Will Be Made	Maximum Percentage Additional Allowance To Actual Costs
Labor, while engaged directly on force account work	20
Materials and supplies used on force account work	15
Rental on equipment having a value in excess of \$300	*

* No additional percentage except as follows:

g. Payment for labor used in the work will be computed at the rates actually paid by Contractor, but not to exceed prevailing straight time rates established by the Oregon Department of Labor, plus allowable allowance set forth above. Time allowed shall be the number of hours worked directly on force account operations. The employers cost for accident and unemployment compensation premiums, labor insurance cost, public liability and property damage cost and fringe benefits will be included in the direct labor cost item before applying the additional allowance. Written approval is required from the City for any overtime work on force account operations prior to any such work. Any overtime worked on force account operations will be compensated at the straight time rates unless previous approval was obtained from the Engineer.

h. Payment for materials and supplies used on force account work must be supported by paid invoices. Contractor and Subcontractors shall take advantage of all practicable discounts on bills for materials and supplies, and such discounts shall be reflected on all bills and invoices submitted to the Owner for payment. Freight will be considered to be part of the cost of materials and supplies and will be paid for as materials and supplies. Materials and supplies will be paid for as agreed in writing prior to their production or use. If there is no price agreement, the Engineer shall establish a reasonable price for such materials and supplies.

i. For the use of the Contractor's equipment, the Contractor will be paid at the monthly rental rates and the hourly operating costs set forth in the current edition of the "Rental Rate Blue Book for Construction Equipment" and the "Rental Rate Blue Book for Older Construction Equipment" which are published by the Equipment Guidebook Company, 2800 W. Bayshore Road, Palo Alto, California 94303. Reference copies of the above publications are on file at the Oregon State Highway Division Region Engineer, and the area offices of the Associated General Contractors of America. While using the Blue Book to determine allowable rental rates for equipment the hourly rate will be calculated by using the monthly rate as set forth in the book divided by one hundred seventy-six (176) hours. The rental rates will be the total compensation for all costs including fuel, supplies, repairs and renewals. No further allowance will be made for these items. For the use of equipment not listed in said documents, the rental rates shall be as agreed to in writing between the Contractor and the Engineer prior to use of said unlisted equipment. If there is no prior agreement, the Engineer shall establish a reasonable price for such equipment.

j. Time allowed for Contractor's equipment shall be only the number of hours that the equipment actually operated directly on force account work.

k. Compensation on equipment not owned by the Contractor will not exceed the rates actually paid by the Contractor and must be supported with an invoice that represents an arms length transaction. The Contractor and the Engineer will agree on the equipment to be used and the appropriate

rental rates before using said equipment on force account work. If prior approval is not obtained, the Engineer will establish the rates by either comparing the available equipment and using the applicable rate for the least expensive equipment that will accomplish the work or utilizing the applicable Blue Book rates as established above. Rental cost for equipment not owned by the Contractor will be established so as to minimize the cost to the City. The Hourly rate will be used unless the accumulated cost using the hourly rate exceeds the accumulated cost using the daily rate. The daily rate will be used unless the accumulated cost using the daily rate exceeds the accumulated cost using the weekly rate. This system will be expanded to utilize monthly or yearly rates as appropriate. These rental rates will be considered total compensation for all costs, including move-in, move-out, fuel, supplies, repairs, and renewals. No further allowance will be made for these items without specific approval of the Engineer before the work is commenced. Payment for rental on equipment not owned by the Contractor shall be at the rental costs so determined, plus a negotiated percentage not to exceed the allowance for materials and supplies.

l. Individual pieces of equipment, having a value of \$350 or less, will be considered to be tools or small equipment, and no rental will be allowed on such, unless not normally on work site and must be rented from others. Then (k) will apply.

m. No standby charges will be considered as a compensable part of any force account work. When a piece of equipment and operators thereof are hired, rented, or furnished as a unit, (Owner/Operator), the additional percentage to be allowed shall be five (5) percent and Contractor shall not be entitled to twenty (20) percent on the time of operators of such equipment. Neither shall Contractor be entitled to payment for contributions made under terms of the Worker's Compensation Act, Unemployment Compensation Act, or Social Security Act or any other benefits to cover the time of these operators.

n. The percentage allowances made to Contractor in accordance with terms outlined herein will be full reimbursement and compensation for all superintendence, use of tools and small equipment, overhead expense, bond costs, record keeping expense, insurance premiums, profits, indirect costs, and all other items of cost not specifically designated herein as items for which payment is to be made, whether or not the services, costs and other items involved are furnished or incurred by Contractor or Subcontractor.

o. When work is performed on a force account basis by a Subcontractor, the Contractor will be allowed a supplemental markup of five percent (5%) on amount charged by Subcontractor, provided however, Owner will pay no more than a reasonable amount for work performed by a Subcontractor.

4. METHOD 4. PAYMENT DETERMINED BY ENGINEER

A. In case no other basis can be agreed upon, and the Engineer has not directed the work to be paid for on a force account basis, then an allowance may be made, either for or against the Contractor, in such amount as the Engineer may determine to be fair and equitable.

B. The Owner's request for quotations on alterations to the work shall not be considered authorization to proceed with the work prior to the issuance of a formal Change Order, nor shall such request justify any delay in existing work. Lump sum quotations for alterations to the work shall include substantiating documentation with an itemized breakdown of Contractor and Subcontractor costs, including labor, material, rentals and approved services, overhead, and profit calculated as specified under Method "3" above.

C. In Methods "1" and "2" above, Contractor's quotations for Change Orders shall be in writing and firm for a period of thirty (30) days. Any compensation paid in conjunction with the terms of a Change Order shall comprise total compensation due the Contractor for the work or alteration defined in the Change Order. By signing the Change Order, the Contractor acknowledges that the stipulated compensation includes payment for the work or alteration plus all payment for the interruption of schedules, extended overhead, delay or any other impact claim or ripple effect, and by such signing specifically waives any reservation or claim for additional compensation or time in respect to the subject of the Change Order.

109.05 CLAIMS AND NOTICE

A. No claim shall be made by the Contractor for any loss of anticipated profits because of any alterations or changes made pursuant to the provisions of Subsections 104.04 and 109.04, nor by reason of any variation between the approximate quantities and the quantities of work as done. No allowance except as provided in Subsection 104.04 will be made for any increased expense, loss of expected reimbursement or loss of anticipated profits suffered or claimed by the Contractor resulting directly from such alterations or changes or resulting indirectly from unbalanced allocation among the Contract items of overhead expense on the part of the Contractor as a Bidder and subsequent loss of expected reimbursements therefor or from any other cause.

B. In any case where the Contractor claims that it is entitled to or will be entitled to additional compensation and/or additional Contract time or if the Contractor considers any interpretation or order by the Engineer to be a breach of Contract, Contractor shall immediately notify the Engineer, in writing, of its intention to make claim before beginning the work or conforming to the interpretation on which the claim is based. Contractor's written notification shall be a written statement describing (1) the act of omission or commission by the Owner or its agent that allegedly caused damage to the Contractor, (2) the nature of the claimed damage, (3) the clauses of the Contract or general legal principles upon which the claim is based, (4) the factual occurrences upon which the Contractor bases the claim. Submission of notice of claim as specified shall be mandatory, and failure to comply shall be a conclusive waiver to such claim for damages by the Contractor. Oral notice or statement will not be sufficient nor will notice or statement after the event since it tends to hinder, if not prevent, the Owner's investigation of the pertinent facts. After said written notification (if the claim is not resolved or withdrawn in writing) and only upon written direction by the Engineer proceed without delay to perform the work pursuant to the decision of the Engineer. While the work on an unresolved claim is being performed Contractor shall keep track of costs and maintain records in the manner set forth in Section 109.04 A 3 FORCE ACCOUNT WORK, at no cost to Owner. Such notice by the Contractor and the fact that Contractor and Engineer are keeping track of costs and maintaining records as required by Section 109.04 A 3 FORCE ACCOUNT WORK shall not in any way be construed as proving the validity of the claim nor the costs thereof.

C. A fully documented claims package shall be submitted in writing to the Engineer within forty-five (45) days after completion of the work upon which the claim is based.

D. Each claim submitted shall include substantiating documentation with an itemized breakdown of Contractor and Subcontractor's costs on a daily basis which shall include, but not be limited to labor, material, equipment, supplies, services, overhead, and profit. All documentation that Contractor believes is relevant to the claim shall be provided in said claim package including without limitation, payroll records, purchase orders, quotations, invoices, estimates, profit and loss statements, daily logs, ledgers, and journals. Failure to submit the claim package in full compliance with this requirement, and/or maintain cost records as herein required, will constitute a waiver of the claim.

E. The requirements of this Subsection 109.05 shall apply to claims for additional or extra compensation or time arising from any situation which may occur except for claims of error in the final estimate as provided in Subsection 109.08.

F. Provided the claim or claims have been submitted in accordance with the requirements of this Subsection 109.05, the Engineer will, as soon as possible, consider and investigate the claim or claims of the Contractor for additional compensation. The Engineer will promptly advise the Contractor of the decision to accept or reject the claim or claims, in full or in part.

G. The Contractor shall commence any suit or action to collect or enforce any claim filed in accordance with this Subsection 109.05 within a period of one year following the mailing of the Engineer's full or partial denial. If said suit is not commenced in said one year period, the Contractor expressly waives any and all claims for additional compensation and any and all causes of suit for the enforcement thereof that he might have had.

109.06 OWNER'S RIGHT TO ACCESS TO CONTRACTOR'S RECORDS

A. In the event that Contractor makes a claim under Subsection 109.05 or performs work under 109.04 A 3 the Owner or its designated representative shall have access and a right (at any time) to inspect, audit and copy Contractor's books, records, documents, diaries, and logs and other evidence (hereinafter referred to as records) pertinent to performance and payment of this Contract and amendments, change orders and any claims made in relation to the Contract. If an audit is conducted, it shall be in accordance with generally accepted auditing standards.

B. The Contractor will make its records available within the boundaries of the City of Newberg, Oregon, or pay all additional costs for travel and per diem or other additional expenses incurred by Owner in examining, auditing, inspecting and copying Contractor's records, by reason of said records not being available within said boundaries.

C. Contractor agrees to the disclosure of all records and to their admission as evidence in any proceeding, between the parties, involving a claim or force account work as set forth in Subsections 109.05 and 109.04(3).

D. In the event that Contractor's records establish a discrepancy, favorable to Owner, in the representations Contractor has made to Owner involving claims or force account work, Contractor shall bear all costs incurred by Owner in conducting the audit and inspection provided herein.

E. All costs referenced in subparagraphs B. and D. may be withheld and/or deducted from any sum due or that becomes due Contractor.

109.07 PROGRESS PAYMENTS AND RETAINAGE

A. Payment for all work under the Contract will be made at the price or prices bid, and those prices shall include full compensation for all incidental work.

B. If the Contract is for a public work and the Contract price is \$10,000 or more, supply and file, and require every Subcontractor to supply and file, with the Owner and the with the Wage and Hour Division, Bureau of Labor and Industries (BOLI), 1400 SW Fifth Avenue, Portland, Oregon 97201 a statement in writing that conforms to the requirements of ORS 279.354. The schedule for submitting payroll information shall be as noted in the latest applicable edition of the Prevailing Wage Rates for Public Works Contracts in Oregon published by BOLI.

C. Make progress estimate of work performed in any calendar month and submit to the Engineer for approval, on or before the 7th day of the following month. These estimates shall include value of labor performed and materials incorporated in the work since commencing work under the Contract. Such estimates need not be made by strict measurements and may be approximate only, and shall be based upon the whole amount of money that will become due according to terms of the Contract when Project has been completed.

D. If the Contract price is determined, in whole or in part, on a Lump Sum basis, prepare an itemized cost breakdown relating thereto and have the Engineer approve same before commencing work; progress estimates based on said itemized cost breakdown may be the basis for progress payments. Upon direction by the Engineer provide for revision of the costs breakdown to reflect the true costs of the work as it progresses.

E. If the Contract price is determined wholly on a unit basis, Engineer may use unit prices bid in making progress estimates on the work. In case said unit prices do not, in the opinion of the Engineer, truly represent actual relative costs of different parts of work, a percentage of the Unit Price may be used in making progress estimate adjustments.

F. If the Engineer receives written notice of any unsettled claims for damage or other costs due to Contractor's operations including, without limitation, claims from any City Department or other governmental agency, an amount equal to the claim may be withheld from the progress, final payments or retainage until such claim has been resolved to the satisfaction of Engineer.

G. Progress payments will be made by Owner on a monthly basis within thirty (30) days from sign off by the Contractor of the progress payment or fifteen (15) days after the payment is approved by Engineer of work performed. Payment will be issued by Owner for the amount of the approved estimate, less five percent (5%) retainage. Such amount of retainage shall be withheld and retained by Owner until it is included in and paid to Contractor as part of the final payment of the Contract amount. Securities in lieu of retainage will be accepted, or if Contractor elects, retainage as accumulated will be deposited by Owner in an interest-bearing account pursuant to ORS Chapter 279 for progress payments. Upon substantial completion of the work under the Contract which shall be understood to be not less than ninety-five percent (95%) of the work, the Engineer may, at its discretion, reduce the retained amount equivalent to not less than two hundred percent (200%) of the contract value or estimated value or estimated cost, whichever is greater, of the work remaining to be done.

H. The Engineer may decline to approve an application for payment and may withhold such approval if, in the Engineer's opinion the work has not progressed to the point indicated by the Contractor's submittal. The Engineer may also decline to approve an application for payment or may reduce said payment or, because of subsequently discovered evidence or subsequent inspections, he may nullify the whole or any part of any payment previously made to such extent as may be necessary in his opinion to protect the Owner from loss because of: (1) defective work not remedied, (2) third party claims filed or failure of the Contractor to make payments properly to Subcontractors for labor, materials or equipment, unless Surety consents to such payment, (3) reasonable doubt that the work can be completed for the unpaid balance of the Contract sum, (4) damage to another Contractor's work, (5) reasonable indication that the work will not be completed within the Contract time, (6) unsatisfactory prosecution of the work by the Contractor, (7) claims against the Contractor by the Owner, (8) failure to submit a construction schedule or failure to keep said construction schedule updated as set forth in Subsection 108.01, or (9) exceeding work limits as set forth in Subsection 204.03.

I. When the above grounds are removed, payment shall be made for amounts withheld because of them. Withholding of progress payments or partial payments under the criteria set forth above shall not entitle the Contractor to interest on such withheld payments or partial payments.

J. If Contractor fails to complete the Project within the time limit fixed in the Contract or any extension, no further estimate may be accepted or progress or other payments allowed until the Project is completed, unless approved otherwise by Owner.

K. Progress estimates are for the sole purpose of determining progress payments and are not to be relied on for any other purpose. The making of a progress payment shall not be construed as an acceptance of any of the work or materials under the Contract.

L. When the progress estimate indicates that the progress payment would be less than one thousand dollars (\$1,000), no progress payment will be made for that estimate period, unless approved by the Engineer.

109.08 FINAL ESTIMATE AND FINAL PAYMENT

A. Pursuant to ORS Chapter 279, notify the Engineer in writing when work is considered complete and Engineer shall, within fifteen (15) days after receiving notice, make a final inspection and either accept the work or notify Contractor of work yet to be performed on the Contract. If accepted, Engineer shall so notify Contractor, and will make a final estimate and prepare a Certificate of Completion recommending acceptance of the Work as of a certain date.

B. If the Contractor believes the quantities and amounts specified in the final estimate and Certificate of Completion prepared by the Engineer to be incorrect, Contractor shall submit to the Engineer within fifteen (15) days of mailing of the Engineer's final estimate and Certificate of Completion to the Contractor's last known address as shown in the records of the Owner, an itemized statement of any and all claims for additional compensation under the Contract which are based on differences in measurements or errors of computation. Any such claim not so submitted and supported by an itemized statement within said fifteen (15) day period is expressly waived and the Owner shall not be obligated to pay the same. Nothing contained herein shall limit the requirements of Subsection 109.05.

C. A project cannot be accepted until all provisions of the Contract Documents have been met including submission of the certificate of completion and compliance. Upon receipt of the executed Certificate of Completion from the Contractor, the final payment will be made within thirty (30) days in accordance with ORS 279.

D. Provided Contractor submits a claim in the manner and time as required in B) above, the Engineer, as soon as practicable, will consider and investigate the claim or claims of the Contractor for compensation earned under the Contract and not included in the Engineer's final estimate and Certificate of Completion. The Engineer will then promptly advise the Contractor of acceptance or rejection of the claim in full or part. If the Engineer allows the Contractor's claims in full or in part, Engineer will prepare a revised final estimate and Certificate of Completion, including all such items allowed and will submit the same to the Contractor.

E. The Contractor shall execute and return the revised Certificate of Completion within five (5) days of receipt of the final progress payment.

F. If the Engineer rejects the claim or claims, he will issue written notice of rejection mailed to the Contractor's last known address as shown in the records of the Owner.

G. The Contractor shall commence any suit or action to collect or enforce the claim or claims for any additional compensation arising from, or errors of computation in the final estimate within a period of one (1) year following the original mailing of the Engineer's final estimate and Certificate of Completion to the Contractor's last known address as shown in the records of Owner. The Engineer's issuance of a revised final estimate pursuant to this subsection does not alter the original final estimate date. If said suit, action or proceeding is not commenced in said one (1) year period, the final estimate and Certificate of Completion or revised final estimate and Certificate of Completion, if revisions are made, shall be conclusive with respect to the amount earned by the Contractor, and the Contractor expressly waives any and all claims for compensation and any and all causes of suit or action for the enforcement thereof that he might have had.

H. Upon return of the fully executed Certificate of Completion from the Contractor, the Engineer will submit the Certificate of Completion and final estimate to the Owner for approval. Upon approval and acceptance by the Owner, Contractor will be paid a total payment equal to the amount due under the Contract including retainage.

I. Monies earned by the Contractor are not due and payable until the procedures set forth in these Specifications for inspection, approval and acceptance of the Work, for determination of the work done and the amount due therefor, for the preparation of the final estimate and Certificate of Completion processing the same for payment, for consideration of the Contractor's claim, or claims, if any, and for the preparing of a revised final estimate and Certificate of Completion and processing same for payment have been carried out.

J. Foreign Contractor will provide Owner with evidence that provisions of ORS Chapter 279 have been satisfied; this is a prerequisite to final payment. See Subsection 103.08.

K. Execute and deliver to Owner, in form approved by the Attorney, a receipt for all amounts paid or payable to Contractor under the Contract, and a release and waiver of all claims against Owner arising out of or relating to the Contract and furnish satisfactory evidence that all amounts due for labor, materials and other obligations under the Contract have been fully and finally settled or are fully covered by the Performance and Payment Bond and/or insurance protecting Owner, its officers, agents and employees as well as Contractor. This is a condition of final payment and Contractor will not be entitled to final payment on release of retainage nor interest thereon until execution and delivery of said Receipt, Release & Waiver.

L. If Owner declares a default of the Contract, and Surety completes said Contract, all payments after declaration of default and retainages held by Owner shall be paid to Surety and not to Contractor in accordance with terms of the Contract.

M. Unless otherwise specifically noted and documented as required in Subsection 109.05 or this Subsection 109.08, acceptance by Contractor of final payment shall release Owner and Engineer from any and all claims by Contractor whether known or unknown, arising out of and relating to the work. No payment, however, final or otherwise, shall operate to release Contractor or its Sureties from warranties or other obligations required in the performance of the Contract.

END OF DIVISION

PART 4
SPECIFICATIONS

**SECTION 01001
GENERAL REQUIREMENTS**

PART 1 PROJECT DESCRIPTION

1.1 GENERAL

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

PART 2 SEQUENCE OF OPERATIONS

2.1 SCHEDULING

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

2.2 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.

2.3 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 3 SITE CONDITIONS**3.1 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 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 4 INFORMATION ON SITE CONDITIONS**4.1 GENERAL**

- A. Any information obtained by the ENGINEER regarding site conditions, subsurface information, groundwater elevations, existing construction of site

facilities as applicable, and similar data will be available for inspection at the office of the OWNER upon request. Such information is offered as supplementary information only. Neither the ENGINEER nor the OWNER assumes any responsibility for the completeness or interpretation of such supplementary information.

4.2 SUBSURFACE INVESTIGATION

- A. A soil boring was performed at the Chehalem Drive Sewage Pump Station site. The geotechnical report is available at the office of the OWNER.
- B. The CONTRACTOR further acknowledges satisfaction as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by the OWNER or included in these Contract Documents. Any failure by the CONTRACTOR to become acquainted with all the available information will not relieve CONTRACTOR from responsibility for properly estimating the difficulty or cost of successfully performing the work.

4.3 INFORMATION ON SITE CONDITIONS

- A. All information obtained by the OWNER regarding site conditions, topography, subsurface information, groundwater elevations, and similar data will be available for inspection at the office of the OWNER upon request. Such information is offered as supplementary information only. Neither the ENGINEER, nor the OWNER assumes any responsibility for the completeness or for the CONTRACTOR's interpretation of such supplementary information.

4.4 BORING LOG

- A. A log of the test boring showing a record of the data obtained on subsurface conditions is included at the end of this section for reference only. Said log is only the opinion of the ENGINEER as to the character of the materials and is not to be considered as a part of the Contract Documents.

4.5 BIDDER'S SUBSURFACE INVESTIGATION

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

4.6 DIFFERING SUBSURFACE CONDITIONS

- A. In the event subsurface or latent physical conditions are found materially different from those indicated in these Documents, and differing materially from those ordinarily encountered and generally recognized as inherent in the character of work covered in these Contract Documents, the CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of such changed conditions. Upon encountering an unknown obstruction, however, the CONTRACTOR, at no change in Contract price, shall remove any element which can be removed by powered hand spade or by 1 cubic yard capacity power shovel without drilling or blasting.
- B. In the event hazardous materials or buried tanks are encountered, the CONTRACTOR shall immediately stop work in the affected area and immediately notify the OWNER. The CONTRACTOR shall not proceed with work in the affected area until directed to do so in writing by the OWNER.
- C. The ENGINEER will investigate such conditions promptly and following this investigation, the CONTRACTOR shall proceed with the work, unless otherwise instructed by the ENGINEER. If the ENGINEER finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for performing the work, the ENGINEER will recommend to the OWNER the amount of adjustment in cost and time considered to be reasonable. The OWNER will make the final decision on all Change Orders to the Contract regarding any adjustment in cost or time for completion.

4.7 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	503-463-4336
Gas	NW Natural	1-800-422-4012
Telephone	Verizon	503-643-1001
Water	City of Newberg	503-537-1205
Owner	City of Newberg	503-554-1631
Engineer	Southwood Engineering	541-929-2533

4.8 **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, CONTRACTOR may, by obtaining prior approval of the property owner, Water Department, or Fire Department as applicable, and the OWNER, 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 CONTRACTOR's expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents or ordered by the OWNER.

4.9 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 OWNER 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.

4.10 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 OWNER. If existing structures are encountered which prevent the construction, and which are not properly shown on the Drawings, notify the

OWNER before continuing with the construction in order that the OWNER may make such field revisions as necessary to avoid conflict with the existing structures. If the CONTRACTOR shall fail to so notify the OWNER when an existing structure is encountered, and shall proceed with the construction despite this interference, it shall be at CONTRACTOR's own risk.

PART 5 TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

5.1 TEMPORARY WATER

- A. Water is not available at the project site. All water used during construction shall be provided and paid for by the CONTRACTOR.

5.2 TEMPORARY ELECTRIC POWER

- A. Temporary electric power is not available at the site. All temporary electrical power used during construction shall be provided and paid for by the CONTRACTOR.

5.3 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.

5.4 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 6 SAFETY AND CONVENIENCE

6.1 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.

6.2 SAFETY EQUIPMENT

- A. The CONTRACTOR, as part of 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. 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.

6.3 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.

6.4 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.

6.5 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 cold patched the same day and 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.

6.6 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, all State of Oregon Supplements, and City of Newberg Standards.

6.7 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 their residence or place of business for a period exceeding 8 hours, unless the CONTRACTOR has made special arrangements with the affected persons.

6.8 USE OF EXPLOSIVES

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

6.9 FIRE PREVENTION AND PROTECTION

- A. The CONTRACTOR shall perform all work in a fire-safe manner. 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.

6.10 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 7 PRESERVATION, RESTORATION, AND CLEANUP**7.1 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. CONTRACTOR shall obtain written permission from property owners to stockpile materials on private property.

- 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.

7.2 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.

7.3 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.

7.4 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. Flushing may be used, but only where flush water will not enter a drainage channel.

7.5 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 8 SUBMITTALS**8.1 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 shall be addressed to: Bob Knorr, City of Newberg, P.O. Box 970, Newberg, Oregon 97132.
- 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.

8.2 SHOP DRAWING SUBMITTAL PROCEDURE

- A. The CONTRACTOR shall submit four copies to the OWNER for 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 the work and to permit the OWNER and ENGINEER to monitor the CONTRACTOR's progress and understanding of the design.

8.3 OPERATION AND MAINTENANCE (O&M) MANUALS

- A. The CONTRACTOR shall furnish six copies of a complete manual for installation, operation, maintenance, and lubrication requirements for each component of mechanical and electrical equipment or system. All equipment manufacturers and/or suppliers shall be made aware of these requirements and all associated costs shall be included in the costs for furnishing the equipment or system. The six copies shall include one with all original documentation and two electronic versions on CD.
- B. Submit O&M Manuals printed on 8.5-inch by 11-inch heavy first quality paper with standard three-hole punching and bound in stiff-hinged binders constructed as a three-ring style (heavy-duty EZ-D binders preferred). Binders shall have titles on front and spine. Tab each section of manuals for easy reference with plastic-coated dividers. Provide index for each manual. Provide plastic sheet lifters prior to first page and following last page.
- C. Reduce drawings or diagrams bound in manuals to an 8.5-inch by 11-inch or 11-inch by 17-inch size. However, where reduction is not practical to ensure readability, fold larger drawings separately and place in vinyl envelopes which are bound into the binder. Identify vinyl envelopes with drawing numbers.
- D. Provide CADDFILE versions of all vendor- or CONTRACTOR-generated drawings in AutoCad 2000 readable format.
- E. Prepare Operation and Maintenance Manuals to include, but are not necessarily limited to, the following detailed information, as applicable:
 - 1. Equipment function, normal operating characteristics, limiting operations.
 - 2. Assembly, disassembly, installation, alignment, adjustment, and checking instructions.
 - 3. Operating instructions for startup, routine and normal operation, regulation and control, shutdown, and emergency conditions.
 - 4. Lubrication and maintenance instructions.

5. Guide to "troubleshooting."
 6. Parts list and predicted life of parts subject to wear.
 7. Outline, cross-section, and assembly drawings; engineering data; and electrical diagrams, including elementary diagrams, wiring diagrams, connection diagrams, and word description of wiring diagrams and interconnection diagrams.
 8. Test data and performance curves.
 9. A list of recommended spare parts with a price list and a list of spare parts provided under these Specifications.
 10. Copies of installation instructions, parts lists or other documents packed with equipment when delivered.
 11. Instrumentation or tag numbers relating the equipment back to the Contract Documents.
- F. For equipment items involving components or subunits, an Equipment Record Sheet for each operating component or subunit is required.
- G. One complete set of preliminary O&M Manuals shall be submitted to the OWNER for review at 50 percent completion level of the Project. The final manuals shall be furnished at least 30 calendar days prior to the scheduled completion of the Project.

PART 9 CONSTRUCTION DOCUMENTATION

9.1 DAILY LOGS

- A. Prepare a daily log summarizing the work performed each day, the equipment used, workers on the project, visitors to the site, and any other information pertinent to the construction activity. Submit the daily logs to the OWNER on a weekly basis.

9.2 CONSTRUCTION PHOTOGRAPHS

- A. Prior to beginning work, take a minimum of 24 photographs of the work site.
- B. During construction, take a minimum of 12 photographs of the construction site per month.
- C. Photographs shall be a minimum of 3.5 inches by 5.0 inches.
- D. Archive photographs in an album and submit to the OWNER at completion of the Contract.

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 as required by the General Conditions.

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 and OWNER 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 in accordance with provisions of the General Conditions. 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 applicable unit price bid amounts stated in the Bid Form.

END OF SECTION



PROJECT NUMBER: 108148.A0.ZZ

BORING NUMBER: B-1

Sheet: 1 of 2

SOIL BORING LOG

PROJECT: Newberg Pump Station

LOCATION: Pump Station

ELEVATION: 193.0'

DRILLING CONTRACTOR: Geotech Explorations

DRILLING METHOD AND EQUIPMENT: Mud Rotary - Mobile B-59 4.75"

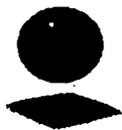
WATER LEVELS: 0.75'

START: 1/9/03

FINISH: 1/9/03

LOGGER: P. Davis

DEPTH BELOW SURFACE (FT)	SAMPLE			STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	INTERVAL	NUMBER AND TYPE	RECOVERY (FT)			
0					Ground Surface	
2.5 4.0	1-SS	1.2'	1-2-3 (5)		Silt (ML), Gray-brown, moist-wet, firm, fine organics.	PP = 1.5 tsf
5.0 6.5	2-SS	1.5	4-4-5 (9)		Silt (ML), As above, except stiff.	PP = 3.0 tsf
7.5 9.0	3-SS	1.5	3-3-4 (7)		Silt (ML), As above, except firm.	PP = 2.5 tsf
10.0 11.5	4-SS	1.5	5-6-8 (14)		Sandy Silt (ML), Olive, wet, stiff, sand is fine grained.	PP = 2.0 tsf
15.0 16.5	5-SS	1.3	4-8-5 (13)		Silty Sand (SM), Gray, medium dense, wet.	
20.0 21.5	6-SS	1.5	5-4-7 (11)		Fat Clay (CH), Some sand, Gray-olive-brown, wet, stiff, sand is fine-grained.	PP = 1.75 - 2.25 tsf P200 = 81%
25						PP = 1.5 tsf



CH2MHILL

PROJECT NUMBER: 108148.A0.ZZ

BORING NUMBER: B-1

Sheet: 2 of 2

SOIL BORING LOG

PROJECT: Newberg Pump Station

LOCATION: Pump Station

ELEVATION: 193.0'

DRILLING CONTRACTOR: Geotech Explorations

DRILLING METHOD AND EQUIPMENT: Mud Rotary - Mobile B-59 4.75"

WATER LEVELS: 0.75'

START: 1/9/03

FINISH: 1/9/03

LOGGER: P. Davis

DEPTH BELOW SURFACE (FT)	SAMPLE			STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	INTERVAL	NUMBER AND TYPE	RECOVERY (FT)			
	25.0 26.5	7-SS	1.5	3-6-5 (11)	Fat Clay (CH), As above.	PP = 1.5 tsf
30.0 31.5	8-SS	1.5	5-5-5 (10)			
35.0 36.5	9-SS	1.5	9-10-12 (22)	Fat Clay with Sand (CH), Gray, wet, very stiff, sand is fine-grained.	PP = 3.0 tsf	
40.0 41.5	10-SS	1.5	6-8-10 (18)			
45				Lean Clay with Sand (CL), Rust color, moist, very stiff, sand is coarse, weathered siltstone - sandstone, green-white-orange, estimated 15%.	PP = 2.25 tsf Piezometer 1-inch diameter PVC, piezometer installed at 40.0', 10.0' machine, slot screen from 40.0' to 30.0', sand up to 28.0' bgs, flush monument.	
50						

**SECTION 01092
ABBREVIATIONS**

PART 1 GENERAL

1.1 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

- A. Reference to standards and specifications of technical societies and reporting and resolving discrepancies associated therewith shall be as provided in paragraph 3.3 of the General Conditions, and as may otherwise be required herein and in the individual Specification sections.
- B. 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.
- C. 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.
- D. Where two or more standards are specified to establish quality, the product and workmanship shall meet or exceed the requirements of the most stringent.
- E. 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.
- F. Copies of standards and specifications of technical societies:
 - 1. Copies of applicable referenced standards have not been bound in these Contract Documents. Copies can be obtained from the OWNER.
 - 2. 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
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
49.	FCC	Federal Communications Commission
50.	FEMA	Federal Emergency Management Agency
51.	FGMA	Flat Glass Marketing Association
52.	FM	Factory Mutual
53.	Fed. Spec.	Federal Specifications
54.	FS	Federal Specification
55.	GA	Gypsum Association
56.	HI	Hydraulic Institute
57.	HMI	Hoist Manufacturers' Institute
58.	ICBO	International Conference of Building Officials
59.	ICEA	Insulated Cable Engineers' Association
60.	IEEE	Institute of Electrical and Electronics Engineers, Inc.
61.	IES	Illuminating Engineering Society
62.	IFI	Industrial Fasteners Institute
63.	ISA	Instrument Society of America
64.	ISO	Insurance Service Office
65.	JIC	Joint Industry Conferences of Hydraulic Manufacturers
66.	MIA	Marble Institute of America
67.	Mil. Sp. or MIL	Military Specification
68.	MS	Military Specifications
69.	MMA	Monorail Manufacturers' Association
70.	NAAMM	National Association of Architectural Metal Manufacturers
71.	NACE	National Association of Corrosion Engineers
72.	NBHA	National Builders' Hardware Association
73.	NEC	National Electrical Code
74.	NECA	National Electrical Contractor's Association

75.	NEMA	National Electrical Manufacturers' Association
76.	NESC	National Electric Safety Code
77.	NFPA	National Fire Protection Association
78.	NHLA	National Hardwood Lumber Association
79.	NHPMA	Northern Hardwood and Pine Manufacturer's Association
80.	NLMA	National Lumber Manufacturers' Association
81.	NRCA	National Roofing Contractors Association
82.	NSF	National Sanitation Foundation Testing Laboratory
83.	NSPE	National Society of Professional Engineers
84.	NTMA	National Terrazzo and Mosaic Association
85.	NWWDA	National Wood Window and Door Association
86.	OECI	Overhead Electrical Crane Institute
87.	OSHA	Occupational Safety and Health Act (both Federal and State)
88.	PCI	Prestressed Concrete Institute
89.	PEI	Porcelain Enamel Institute
90.	PPI	Plastic Pipe Institute
91.	PS	Product Standards Section-U.S. Department of Commerce
92.	RMA	Rubber Manufacturers' Association
93.	SAE	Society of Automotive Engineers
94.	SCPRF	Structural Clay Products Research Foundation
95.	SDI	Steel Deck Institute
96.	SDI	Steel Door Institute
97.	SIGMA	Sealed Insulating Glass Manufacturing Association
98.	SJI	Steel Joist Institute
99.	SMACNA	Sheet Metal and Air Conditioning Contractors National Association
100.	SPI	Society of the Plastics Industry
101.	SSPC	Steel Structures Painting Council
102.	SWI	Steel Window Institute
103.	TEMA	Tubular Exchanger Manufacturers' Association
104.	TCA	Tile Council of America
105.	UBC	Uniform Building Code
106.	UFC	Uniform Fire Code
107.	UL	Underwriters Laboratories Inc.
108.	UMC	Uniform Mechanical Code
109.	US	U.S. Bureau of Standards
110.	USBR	U.S. Bureau of Reclamation
111.	WCLIB	West Coast Lumber Inspection Bureau
112.	WWPA	Western Wood Products Association

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

**SECTION 02221
TRENCH EXCAVATION AND BACKFILL**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section covers the work necessary for the trench excavation and backfill, complete, except for pipe base and pipe zone backfill which are included under the specification for the pipe.

1.2 TYPE OF BACKFILL

- A. For bidding purposes, the class of backfill to be used above the pipe zone is indicated on the Drawings. The right is reserved to modify the use, location, and quantities of the various types of backfill during construction as the ENGINEER considers to be to the best interest of the OWNER. Payment will be made based on the class of backfill installed.
- B. Trench backfill above the pipe zone will be divided into the following classifications for the purpose of payment:
1. Class A Backfill: Class A backfill will, generally, be limited to use in unsurfaced or unimproved areas.
 2. Class B Backfill:
 - a. Class B backfill will, generally, be limited to traveled roadways and crossings where final surfacing replacement will be made shortly after backfilling and subsequent trench settlement must be held to a minimum.
 - b. When directed by the ENGINEER, Class B backfill shall also be used under all culverts, water, gas, irrigation, and sewerlines, buried telephone, power and television cable, and any other miscellaneous buried pipelines or cables that cross the excavated trench. The CONTRACTOR will be paid for 10 feet of Class B backfill under each crossing so constructed.

1.3 EXCAVATION AND BACKFILL FOR SERVICE CONNECTIONS

- A. Excavation and backfill for this item will be included for payment under the applicable section.

1.4 TRENCH EXCAVATION

- A. Excavation is unclassified. Complete all excavation regardless of the type of materials encountered. The CONTRACTOR shall make own estimate of the

kind and extent of the various materials which will be encountered in the excavation.

PART 2 PRODUCTS

2.1 FOUNDATION STABILIZATION

- A. Foundation stabilization shall be 2-1/2-inch minus crushed rock, with reasonably well gradation from coarse to fine, and free from excessive dirt or other organic material.

2.2 TRENCH BACKFILL

- A. Granular Material: Granular backfill shall be crushed rock, having reasonably well gradation from coarse to fine. The maximum size shall be 1-1/2 inches.

2.3 IMPORTED TOPSOIL

- A. Imported topsoil shall be suitable sandy loam from an approved source, which possesses friability and a high degree of fertility. It shall be free of clods, roots, gravel, and other inert material. It shall be free of quack grass, horsetail, and other noxious vegetation and seed. Should such regenerative material be present in the soil, the CONTRACTOR shall remove, at his expense, all such growth, both surface and root, which may appear in the imported topsoil within 1 year following acceptance of the job in a manner satisfactory to the OWNER.

2.4 COMPACTION EQUIPMENT

- A. Compaction equipment shall be of suitable type and adequate to obtain the amount of compaction specified. Compaction equipment shall be operated in strict accordance with the manufacturer's instructions and recommendations and shall be maintained in such condition that it will deliver the manufacturer's rated compactive effort.

PART 3 EXECUTION

3.1 PREPARATION OF RIGHT-OF-WAY

- A. Where clearing or partial clearing of the right-of-way is necessary, complete prior to the start of trenching. Cut trees and brush as near to the surface of the ground as practicable, remove all stumps, and pile for disposal. Do not permit excavated materials to cover brush or trees prior to disposal or burning.
- B. Do not remove existing trees or tree limbs over 4 inches in diameter on public property unless they are within 6 feet of the pipe centerline, without permission from the ENGINEER. Protect from damage, unless otherwise

marked by the ENGINEER, all trees, shrubs, or plants within the limits of the easement on private property. Those that interfere with trenching may be removed intact with their root system. Ball the root system of the trees, shrubs, or plants, bind in burlap, heel into the stockpiled topsoil from the trench excavation, and keep watered as required. Upon completion of the pipe laying and backfilling of the trench, replant the trees, shrubs, or plants in their original position. The CONTRACTOR shall record the location of any plant prior to its removal. Should any tree, shrub, or plant that has been disturbed as a result of its removal, or otherwise damaged by the CONTRACTOR, die within 6 months from the time that it was disturbed or damaged, it shall be replaced in kind and size by the CONTRACTOR at own expense.

3.2 DISPOSAL OF CLEARED MATERIAL

- A. The CONTRACTOR shall bear all costs of disposing of trees, stumps, brush, roots, limbs, and other waste materials from the clearing operation. Material shall be disposed of in such a manner as to meet all requirements of state, county, and local regulations regarding health, safety, and public welfare. When authorized by the proper fire authorities, the CONTRACTOR may dispose of flammable refuse by burning on the site of the project provided all requirements set forth by the authorities are met. Nonflammable material, and flammable material, when burning is not permitted, shall be disposed of off the construction site in an approved location at the CONTRACTOR's expense.
- B. In all cases, the authority to burn shall not relieve the CONTRACTOR in any way from damages which may result from operations. In no case shall any material be left on the project, shoved onto abutting private properties, or be buried in embankments or trenches on the project.
- C. On easements through private property, the CONTRACTOR shall not burn on the site unless specifically permitted in writing by the OWNER of the property, in addition to complying with all state, county, and local regulations regarding burning.

3.3 OBSTRUCTIONS

- A. This item refers to obstructions which may be removed and do not require replacement. Remove obstructions within the trench area or adjacent thereto such as tree roots, stumps, abandoned piling, buildings and concrete structures, logs, and debris of all types without additional compensation. The ENGINEER may, if requested, make changes in the trench alignment to avoid major obstructions, if such alignment changes can be made within the easement or right-of-way without adversely affecting the intended function of the facility. The CONTRACTOR shall pay all additional costs or credit the OWNER for any savings resulting from such alignment changes.

- B. Dispose of obstructions removed from the excavation in accordance with Article DISPOSAL OF CLEARED MATERIAL.

3.4 REMOVAL AND REPLACEMENT OF TOPSOIL

- A. Attention is directed to Section GENERAL REQUIREMENTS for additional trench surfacing and/or seeding requirements. Where trenches cross lawns, garden areas, pasturelands, cultivated fields, or other areas on which reasonable topsoil conditions exist, remove the topsoil for a depth of 12 inches for the full width of the trench to be excavated. Stockpile this topsoil to one side of the right-of-way and do not mix with the remaining excavated material. Replace the topsoil in the top 12 inches of the backfilled trench. Minimum finished depth of topsoil over all trenches shall be 10 inches.
- B. In lieu of stockpiling and replacing the topsoil, imported topsoil from borrow pits may be substituted in the top 10 inches.
- C. Maintain the finished grade of the topsoil level with the area adjacent to the trench until acceptance of final seeding. Repair damage to adjacent topsoil caused by work operations. Remove all rock, gravel, clay, and any other foreign materials from the surface, regrade, and add topsoil as required.

3.5 TRENCH WIDTH

- A. Minimum width of unsheeted trenches in which pipe is to be laid shall be 18 inches greater than the inside diameter of the pipe, or as approved. Sheeting requirements shall be independent of trench widths.
- B. The maximum width at the top of the trench will not be limited, except where excess width of excavation would cause damage to adjacent structures or property.
- C. When approved by the ENGINEER, the CONTRACTOR may use pipe of greater strength or install a superior pipe bedding in lieu of maintaining the trench widths shown.
- D. Confine trench widths to dedicated rights-of-way or construction easements, unless special written agreements have been made with the affected property owner.

3.6 GRADE

- A. Excavate the trench to the lines and grades shown or as established by the ENGINEER with proper allowance for pipe thickness and for pipe base or special bedding when required. If the trench is excavated below the required grade, correct any part of the trench excavated below the grade at no additional cost to the OWNER, with gravel of the type specified for pipe base

in Section GRAVITY SEWER PIPE. Place the gravel over the full width of trench in compacted layers not exceeding 6 inches deep to the established grade with allowance for the pipe base or special bedding.

3.7 SHORING, SHEETING, AND BRACING OF TRENCHES

- A. Sheet and brace the trench when necessary to prevent caving during excavation in unstable material, or to protect adjacent structures, property, workers, and the public. Increase trench widths accordingly by the thickness of the sheeting. Maintain sheeting in place until the pipe has been placed and backfilled at the pipe zone. Shoring and sheeting shall be removed, as the backfilling is done, in a manner that will not damage the pipe or permit voids in the backfill. All sheeting, shoring, and bracing of trenches shall conform to the safety requirements of the federal, state, or local public agency having jurisdiction. The most stringent of these requirements shall apply.

3.8 LOCATION OF EXCAVATED MATERIALS

- A. During trench excavation, place the excavated material only within the construction easement, right-of-way, or approved working area. Do not obstruct any private- or public-traveled roadways or streets. Conform to all federal, state, and local codes governing the safe loading of all trenches with excavated material.

3.9 REMOVAL OF WATER

- A. At all times provide and maintain ample means and devices to promptly remove and dispose of all water entering the trench excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and until the backfill at the pipe zone has been completed. These provisions shall apply during the noon hour as well as overnight.
- B. Dispose of the water in a manner to prevent damage to adjacent property. Drainage of trench water through the pipeline under construction is prohibited.

3.10 FOUNDATION STABILIZATION

- A. When, in the opinion of the ENGINEER, the existing material in the bottom of the trench is unsuitable for supporting the pipe, excavate below the flow line of the pipe, as directed by the ENGINEER. Backfill the trench to subgrade of pipe base with foundation stabilization material specified hereinbefore. Place the foundation stabilization material over the full width of the trench and compact in layers not exceeding 6 inches deep to the required grade.

3.11 PIPE BASE AND PIPE ZONE BACKFILL

- A. Pipe base and pipe zone backfill are included in specification for pipe.

3.12 TRENCH BACKFILL ABOVE PIPE ZONE

- A. When backfill is placed mechanically, push the backfill material onto the slope of the backfill previously placed and allow to slide down into the trench. Do not push backfill into the trench in such a way as to permit free fall of the material until at least 2 feet of cover is provided over the top of the pipe. Under no circumstances allow sharp, heavy pieces of material to drop directly onto the pipe or the tamped material around the pipe. Do not use backfill material of consolidated masses larger than 1/2 cubic foot.

1. **Class A Backfill:**

- a. Backfill the trench above the pipe zone with excavated trench materials.
- b. In untraveled areas on private or public street or road rights-of-way, leave the trench with the backfill material neatly mounded not more than 6 inches above the existing ground for the entire width of the trench. In lawn or garden areas, backfill the trench and maintain it level with the existing adjacent grade. In all other locations, estimate and provide the amount of backfill material required so that after normal settlement, the finished surface will meet the existing grade. Neatly windrow the material over the trench, and remove all excess. Any excess or deficiency of backfill material which becomes apparent after settlement and within the warranty period shall be corrected by regrading, disposal of excess material, and adding additional material where required. Remove rocks larger than 2 inches from the upper 8 inches of the backfill.

2. **Class B Backfill:** Backfill the trench above the pipe zone with approved granular backfill material. Compact the entire trench depth by water settling or compact in suitable lifts with mechanical vibrating or impact tampers. Determine the type of equipment and method to use and amount of compaction required to prevent subsequent settlement.

- a. Maintain the surface of the backfilled trench level with the existing grade with 3/4-inch minus crushed rock backfill material on gravel surfaces or with cold patch material on paved surfaces until pavement replacement is completed or the entire project is accepted by the OWNER.
- b. Any subsequent settlement of the finished surfacing during the warranty period shall be considered to be a result of improper or insufficient compaction and shall be promptly repaired by the CONTRACTOR at no cost to the OWNER.

3.13 MAINTENANCE OF TRENCH BACKFILL

- A. Maintain the backfilled trench surface between any two successive manholes until the following operations have been completed and approved by the ENGINEER:
1. Service connections installed and backfilled.
 2. Construction of manholes and appurtenances.
 3. Hydrostatic or air testing.
 4. Cleanup and restoration of all physical features.
 5. Utilities restored to their original condition or better.
 6. And, in general, all work required between the two manholes accomplished with the exception of repaving.
- B. This maintenance shall include, but not be limited to, the addition of crushed rock backfill material to keep the surface of backfilled trenches reasonably smooth, free from ruts and potholes, and suitable for normal traffic flow.
- C. No additional payment will be made for the maintenance of the trench backfill prior to completion of the work outlined above.
- D. No pavement replacement shall be undertaken until all items outlined above have been completed and approved by the ENGINEER.
- E. Maintenance of Class B backfilled trenches is considered as incidental to this item of work and payment for such maintenance will be considered as included in payment for Class B backfill.

3.14 DISPOSAL OF EXCESS EXCAVATED MATERIAL

- A. Dispose of all excess excavated materials. Make arrangements for the disposal and bear all costs or retain any profit incidental to such disposal.

3.15 DRAINAGE CULVERTS

- A. Replace culverts to the lines and grades established by the ENGINEER. Do not replace culverts until the proposed pipeline is installed and the backfill of the trench has been completed to the subgrade of the culvert.

3.16 DRAINAGE DITCH RESTORATION

- A. Undercrossings of drainage ditches shall be backfilled so that the upper 1 foot of material in the ditch between ditch banks is topsoil, loam, or clay. The CONTRACTOR shall correct any ditch leakage occurring as a result of operations at no cost to the OWNER.

3.17 SETTLEMENT

- A. Any settlement noted in backfill, fill, or in structures built over the backfill or fill within the 1 year warranty period in accordance with the General Conditions will be considered to be caused by improper compaction methods and shall be corrected at no cost to the OWNER. Structures damaged by settlement shall be restored to their original condition by the CONTRACTOR at no cost to the OWNER.

PART 4 PAYMENT**4.1 GENERAL**

- A. Payment for work in this section will be included as part of the applicable unit price bid amounts stated in the Bid Form and shall be included under the following articles. Computation of quantities will be as indicated for each item and will be based upon measurements made by the ENGINEER.
- B. Payment for trench excavation and backfill for service connection pipe will be included under that section.

4.2 TRENCH EXCAVATION AND BACKFILL

- A. The work under this item for gravity sewer pipe will be paid for on a linear foot basis for the type of backfill installed and for the depth of the trench from the original ground surface to the flow line of the pipe. The payment per linear foot will be the amount stated in the Bid Form. The depth figures indicated in the Bid Form are inclusive to the nearest 0.1 foot; that is, a trench depth measured as 11.9 feet will be paid for at the unit price for excavation 10 to 12 feet deep. A trench depth measured as 12.0 feet will be paid for at the unit price for excavation 12 to 14 feet deep.
- B. The length of trench will be measured horizontally from center-to-center of manholes or to the end of the pipe, whichever is applicable. The depth of trench will be measured at intervals of 25 feet along the centerline of the trench, and the depth of each measuring point will be the depth used for computing the depth of trench for a distance of 25 feet ahead of the point of measurement. Payment for this item shall cover all work specified herein, or not specifically paid for in other sections, except foundation stabilization, which will be paid for as other separate items.
- C. No extra payment will be made for providing additional cover over the pipe when required.
- D. The price bid per linear foot shall include any extra excavation required to provide space for pipe base.

4.3 FOUNDATION STABILIZATION

- A. Payment for this item will be based on the unit price per cubic yard stated in the Bid Form. Measurement will be based upon individual trip tickets of actual truck measure furnished the ENGINEER for cubic yards used under this item. Trip tickets shall be presented to the ENGINEER for signature on the day the material is delivered. No payment will be allowed on trip tickets not so validated by the ENGINEER. Payment for this item shall constitute full compensation for all materials, labor, equipment, and incidentals necessary to furnish materials at trench side and for placing and compacting it in the trench and for the extra depth of trench excavation required below the pipe base grade to provide for a stable base for the pipe. This item is to provide for unstable base encountered in the progress of the work and shall be used only under the direction of the ENGINEER.

END OF SECTION

**SECTION 02512
GRAVITY SEWER PIPE**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section covers all work necessary for furnishing and installing gravity sewer pipe of the sizes and classes indicated.

1.2 DEFINITIONS

- A. CCTV: Closed Circuit Television.
B. SDR: Standard Dimension Ratio.

PART 2 PRODUCTS

2.1 POLYVINYL CHLORIDE PIPE (PVC)

- A. 15-Inch Diameter and Smaller:
1. In accordance with ASTM D3034.
 2. Joints: Integral bell and spigot, in accordance with ASTM D3212.
 3. Minimum SDR: 35.
 4. Cell Classification: 12454-B or 12454-C, as defined by ASTM D1784.
 5. Fittings: SDR 35 minimum wall thickness.
 6. Gaskets: Factory fabricated rubber compression type with solid cross section in accordance with ASTM F477. Lubricant for joining pipe as approved by pipe manufacturer.

2.2 PIPE TO MANHOLE CONNECTOR

- A. Manufacturers and Products:
1. Uniseal, Evansville, Indiana; Pipeconx, Universal Pipe Connector.
 2. NPC Inc., Milford, NH; Kor-N-Seal.

2.3 FLEXIBLE COMPRESSION COLLAR

- A. Mechanical joint coupling with No. 305 stainless steel bands.
- B. Manufacturers:
1. Calder, Inc. , Bellflower, CA.
 2. Fernco Inc., Davison, MI.

2.4 QUICK SETTING GROUT

- A. High strength, nonstaining grout, free of gypsum.
- B. Reach initial set within 90 minutes at 70 degrees F and minimum compressive strength of 2,500 psi within 24 hours.
- C. Shrinkage shall be less than 0.01 percent when tested in accordance with ASTM C596.

2.5 IMPORTED GRANULAR MATERIAL FOR PIPE BASE AND FOR PIPE ZONE

- A. For pipe 18 inches in diameter and smaller use crushed rock with a maximum size of 3/4-inch, uniformly graded from coarse to fine.

PART 3 EXECUTION**3.1 EXAMINATION**

- A. Notify ENGINEER immediately of manufacturing imperfections or damage caused by improper handling.
- B. Verify size, pipe condition, and pipe class prior to installation of pipe.

3.2 PREPARATION

- A. Inspect pipe and fittings prior to lowering into trench to ensure no cracked, broken, or otherwise defective materials are being used.
- B. Remove foreign matter and dirt from inside of pipe and fittings and keep clean during and after laying. Wash ends of section clean with wet brush prior to joining sections of pipe.

3.3 INSTALLATION

- A. General:
 - 1. Install pipe sections in accordance with manufacturer's recommendations.
 - 2. Provide and use proper implements, tools, and facilities for safe and proper prosecution of Work.
 - 3. Lower pipe, fittings, and appurtenances into trench, piece by piece, by means of crane, slings, or other suitable tools and equipment, in such a manner as to prevent damage to pipe materials, protective coatings and linings. Do not drop or dump pipe into trenches.

B. Line and Grade:

1. Establish line and grade for pipe by use of lasers.
2. Measure for grade at pipe invert, not at top of pipe.
3. Do not deviate from line or grade, as shown on Drawings, more than 1/2 inch, provided that such variation does not result in a level or reverse sloping invert.

C. Laying and Jointing:

1. Use gasket lubricant as recommended by gasket manufacturer.
2. Lay pipe upgrade with bell ends pointing in direction of laying.
3. When field cutting or machining pipe is necessary, use only tools and methods recommended by pipe manufacturer and approved by ENGINEER.
4. After section of pipe has been placed in its approximate position for jointing, clean end of pipe to be joined, inside of joint, and rubber ring immediately before joining pipe.
5. Assemble joint in accordance with recommendations of manufacturer.
6. Apply sufficient pressure in making joint to assure that joint is "home" as defined in standard installation instructions provided by pipe manufacturer. Inside joint space shall not exceed 50 percent of pipe manufacturer's recommended maximum allowance.
7. Place pipe to specified line and grade to form smooth flow line.
8. Ensure that bottom of pipe is in contact with bottom of trench for full length of each section.
9. Check for alignment and grade after joint has been made.
10. Place sufficient pipe bedding material to secure pipe from movement before next joint is installed.
11. When pipe is laid within movable trench shield, take precautions to prevent pipe joints from pulling apart when moving shield ahead.
12. When laying operations are not in progress, and at close of day's work close and block open end of last laid section of pipe to prevent entry of foreign material or creep of gasketed joints.
13. Take precautions to prevent "uplift" or floating of line prior to completion of backfill operation.
14. Connections between one pipe material and another shall be by means of flexible compression collar, installed in accordance with the manufacture's recommendations, or concrete closure collar.

D. Connection to Structure or Manhole:

1. Plug or close off pipe stubbed with watertight plug.
2. Connect PVC pipe to manhole with pipe to manhole connector in accordance with manufacturer's recommendations.

3.4 CLEANING

- A. Clean each section of completed sewer pipeline prior to testing.
- B. Place screen or dam in downstream manhole of section being cleaned to catch debris.
- C. Remove material from each manhole section before cleaning the next section downstream.
- D. Method: High velocity hydro-cleaning equipment.
- E. Cleaning water may be discharged into existing sewer system after screening and removal of debris.

3.5 HYDROSTATIC AND PNEUMATIC TESTS

A. General:

1. Notify ENGINEER in writing 5 days in advance of testing. Perform testing in presence of ENGINEER.
2. Pipe 18 inches in diameter and smaller shall be tested for leakage using Hydrostatic Exfiltration or Pneumatic Test Methods at CONTRACTOR's option.
3. Pipe shall successfully pass leakage test prior to acceptance
4. Test sections of constructed sewer between stations only after service connections, manholes, and backfilling are completed. Testing may be done prior to placement of asphaltic concrete or roadway structural section.
5. Isolate new pipelines that are connected to existing pipelines. Install pipe plugs as required to allow section of new pipe to be pressure tested.
6. Plug wyes, tees, stubs, and service connections with gasketed caps or plugs securely fastened or blocked to withstand internal test pressure. Such plugs or caps shall be removable, and their removal shall provide socket suitable for making flexible jointed lateral connection or extension.
7. Furnish testing equipment and perform tests as approved by ENGINEER. Testing equipment shall provide observable and accurate measurement of leakage under specified conditions.

B. Hydrostatic Exfiltration Test:

1. Fill pipe test section 24 hours prior to time of testing, if desired, to permit normal absorption into VCP and RCP pipe walls.
2. Procedure:
 - a. Maximum filling velocity shall not exceed 0.25 foot per second, calculated based on full area of pipe.

- b. Expel air from piping system during filling.
 - c. Apply and maintain specified test pressure with hydraulic force pump. Valve off piping system when test pressure is reached.
 - d. Maintain hydrostatic test pressure continuously for 2 hours minimum, adding additional make-up water only as necessary to restore test pressure.
 - e. Determine actual leakage by measuring quantity of water necessary to maintain specified test pressure for duration of test.
3. Measurement Accuracy: Plus or minus 1/8 gallon of water leakage under specified conditions
 4. PVC pipe and joints shall sustain maximum water loss limit of 0.8 gallon per inch diameter per 1,000 feet of pipe, including service connections within test section per 2 hours. Allowable leakage shall be modified as stated below if hydrostatic head is other than 6 feet.
 5. Hydrostatic Head:
 - a. At least 6 feet above maximum estimated groundwater level in section being tested, but no less than 6 feet above inside top of highest section of pipe in test section, including service connections.
 - b. In every case, determine height of water table at time of test by exploratory holes or such other methods approved by ENGINEER. ENGINEER will make final decision regarding test height for water in pipe section being tested.
 - c. If hydrostatic head is other than 6 feet, allowable leakage as computed by criteria above shall be adjusted by the square root of actual head divided by square root of 6.
 6. Length of Pipe Tested: Limit length such that pressure on invert of lower end of section does not exceed 16 feet of water column. In no case shall length be greater than 700 feet or distance between manholes when greater than 700 feet.
 7. Dispose of test water in a manner that will not damage or interfere with adjacent property and in a manner acceptable with ENGINEER and regulatory agencies.

C. Pneumatic Testing for 18-inch and Smaller Diameter Pipe:

1. Equipment:
 - a. Calibrate gauges with standardized test gauge provided by CONTRACTOR at start of each testing day. ENGINEER will witness calibration.
 - b. Install compressor, air piping manifolds, gauges, and valves at ground surface.
 - c. Provide pressure release device, such as rupture disc or pressure relief valve, to relieve pressure at 6 psi or less.
 - d. Restrain plugs used to close sewer lines to prevent blowoff.

2. Procedure:

- a. No person shall enter manhole or structure, or occupy area above opening of manhole or structure where pipe is under pressure.
- b. Determine height of groundwater table at time of test.
- c. Slowly introduce air into pipe section until internal air pressure reaches 4 psi greater than average backpressure of groundwater submerging pipe.
- d. Allow 2 minutes minimum for air temperature to stabilize.
- e. Allowable leakage for sewers constructed of air-permeable materials, such a concrete or clay:
 - 1) When pressure is decreased to 3.5 psig, air pressure test shall begin.
 - 2) Test shall consist of measuring time in seconds for pressure in pipe to drop from 3.5 psig to 2.5 psig.
 - 3) Pipe leakage shall be considered acceptable if time in seconds for pressure drop is equal to or greater than required time as calculated below:

$$K = 0.0111d^2L$$

$$C = 0.000392dL$$

If C_t is less than or equal to 1.0, then time = K_t

If C_t is between 1.0 and 1.75, then time = K_t/C_t

If C_t is greater than or equal to 1.75, then time = $K_t/1.75$

Where: d = pipe diameter in inches
 L = pipe length in feet
 K = value for each length of pipe of a specific diameter
 C = value for each length of pipe of a specific diameter
 K_t = Sum of all K values
 C_t = Sum of all C values

- f. This method is based on allowable air loss rate of 0.003 cubic foot per minute (cfm) per square foot of internal pipe surface, with total air loss rate not less than 2.0 cfm nor greater than 3.5 cfm.
- g. Allowable leakage for sewers constructed of nonair-permeable materials such as ductile iron, and polyvinyl chloride (PVC).
 - 1) When nonair-permeable pipe is subjected to low pressure air test, time in seconds for pressure drop shall be equal to or greater than three times required time calculated using procedure above.
 - 2) Defective Piping Sections: Replace and retest as specified.

D. Test Report Documentation:

1. Test date.
2. Pipe section tested.
3. Test Method.
4. Test Pressure.
5. Length of test.
6. Pressure or water loss.
7. Remarks, including:
 - a. Leaks (type, location).
 - b. Repair/ replacement performed to remedy excessive leakage.
8. Signed by CONTRACTOR and ENGINEER to represent that test has been satisfactorily completed.

E. Subsequent Failure: Visible infiltration of groundwater following successful test shall be considered evidence that original test was in error or that subsequent failure of pipeline has occurred.

F. PVC Pipe Deflection Test:

1. General:
 - a. Test installed pipeline for deflection by pulling a mandrel through sewer without aid of mechanical pulling device.
 - b. Perform test after trench backfill and compaction have been completed.
2. Mandrel:
 - a. Full circle, solid or rigid odd number of legs (minimum 9 legs) steel cylinder with pulling rings at each end.
 - b. Diameter: Sized to allow only as much initial deflection for ultimate deflection of 5 percent.
 - c. Obtain ENGINEER approval, through CONTRACTOR calculations, for use of mandrel smaller than 96-2/3 percent of inside diameter of pipe.
3. Correcting Deficiencies or Obstructions:
 - a. Excavate to springline of pipeline and replace and recompact pipe zone material.
 - b. Internal pipe rerounding or vibration will not be allowed.
 - c. If pipe does not pass mandrel test after replacement of pipe zone material and trench backfill, re-excavate and replace pipeline.

3.6 INSPECTION

A. Television Pipeline Inspection:

1. General:
 - a. Internally inspect sewer pipelines by closed circuit television (CCTV) after completion of pipeline cleaning and testing.

- b. Conduct inspection in presence of ENGINEER.
- 2. Procedure:
 - a. Provide complete and continuous taped record and written log of inspection.
 - b. Format: VHS, T-120 videotape, color. Do not use long-play as quality is not acceptable
 - c. Television Camera Equipment:
 - 1) Rotating lens or pan and tilt.
 - 2) Resolution: Minimum 350 lines per inch.
 - 3) Focal Distance: Adjustable through a range of 6 inches to infinity.
 - 4) Remote-Reading Footage Counter: Accurate to less than 1 percent error.
 - 5) Lighting: Sufficient to provide clear, in-focus picture of entire inside periphery of pipe, and minimizes reflection.
 - d. Pull camera at uniform rate, stopping to properly document defects. Maximum pull of camera shall not exceed 30 feet per minute.
- 3. Quality Standard:
 - a. Provide clear, sharp image when played back on conventional television receiver.
 - b. Neatly label videotape showing contents, project title, tape number, pipe structure identification numbers, and date that tape was made, inspection company.
 - c. Tapes to include:
 - 1) Opening Screen:
 - a) Date of inspection.
 - b) Pipe structure identification number.
 - c) Upstream and downstream node identification numbers.
 - d) Street address.
 - e) Pipe size.
 - f) Normal (upstream to downstream) or reverse (downstream to upstream) pull.
 - 2) Continuous View: Current distance along reach (tape counter footage).
 - d. Log sheets to show time and date of inspection, location, upstream and downstream manholes, direction of pull, pipeline length, pipe size, pipe material, location of lateral connections, video tape number and detail of defects encountered.
 - e. Show sufficient detail to determine cracks in pipe, offset joints, leaking joints, sags, and other flaws in pipeline installation. Record location of deficiencies by distance from center of reference manhole.

- f. Upon completion, playback tape in presence of ENGINEER. Any tape not meeting quality standard will be rejected and taping process repeated.
- g. Correct deficiencies found as a result of video replay, and repeat CCTV inspection.

B. Deficiencies Requiring Correction:

- 1. Variations in alignment greater than specified herein.
- 2. Joint separations greater than allowed by pipe manufacturer.
- 3. Visible infiltration.
- 4. Presence of debris or foreign objects.
- 5. Obvious damage or defects in pipeline.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 02533
MANHOLES****PART 1 GENERAL****1.1 REFERENCES**

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

1. American Society for Testing and Materials (ASTM):
 - a. A36, Standard Specification for Carbon Structural Steel.
 - b. A48, Standard Specification for Gray Iron Castings.
 - c. A123, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - d. A536, Standard Specification for Ductile Iron Castings.
 - e. A615/A615M, Standard Specification for Rail-Steel Deformed and Plain Bars for Concrete Reinforcement.
 - f. C14, Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
 - g. C387, Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
 - h. C478, Standard Specification for Precast Reinforced Concrete Manhole Sections.
 - i. F593, Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
 - j. F594, Standard Specification for Stainless Steel Nuts.

1.2 SUBMITTALS

A. Shop Drawings:

1. Cast-in-Place Manholes: Details of construction.
2. Precast Manholes: Details of construction.
3. Precast Base, Cones, and Top Slab Sections: Details of construction.
4. Manholes Over Existing Piping: Plans and schedule for diverting flow.

PART 2 PRODUCTS**2.1 PRECAST MANHOLES**

A. Riser Sections:

1. Minimum 48 inches in diameter.
2. Fabricate in accordance with ASTM C478.

3. Minimum Wall Thickness: 4 inches or 1/12 times inside diameter, whichever is greater.
 4. Top and bottom shall be parallel.
 5. Joints: Tongue-and-groove or keylock type. At the option of the CONTRACTOR, joints may be confined O-ring with rubber gaskets meeting ASTM C443.
- B. Cone Sections:
1. Provide eccentric cones.
 2. Same wall thickness and reinforcement as riser section.
 3. Top and bottom shall be parallel.
- C. Base Sections and Base Slab:
1. Base Sections: Base slab integral with sidewalls.
 2. Fabricate in accordance with ASTM C478.
- D. Manhole Extensions:
1. Concrete grade rings; maximum 6 inches high.
 2. Fabricate in accordance with ASTM C478.
- E. Preformed Plastic Gaskets: Hamilton Kent of Nevada, Sparks, NV; Kent-Seal No. 2.
- F. Source Quality Control:
1. All test specimens shall be mat tested and meet permeability test requirements of ASTM C14.
 2. Conduct tests at point of manufacture prior to delivery of any section.
 3. Sections to be tested will be selected at random from stockpiled material to be supplied for the Project.

2.2 MANHOLE FRAMES AND COVER

- A. Castings:
1. Tough, close-grained gray iron, sound, smooth, clean, free from blisters, blowholes, shrinkage, cold shuts, and defects.
 2. Cast Iron: ASTM A48 Class 30B.
 3. Ductile Iron: ASTM A536, Grade 60-40-12.
 4. Plane or grind bearing surfaces to ensure flat, true surfaces.
- B. Cover: True and seat within ring at all points with the word SEWER in 2-inch raised letters.

2.3 FLEXIBLE JOINTS

A. Manufacturers:

1. "Kor-N-Seal" flexible rubber boot with stainless steel accessories as manufactured by NPC, Inc., Milford, New Hampshire.
2. "Z-LOK XP" or "A-LOK" flexible connectors as manufactured by A-LOK Products, Inc., Tullytown, PA.

PART 3 EXECUTION

3.1 GENERAL

- A. Remove and keep all water clear from the excavation during construction and testing operations.
- B. Place imported pipe base material on undisturbed earth; thoroughly compact with a mechanical vibrating or power tamper.

3.2 EXCAVATION AND BACKFILL

- A. Excavation: As specified in Section 02316, EXCAVATION.
- B. Backfill: Use highest class of trench backfill immediately adjacent, as shown on the Drawings.

3.3 INSTALLATION OF PRECAST MANHOLES

A. Concrete Base:

1. Cast-In-Place:
 - a. Vibrate to densify concrete and screed so first precast manhole section to be placed has a level, uniform bearing for full circumference.
 - b. Deposit sufficient mortar on base to assure watertight seal between base and manhole wall, or place first precast section of manhole in concrete base before concrete has set. Properly locate and plumb first section.
2. Precast:
 - a. Place on compacted imported base material.
 - b. Properly locate, ensure firm bearing throughout, and plumb first section.

B. Sections:

1. Thoroughly clean ends of sections to be joined.
2. Thoroughly wet joint with water prior to placing mortar.
3. Locate precast steps in line with each other to provide a continuous vertical ladder.

C. Mortar Joints:

1. Place mortar on groove of lower section prior to section installation.
2. Fill joint completely with mortar of proper consistency.
3. Trowel interior and exterior surfaces smooth on standard tongue-and-groove joints.
4. Prevent mortar from drying out and cure by applying an approved curing compound or comparable approved method.
5. Do not use mortar mixed for longer than 30 minutes.
6. Chip out and replace cracked or defective mortar.
7. Completed Manholes: Rigid and watertight.

D. Preformed Plastic Gaskets:

1. Carefully inspect precast manhole sections to be joined.
2. Do not use sections with chips or cracks in the tongue.
3. Use only pipe primer furnished by gasket manufacturer.
4. Install gasket material in accordance with manufacturer's instructions.
5. Completed Manholes shall be rigid and watertight.

E. Extensions:

1. Provide on manholes in streets or other locations where a subsequent change in existing grade may be likely.
2. Install to height not exceeding 12 inches.
3. Lay grade rings in mortar with sides plumb and tops level.
4. Seal joints with mortar as specified for sections, and make watertight.

3.4 MANHOLE INVERT

- A. Construct with smooth transitions to ensure an unobstructed flow through manhole. Remove sharp edges or rough sections that tend to obstruct flow.
- B. Where full section of pipe is laid through manhole, break out top section as shown and cover exposed edge of pipe completely with mortar. Trowel mortar surfaces smooth.

3.5 MANHOLE FRAMES AND COVERS

- A. Set frames in bed of nonshrink grout with nonshrink grout carried over flange as shown. Grout shall be gypsum free.
- B. Set tops of covers flush with surface of adjoining pavement or ground surface, unless otherwise shown or directed.

3.6 MANHOLE PIPING

- A. Flexible Joints:
 - 1. Provide joint in pipe not more than 1-1/2 feet from manhole walls.
 - 2. Where last joint of pipe is between 1-1/2 and 6 feet from manhole wall, provide flexible joint in manhole wall.
- B. Permanent Plugs: Clean interior contact surfaces of pipes to be cut off or abandoned as shown, and construct plug as follows:
 - 1. Pipe 18 Inches or Less in Diameter: Concrete plug in end, minimum 8 inches in length.
 - 2. Plugs shall be watertight and capable of withstanding internal and external pressures without leakage.

3.7 MANHOLES OVER EXISTING PIPING

- A. Maintain flow through existing pipelines at all times.
- B. Plastic Pipe:
 - 1. Use solvent recommended by pipe manufacturer to slightly soften the pipe wall.
 - 2. Apply a dense coating of clean mortar sand over all areas that will be in contact with concrete.
 - 3. Allow mortar to dry completely prior to placing concrete.
- C. Concrete Pipe: Apply a bonding agent on all surfaces to be in contact with concrete.
- D. Construct base under existing piping.
- E. Construct manhole as specified.
- F. Break out existing pipe within new manhole, cover edges with mortar, and trowel smooth.
- G. Protect new concrete and mortar work for 7 days after placing concrete.

3.8 CONNECTIONS TO EXISTING MANHOLES

- A. Break out existing manhole bases or grouting as necessary.
- B. Clean all surfaces and apply a bonding agent.
- C. RegROUT to provide smooth flow into and through manholes.
- D. Provide diversion facilities and perform work necessary to maintain flow during connection.

3.9 FIELD QUALITY CONTROL

A. Hydrostatic Testing:

- 1. When, in ENGINEER's opinion, groundwater table is too low to permit visual detection of infiltration leaks, hydrostatically test all manholes.
- 2. Procedure: Plug inlets and outlets and fill manhole with water to height determined by ENGINEER.
- 3. A manhole may be filled 24 hours prior to time of testing, if desired, to permit normal absorption into the pipe walls to take place.
- 4. Leakage in each manhole shall not exceed 0.1 gallon per hour per foot of head above the invert.
- 5. Repair manholes that do not meet the leakage test, or do not meet specified requirements from visual inspection.

- B. Vacuum Testing: In lieu of hydrostatic testing, the CONTRACTOR may perform vacuum testing of manholes. Vacuum testing shall be done in accordance with ASTM C1244-93. All pipes entering the manhole shall be temporarily plugged, and plugs shall be braced. The test head shall be placed in or on top of the manhole ring. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shutoff. The time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds 38 seconds.

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 Bid Form.

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: OWNER will 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 applicable unit price bid amounts stated in the Bid Form.

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 waterline piping, complete.

PART 2 PRODUCTS

2.1 JOINTS

- A. Pipe joints for raw sewage piping shall be flanged joints, except where specifically shown or detailed otherwise.
- B. Fitting joints for raw sewage piping shall be flanged ends, except where specifically shown or detailed otherwise.
- C. Pipe joints for waterline piping and fittings shall be restrained joints, Clow Corp., Super-Lock; American Cast Iron Pipe Co., Flex-Ring or Lok-Ring; or U.S. Pipe, TR Flex.

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. All flanged coupling.
- B. 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.

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 52. 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 IMPORTED GRANULAR MATERIAL FOR PIPE BASE AND FOR PIPE ZONE

- A. For pipe 18 inches in diameter and smaller use crushed rock with a maximum size of 3/4-inch, uniformly graded from coarse to fine.

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 and protective coatings and linings. 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:
 - 1. General: Cut pipe for inserting valves, fittings, or closure pieces in a neat and workmanlike manner without damaging the pipe or lining and so as to leave a smooth end at right angles to the axis of the pipe.
 - 2. Ductile Iron Pipe: Cut pipe with milling type cutter or saw. Do not flame cut.
 - 3. Dressing Cut Ends: Dress cut ends of push-on joint pipe by beveling, as recommended by the manufacturer.
- 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 DEFINITION OF PIPE ZONE

- A. The pipe zone shall include the full width of the trench from the bottom of the pipe to a point 12 inches above the top of the pipe barrel.

3.4 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 zone. 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.

3.5 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 tests shall be conducted between valved sections of the

pipeline, or as approved by the ENGINEER. 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 150 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.

3.6 STERILIZATION

- A. Pipelines intended to carry potable water shall be sterilized before placing in service. Sterilizing procedures shall conform to AWWA C651 as hereinafter modified or expanded and the requirements of any governing agency having jurisdiction.
 1. Flushing: Before sterilizing, flush all foreign matter from the pipeline. Provide hoses, temporary pipes, ditches, etc., as required to dispose of flushing water without damage to adjacent properties. Flushing velocities shall be at least 2.5 fps. For large diameter pipe where it is impractical or impossible to flush the pipe at 2.5 fps velocity, clean the pipeline in place from the inside by brushing and sweeping, then flush the line at a lower velocity.
 2. Sterilizing Mixture:
 - a. Sterilizing mixture shall be chlorine water solution having a free chlorine residual of 40 to 50 ppm. The sterilizing mixture shall be prepared by injecting: (1) a liquid chlorine gas-water mixture, (2) dry chlorine gas; or (3) a calcium or sodium hypochlorite and water mixture into the pipeline at a measured rate while fresh water is allowed to flow through the pipeline at a measured rate so that the chlorine-water solution is of the specified strength.
 - b. The liquid chlorine gas-water mixture shall be applied by means of an approved solution feed chlorinating device. Dry chlorine gas shall be fed through proper devices for regulating the rate of flow and providing effective diffusion of the gas into the water within the pipe being treated. Chlorinating devices for feeding solutions of the chlorine gas or the gas itself must provide means for preventing the backflow of water into the chlorine cylinder.

- c. If the calcium hypochlorite procedure is used, first mix the dry powder with water to make a thick paste, then thin to approximately a 1 percent solution (10,000 ppm chlorine). If the sodium hypochlorite procedure is used, dilute the liquid with water to obtain a 1 percent solution. The following proportions of hypochlorite to water will be required:

Product	Quantity	Water
Calcium Hypochlorite (1) (65 to 70 percent C1)	1 pound	7.5-gallon
Sodium Hypochlorite (2) (5.25 percent C1)	1 gallon	4.25-gallon

- 1) Comparable to commercial products known as HTH, Perchloron, and Pittchlor.
 - 2) Known as liquid laundry bleach, Clorox, Purex, etc.
3. Point of Application: Inject the chlorine mixture into the pipeline to be treated at the beginning of the line through a corporation stop or suitable tap in the top of the pipeline. Water from the existing system or other approved source shall be controlled so as to flow slowly into the newly laid pipeline during the application of chlorine. The rate of chlorine mixture flow shall be in such proportion to the rate of water entering the pipe that the combined mixture shall contain 40 to 50 ppm of free available chlorine. Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water. Use check valves if necessary.
4. Retention Period:
- a. Treated water shall be retained in the pipeline long enough to destroy all nonspore-forming bacteria. With proper flushing and the specified solution strength, 24 hours is adequate. At the end of the 24-hour period, the sterilizing mixture shall have a strength of at least 10 ppm of chlorine.
 - b. Operate all valves, hydrants, and other appurtenances during sterilization to assure that the sterilizing mixture is dispersed into all parts of the line, including dead ends, new services, and similar areas that otherwise may not receive the treated water.
 - c. Do not place concentrated quantities of commercial sterilizers in the line before it is filled with water.
 - d. After chlorination, flush the water from the line until the water through the line is equal chemically and bacteriologically to the permanent source of supply.

- e. The pipeline shall not be placed into service until the results of a bacteriological test are negative.
- 5. Disposal of Sterilizing Water: Dispose of sterilizing water in an approved manner. Do not allow sterilizing water to flow into a waterway without adequate dilution or other satisfactory method of reducing chlorine concentrations to a safe level.

PART 4 PAYMENT

4.1 GENERAL

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

END OF SECTION

**SECTION 15070
PVC FORCE MAIN PIPE AND FITTINGS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section covers the work necessary for furnishing and installing the PVC force main pipe and fittings, complete.

PART 2 PRODUCTS

2.1 JOINTS

- A. Pipe joints shall be push-on joints, except where specifically shown or detailed otherwise.
- B. Fitting joints shall be mechanical joint ends, except where specifically shown or detailed otherwise.

2.2 MECHANICAL JOINT FITTINGS

- A. Mechanical joint ductile iron fittings shall conform to AWWA C110 and shall be Class 250 minimum. Cement-mortar lining and seal coating for fittings shall be in accordance with ANSI A21.4. Compact fittings in accordance with ANSI A21.53/AWWA C153 may be used.

2.3 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 250 psi rated working pressure and cement-mortar lined and seal coated in accordance with ANSI A21.4.

2.4 MECHANICAL JOINT RETAINER GLANDS

- A. Retainer glands shall be cast of high strength ductile iron, Grade 60-42-10. Set screws shall be cup point, square head, and double heat treated steel. Tee head bolts and gaskets shall conform to ANSI 21.11.

2.5 GASKETS

- A. Gasket material for flanged joints 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.

2.6 BOLTS

- A. Ductile iron or corten bolts shall be used on all mechanical joints and flanged joints.

2.7 PVC PIPE

- A. PVC water pipe shall have a pressure class of not less than 150 and dimension ratio (DR) of not greater than 18 and conform to American Water Works Association Standard for Polyvinyl Chloride (PVC) Pressure Pipe, AWWA C900 for pipe conforming to the outside diameter of ductile iron pipe and ASTM D2241 and D2122. The pipe shall have elastomeric gasket joints conforming with ASTM D3139. Gaskets shall conform with ASTM F477 and ASTM D1869.

2.8 HANDLING

- A. Handle the pipe so as to prevent injury. Place no pipe or other material inside any other pipe at any time.

2.9 IMPORTED GRANULAR MATERIAL FOR PIPE BASE AND FOR PIPE ZONE

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

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. The trench bottom shall form a continuous and uniform bearing and support for the pipe between bell holes, except that the grade may be disturbed for the removal of lifting tackle.
- 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. **Bell (Joint) Holes:** At the location of each joint, dig bell joint holes of ample dimensions in the bottom of the trench and at the sides where necessary to

permit the joint to be made properly and to permit easy visual inspection of the entire joint.

- D. 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. Distributing Pipe: Distribute material on the job from the cars, trucks, or storage yard no faster than can be used to good advantage. In general, distribute no more than 1 week's supply of material in advance of the laying.
- B. 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.
- C. Cleaning Pipe and Fittings: Wipe the ends of pipe and fittings clean of all dirt, grease, and foreign matter.
- D. Placing of Pipe in the Trench: Do not allow foreign material to enter the pipe while it is being placed in the trench.
 - 1. Push-on Joint Pipe: After the first length of push-on joint pipe is installed in the trench, secure pipe in place with approved backfill material tamped under and along sides to prevent movement. Keep ends clear of backfill. After each section is jointed, place backfill as specified to prevent movement.
- E. Number of Pipes Laid before Jointing:
 - 1. Push-on Joint Pipe: Connect push-on joint pipe as hereinafter specified as soon as they are placed in the trench.
- F. Preventing Trench Water From Entering Pipe:
 - 1. At all times provide and maintain ample means and devices to promptly remove and dispose of all water entering the trench excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and until the backfill at the pipe zone has been completed. These provisions shall apply during the noon hour as well as overnight.

2. Dispose of the water in a manner to prevent damage to adjacent property. Drainage of trench water through the pipeline under construction is prohibited.

G. Cutting Pipe:

1. General: Cut pipe for inserting valves, fittings, or closure pieces 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.
2. Dressing Cut Ends: Dress cut ends of push-on joint pipe by beveling, as recommended by manufacturer.

H. Bell end to Face Direction of Laying: Unless otherwise directed, lay pipe with bell end facing in the direction of the laying.

I. Permissible Deflection at Joints: Wherever it is necessary to deflect pipe from a straight line, either in the vertical or horizontal plane, to avoid obstructions, or where long-radius curves are permitted, the amount of deflection allowed shall not exceed the values recommended by the pipe manufacturer.

J. 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 JOINING PUSH-ON JOINT PIPE AND MECHANICAL JOINT FITTINGS

A. Lay and join pipe with push-on type joints in strict accordance with the manufacturer's recommendations. Provide all special tools and devices, such as special jacks, chokers, and similar items required for the installation. Lubricant for the pipe gaskets shall be furnished by the pipe manufacturer, and no substitutes will be permitted under any circumstances.

B. Mechanical joint fittings vary slightly with different manufacturers. Install the particular fittings furnished in accordance with the manufacturer's recommendations. In general, the procedure shall be as hereinafter specified. Clean the ends of the fittings of all dirt, mud, and foreign matter by washing with water and scrubbing with a wire brush, after which slip the gland and gasket on the plain end of the pipe. If necessary, lubricate the end of the pipe to facilitate sliding the gasket in place. Then guide the fitting onto the spigot of the pipe previously laid.

3.4 ANCHORAGE

A. Limiting Pipe Diameter and Degree of Bend: On all pipelines 4 inches in diameter or larger, securely anchor by suitable thrust blocking, all tees, plugs,

caps, and bends as shown, and at other locations where unbalanced forces exist, as directed by the ENGINEER.

- B. Thrust Blocking: Provide reaction or thrust blocking, as shown, or as directed by the ENGINEER. The concrete mix shall have 28-day compressive strength of not less than 2,500 pounds per square inch. Place blocking between the undisturbed ground and the fitting to be anchored. The bearing surface shall be as shown or as directed by the ENGINEER. Place the blocking so that the pipe and fitting joints will be accessible to repairs, unless otherwise shown.
- C. Retainer Glands: Provide retainer glands on pipe only in locations where there is insufficient undisturbed earth against which to place a concrete thrust block. Locations for retainer glands shall be as shown on the Drawings or as approved by the ENGINEER.

3.5 DEFINITION OF PIPE ZONE

- A. The pipe zone shall include the full width of the trench from the bottom of the pipe to a point 12 inches the top of the pipe barrel.

3.6 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 zone. 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.

3.7 HYDROSTATIC TESTS

- A. Make pressure and leakage tests on all newly laid pipe. Furnish all necessary equipment and material, make all taps in the pipe as required, and conduct the tests. The tests shall be conducted between valved sections of the pipeline, or as approved by the ENGINEER. The ENGINEER will monitor the tests.
- B. Furnish the following equipment and materials for the tests:

<u>Amount</u>	<u>Description</u>
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 100 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:

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

1

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 applicable unit price bid amounts stated in the Bid Form.

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. C500, Gate Valves for Water and Sewerage Systems.
 - b. C508, Standard for Swing-Check Valves for Waterworks Service, 2 in. Through 24 in. NPS.
 - c. C509, Resilient-Seated Gate Valves for Water and Sewerage Systems.
 - d. C550, Protective Epoxy Interior Coatings for Valves and Hydrants.
3. Manufacturers Standardization Society (MSS):
 - a. SP-81, Stainless Steel, Bonnetless, Flanged Knife Gate Valves.

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. Valve to include operator, actuator, handwheel, extension stem, worm and gear operator, operating nut, wrench, and accessories for a complete operation.
- B. Valve to be suitable for intended service. Renewable parts not to be of a lower quality than specified.
- C. Valve same size as adjoining pipe.

- D. Valve ends to suit adjacent piping.
- E. Size operator to operate valve for the full range of pressures and velocities.
- F. Valve to open by turning counterclockwise.
- G. Factory mount operator, actuator, and accessories.

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.

2.4 VALVES

- A. Gate Valves:
 - 1. Knife Gate Valves 24 Inches and Smaller:
 - a. Bonnetless wafer body type, outside stem and yoke, rated for 150 psi cold water, ANSI B16.1 flanged ends, self-cleaning, nonclogging, with round port, resilient neoprene seat, drip-tight shutoff.
 - b. Wetted metal parts and stem, Type 316 stainless steel, yoke sleeve bronze, gate finish ground both sides with a sharp knife edge.
 - c. Packing system leak-tight seal around the gate, valve superstructure and yoke designed for full peripheral access to

gland bolts when valve is equipped with manual or power actuator.

- d. In compliance with MSS SP-81.
- e. Manufacturers and Products:
 - 1) Fabri-Valve; Figure 37L.
 - 2) DeZurik; Series L.
 - 3) Rovang; Model L17.

2.5 OPERATORS

A. Manual Operator:

- 1. Operator force not to exceed 40 pounds under any operating condition, including initial breakaway. Gear reduction operator when force exceeds 40 pounds.
- 2. Operator self-locking type or equipped with self-locking device.
- 3. Position indicator on quarter-turn valves.

2.6 VALVE BOXES

A. Manufacturers:

- 1. Tyler 7000.
- 2. Or equal.

B. Characteristics:

- 1. Cast iron Buffalo two-piece sliding type, with 5-inch cast iron soil pipe extension section.
- 2. Shaft: 5-1/4-inch, with length appropriate for installation.

2.7 VALVE OPERATOR STEM EXTENSIONS

- A. Steel stem extensions are required when the depth of the operating nut is more than 3 feet below finish surface. The extension stem shall be constructed of 1-inch barstock steel with centering disc.
- B. Length: Sufficient to bring operating nut to 18 inches below ground surface or pavement.

PART 3 EXECUTION

3.1 INSTALLATION

A. Flange Ends:

- 1. Flanged valve boltholes shall straddle vertical centerline of pipe.

2. Clean flanged faces, insert gasket and bolts, and tighten nuts progressively and uniformly.

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 applicable unit price bid amounts stated in the Bid Form.

END OF SECTION

PART 5
DRAWINGS

**CITY OF NEWBERG
STANDARD DRAWINGS**

The following City of Newberg Standard Drawings are included
in this Contract:

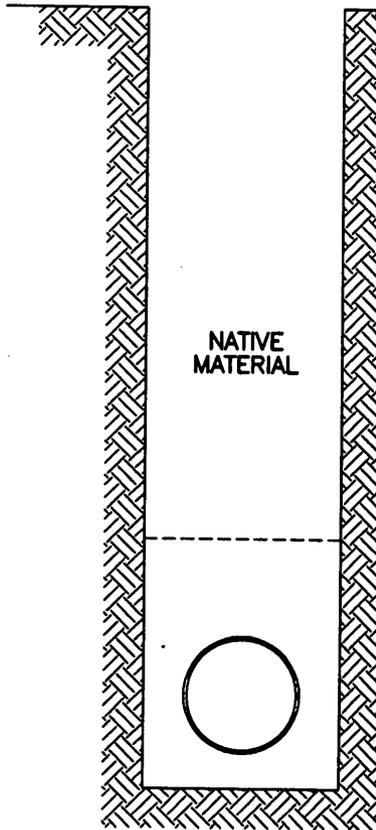
<u>Drawing No.</u>	<u>Title</u>
201	Trench Backfill
202	Pipe Bedding
210	Service Branch
301	Water Pipe Bedding
302	Thrust Blocking
303	Vertical Thrust Blocking
305	Water Tapping Sleeves
306	Valve Box Assembly
307	Valve Box and Cover
308	Standard ¾" and 1" Water Service
309	Double Water Service
312	Blow-Off Assembly
313	Fire Hydrant Assembly
518	Trench Paving
528	Asphalt Pavement Repair

City of Newberg
 414 E. FIRST STREET
 NEWBERG, OREGON 97132

TRENCH BACKFILL

SCALE: N.T.S.
 DATE: JAN 2003
 APP. BY: D. DANICIC
 STANDARD DRAWING 201

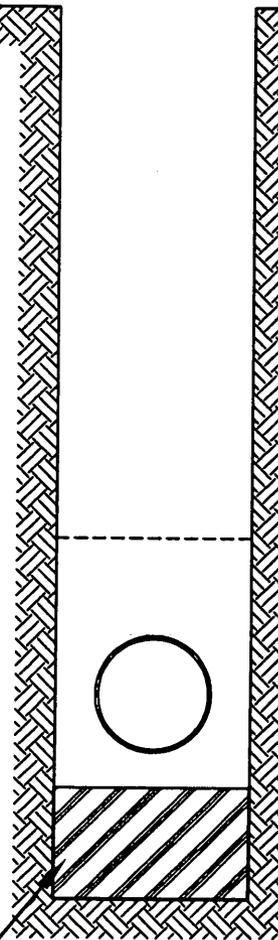
CLASS "A"



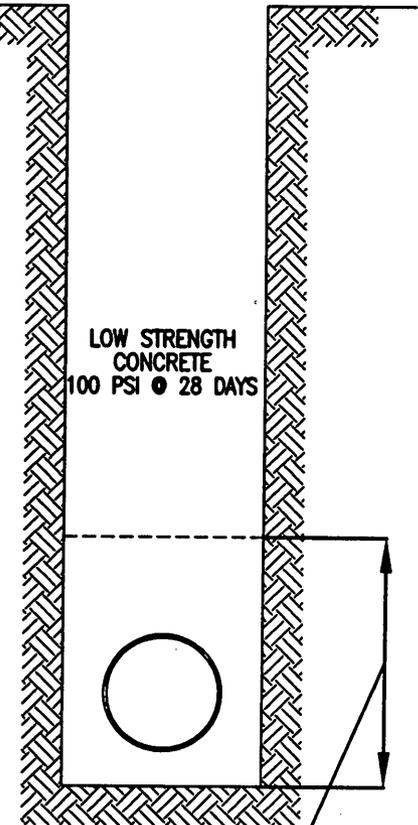
CLASS "B"



CLASS "D"



"CDF"
 CONTROLLED
 DENSITY
 FILL



NOTES

1. COMPACT BACKFILL TO NOT LESS THAN 95% RELATIVE DENSITY.
2. INITIAL COMPACTION OF BACKFILL OVER P.V.C. PIPE, TO 3 FEET OVER TOP OF PIPE, SHALL BE 90% RELATIVE DENSITY.

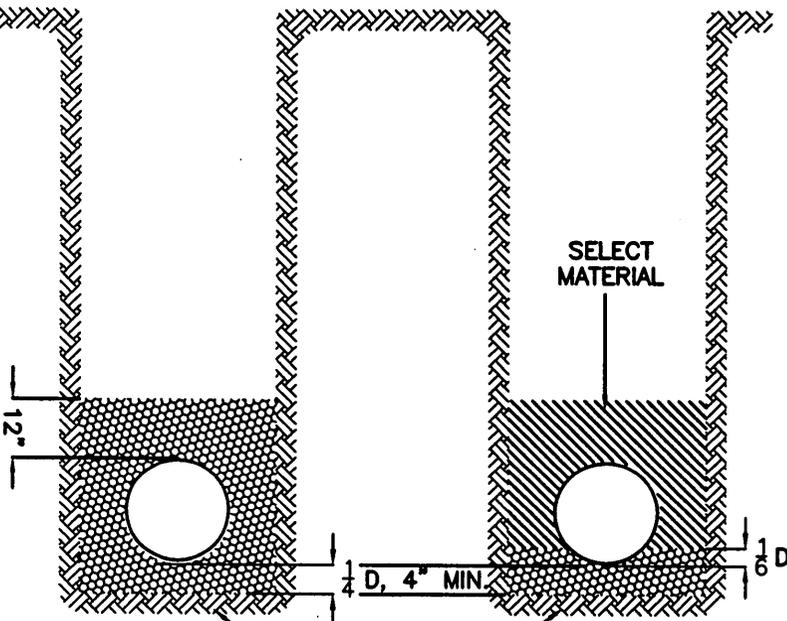
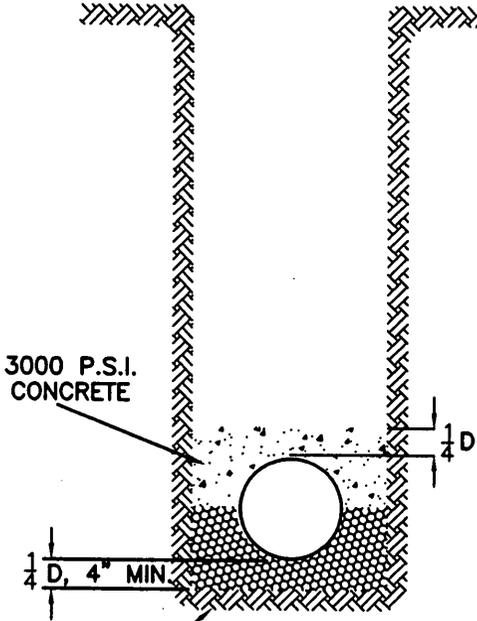
REMOVE UNSUITABLE MATERIAL
 REPLACE WITH APPROVED
 FOUNDATION MATERIAL

PIPE ZONE
 SEE STD. DRAWING NO. 202
 FOR PIPE BEDDING

CLASS "A"

CLASS "B"

CLASS "C"



UNDISTURBED EARTH

UNDISTURBED EARTH

 CRUSHED ROCK 3/4"-0"

City of Newberg
 414 E. FIRST STREET
 NEWBERG, OREGON 97132

PIPE BEDDING

SCALE: N.T.S.
DATE: JAN 2003
APP. BY: D. DANICIC
STANDARD DRAWING
202

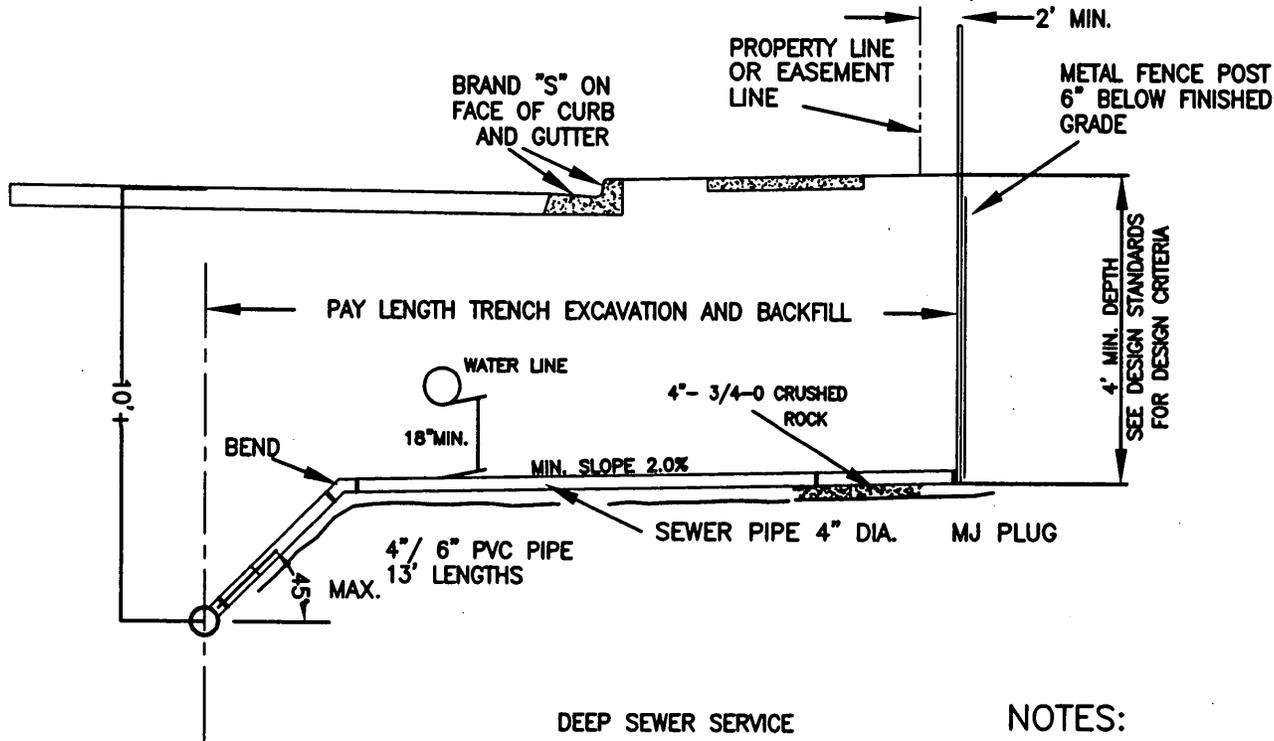
414 E. FIRST STREET
NEWBERG, OREGON 97132



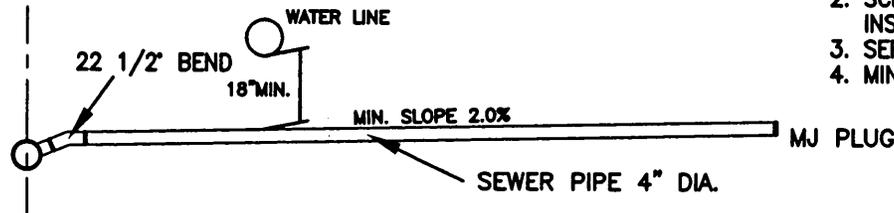
SERVICE BRANCH

SCALE: N.T.S.
DATE: JAN 2003
APP. BY: D. DANICIC
STANDARD DRAWING 210

2" X 4" FROM INVERT TO 4' ABOVE FINISHED GRADE. STAKE SHALL BE CONTINUOUS AND REMAIN VERTICAL AFTER BACKFILLING. END SHALL BE PAINTED GREEN. (TYPICAL AT ALL SERVICES)



DEEP SEWER SERVICE

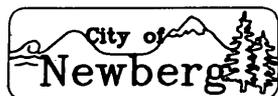
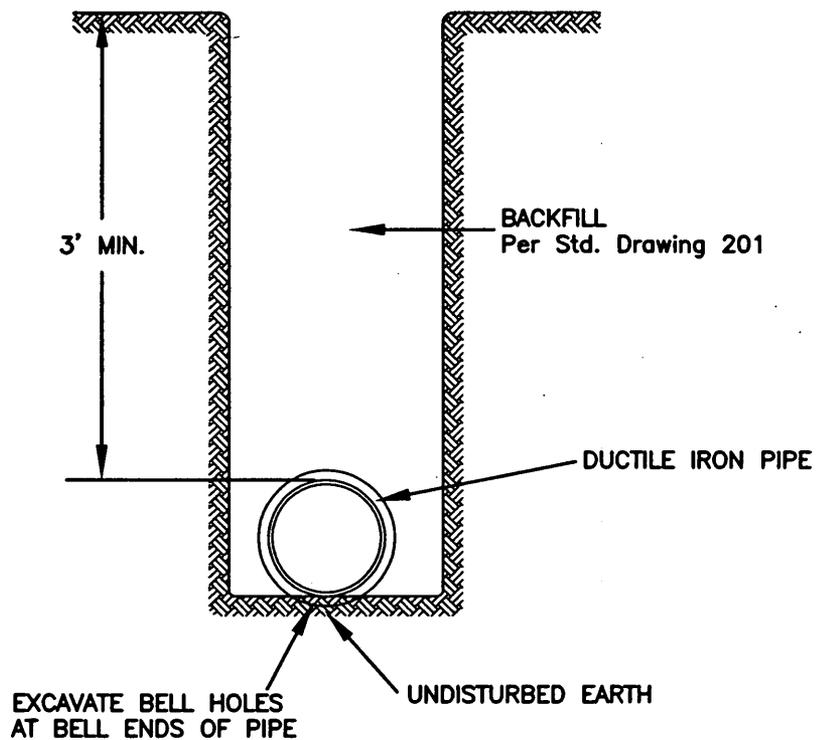


SHALLOW SEWER SERVICE

NOTES:

1. USES - SINGLE RESIDENTIAL SERVICE - 4" PIPE
SPLIT RESIDENTIAL SERVICE WITH CLEAN OUT - 6" PIPE
COMMERCIAL / INDUSTRIAL - 6" PIPE
2. SCHEME FOR HOUSE SERVICE TO BE DETERMINED BY INSPECTOR IN FIELD IN CASE OF CONFLICT WITH PLANS.
3. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION.
4. MINIMUM SLOPE -2%.

CLASS "D"



414 E. FIRST STREET
NEWBERG, OREGON 97132

WATER PIPE BEDDING

SCALE: N.T.S.

DATE: JUNE 2000

APP. BY: L. ANDERSON

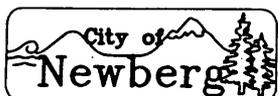
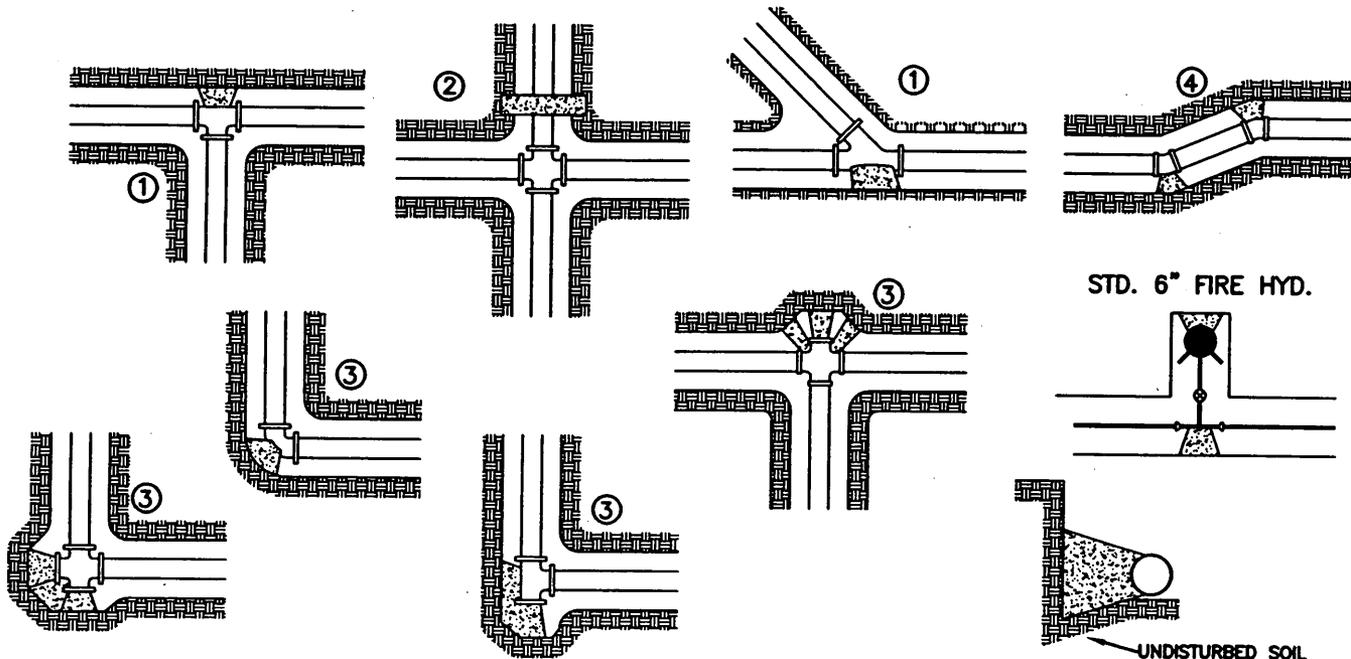
STANDARD
DRAWING

301

FITTING SIZE (Inches)	TEE, WYE & HYDRANTS ①	STRADDLE BLOCK ②	90° BEND PLUGGED CROSS TEE PLUGGED - RUNS ③	45° BEND ④	22 1/2' BEND ④	11 1/4' BEND ④
2	*	*	*	*	*	*
4	1.3	1.6	1.9	1.3	*	*
6	2.8	3.7	4.0	2.1	1.3	*
8	5.1	6.5	7.1	3.9	2.0	1.3
10	7.9	10.2	11.2	6.1	3.2	1.6
12	11.3	14.7	16.0	8.8	4.5	2.3
14	15.3	20.0	21.7	11.9	6.1	3.1
16	20.0	26.1	28.4	15.5	8.0	4.0
18	25.3	33.0	36	19.5	10.1	5.1
LARGER	**	**	**	**	**	**

BEARING AREA OF THRUST BLOCKS (SQ. FT.)

- ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
AVERAGE TEST PRESSURE = 150 PSI; 1500 PSF SOIL BEARING
NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED
5 FEET PER SECOND.
- ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
- BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
- ALL CONCRETE SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
- ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
- THRUST BLOCK FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN ON PLANS.
- VERTICAL THRUST BLOCKING DETAILS-SEE STD. DWG. 303
- STRADDLE BLOCK DETAILS-SEE STD. DWG. 304
- ABOVE BEARING AREAS ARE BASED ON A TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 1500 LBS./SQ. FT.. TO COMPUTE BEARING AREAS OF DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:
$$\text{BEARING AREA} = \text{TABLE VALUE X } \frac{\text{TEST PRESSURE}}{150} \times \frac{2000}{\text{SOIL BEARING STRESS}}$$
- ALL MJ FITTINGS SHALL USE MEGALUG RETAINER GLANDS OR EQUAL.
- ALL TYTON JOINTS WITHIN THRUST RESTRAINT SHALL USE FIELD LOK GASKETS
 - * BLOCK TO UNDISTURBED TRENCH WALLS
 - ** THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER



414 E. FIRST STREET
NEWBERG, OREGON 97132

THRUST BLOCKING

SCALE: N.T.S.

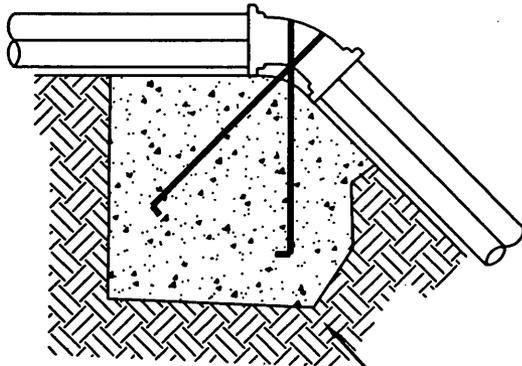
DATE: JAN 2003

APP. BY: D. DANICIC

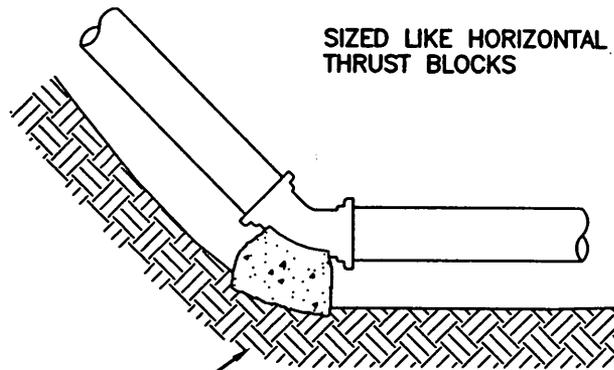
STANDARD
DRAWING

302

GALVANIZED RODS OVER FITTING AND EMBEDDED IN CONCRETE (SEE TABLE FOR SIZES)



SIZED LIKE HORIZONTAL THRUST BLOCKS



UNDISTURBED SOIL

GRAVITY VERTICAL THRUST BLOCK

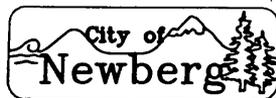
NORMAL VERTICAL THRUST BLOCK

VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS)			
FITTING SIZE	BEND ANGLE		
	45°	22 1/2°	11 1/4°
4"	1.1	0.4	0.2
6"	2.7	1.0	0.4
8"	4.0	1.5	0.6
10"	6.0	2.3	0.9
12"	8.5	3.2	1.3
14"	11.5	4.3	1.8
16"	14.8	5.6	2.3

FITTING SIZE	ROD SIZE	EMBED-MENT
12" AND LESS	#6	30"
14" - 16"	#8	36"

NOTES

- GRAVITY VERTICAL THRUST BLOCKS SHALL BE DESIGNED BY THE ENGINEER.
- KEEP CONCRETE CLEAR OF JOINTS AND JOINT ACCESSORIES. FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
- CONCRETE THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
- CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI.
- THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 150 PSIG AND THE WEIGHT OF CONCRETE OF 4050 LBS./C.Y..
- VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YARDS REQUIRE SPECIAL BLOCKING DETAILS. SEE PLANS FOR VOLUMES SHOWN INSIDE HEAVY LINE IN TABLE.
- PAYMENT SHALL BE THE SAME AS FOR HORIZONTAL THRUST BLOCKS.
- ALL REBAR SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123 (MIN. 3.4 MIL). REBAR SHALL BE BENT BEFORE GALVANIZATION, AND LAST 4" OF BAR SHALL BE BENT 90° WITH A 1/2" RADIUS BEND. REBAR SHALL BE TIGHTLY FIT TO RESTRAINED FITTING.
- FOR HORIZONTAL THRUST BLOCK DETAILS SEE STANDARD DRAWING NO. 302.
- ALL MJ FITTINGS SHALL USE MEGALUG RETAINER GLANDS OR EQUAL
- ALL TYTON JOINTS WITHIN THRUST RESTRAINT SHALL USE FIELD LOK GASKETS.



414 E. FIRST STREET
NEWBERG, OREGON 97132

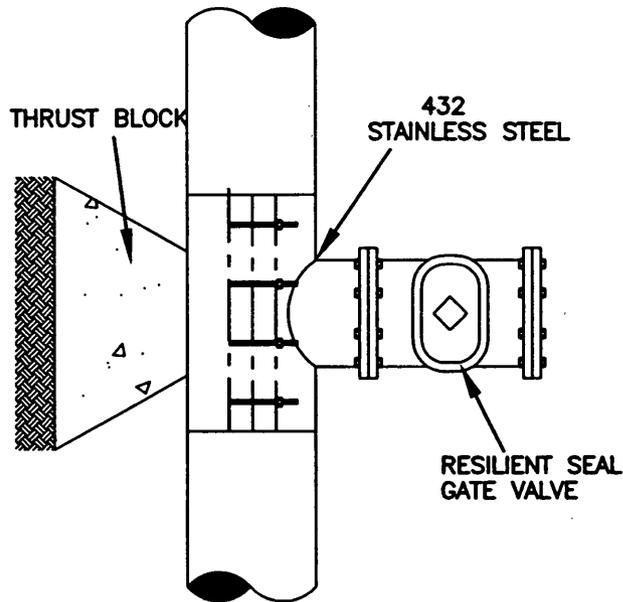
VERTICAL THRUST BLOCKING

SCALE: N.T.S.

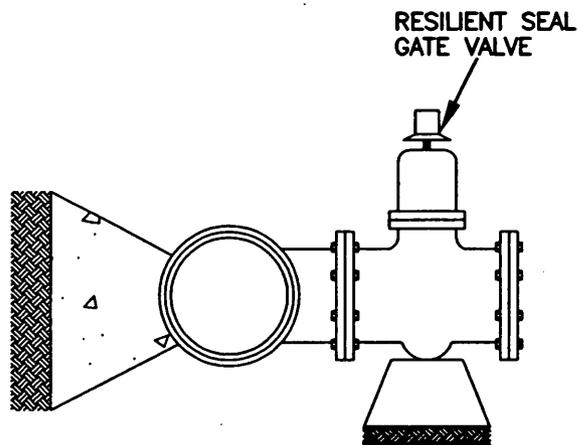
DATE: JUNE 2000

APP. BY: L. ANDERSON

STANDARD DRAWING 303

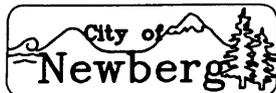


FULL STAINLESS STEEL TAPPING SLEEVE



NOTES

1. WATER MAIN SHALL BE CLEANED BEFORE ATTACHING SLEEVE.
2. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP
3. PRESSURE TEST AND TAP SHALL BE MADE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE BY A CONTRACTOR APPROVED BY THE ENGINEER.
4. 3/4"-0" CRUSHED ROCK SHALL BE PLACED AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
5. THRUST BLOCKING REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER AS PER STANDARD DRAWING NO. 302.
6. TAP SHALL BE MADE NO CLOSER THAN 18" FROM THE NEAREST JOINT.
7. SLEEVE AND VALVE SHALL BE WRAPPED AND SEALED WITH 8 MIL PLASTIC.
8. FLUSH ALL METAL SHAVINGS FROM THE TAPPING PROCESS.
9. 432 STAINLESS STEEL TAPPING SLEEVE ON DUCTILE IRON PIPE.



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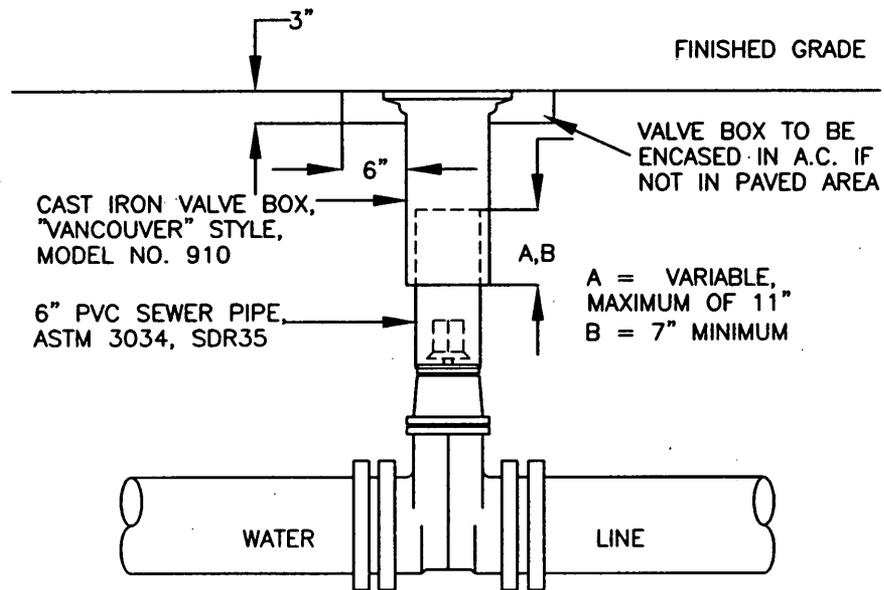
WATER TAPPING
SLEEVES

SCALE: N.T.S.

DATE: JAN 2003

APP. BY: D. DANICIC

STANDARD DRAWING 305



CAST IRON VALVE BOX,
"VANCOUVER" STYLE,
MODEL NO. 910

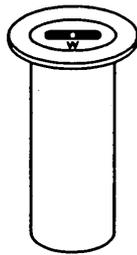
6" PVC SEWER PIPE,
ASTM 3034, SDR35

VALVE BOX TO BE
ENCASED IN A.C. IF
NOT IN PAVED AREA

A = VARIABLE,
MAXIMUM OF 11"
B = 7" MINIMUM

WATER

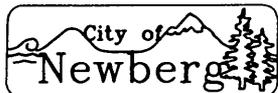
LINE



"VANCOUVER"
18" TALL VALVE BOX

NOTES:

1. VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE NUT IN A VERTICAL POSITION.
2. VALVE BOX SHALL BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC SHALL BE ONE CONTINUOUS PIECE - NO BELLS OR COUPLERS.
4. SEE STANDARD DRAWING NO. 307 VALVE BOX AND COVER.



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VALVE BOX
ASSEMBLY

SCALE: N.T.S.

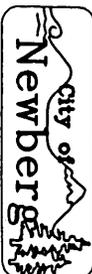
DATE: JAN 2003

APP. BY: D. DANICIC

STANDARD
DRAWING

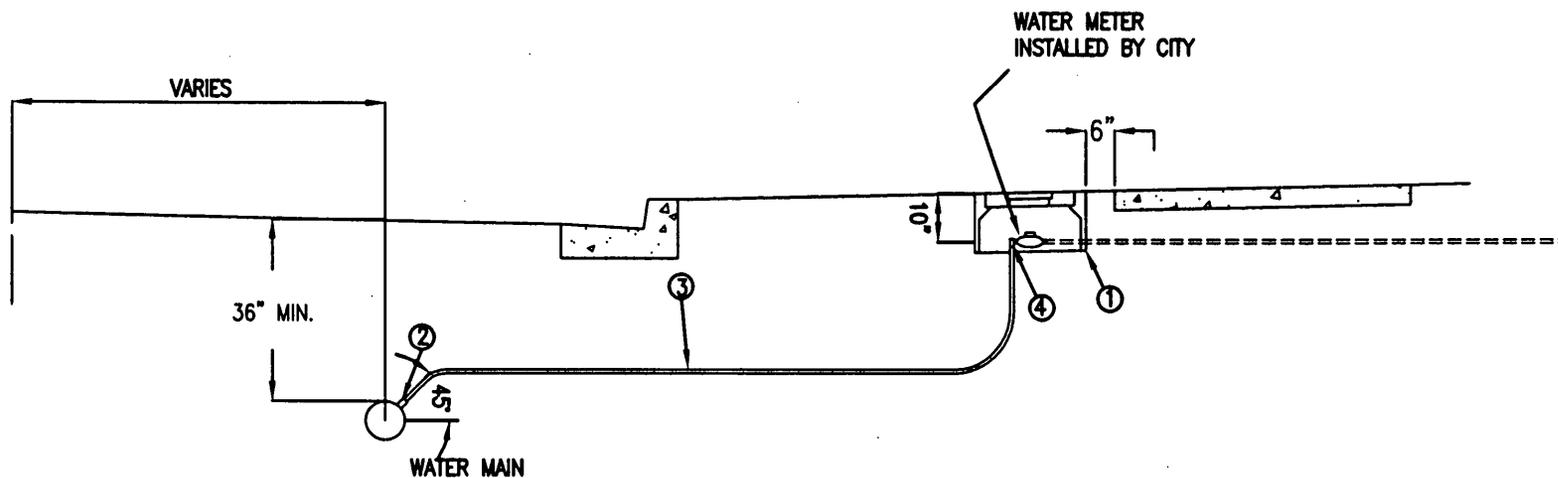
306

414 E. FIRST STREET
NEWBERG, OREGON 97132



STANDARD 3/4" AND 1"
WATER SERVICE

SCALE: N.T.S.
DATE: JAN 2003
APP. BY: D. DANICIC
STANDARD DRAWING
308

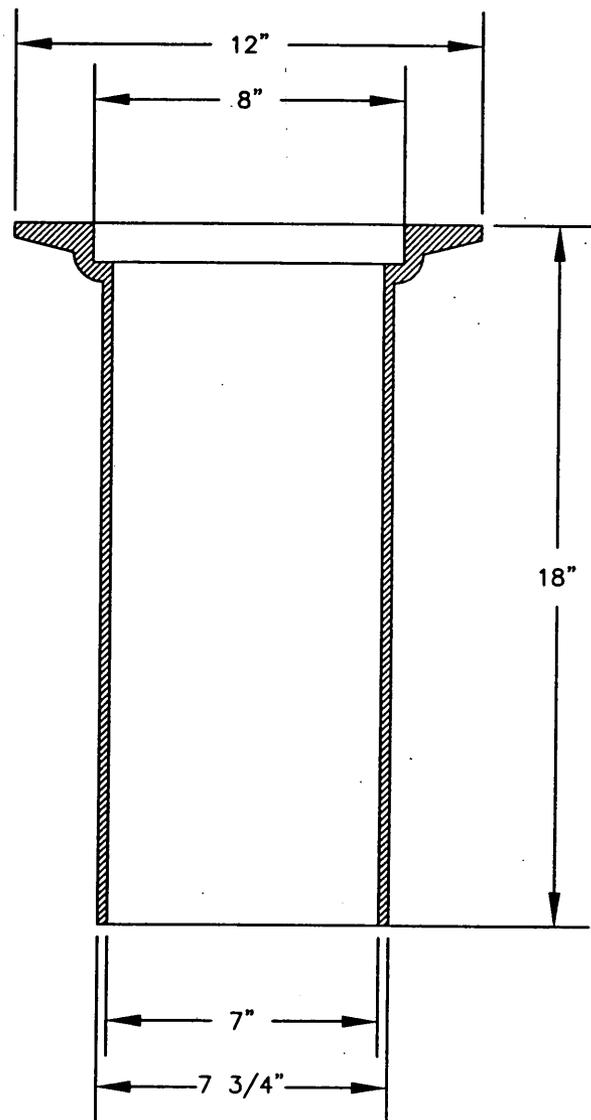
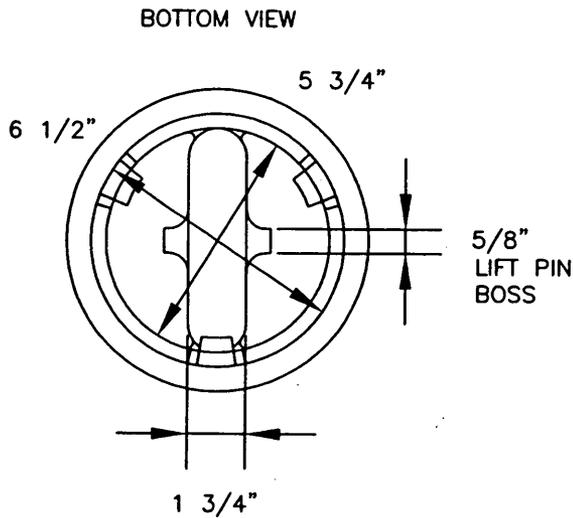
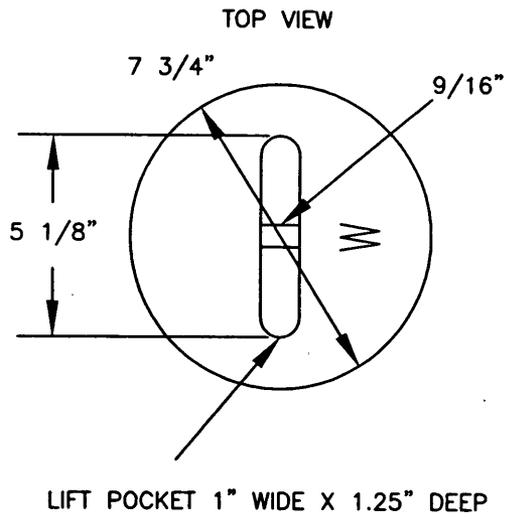
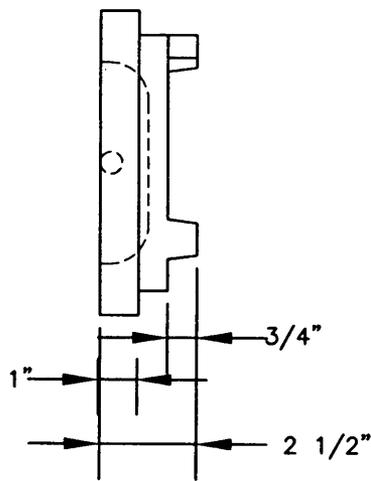


MATERIALS

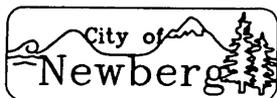
1. BROOKS METER BOX, BODY NO. 37 SERIES (1"), WITH "S" COVER AND TOUCH READ LID
2. McDONALD, FORD OR MUELLER CORPORATION STOP
3. 3/4" AND 1" SOFT TEMPER. TYPE "K" COPPER TUBING COMPLYING WITH ASTM B-88
4. McDONALD (T), FORD OR MUELLER METER STOP (BALL VALVE TYPE)
5. ALL FITTINGS ARE COMPRESSION TYPE; MUELLER 110, FORD Q, McDONALD "T" OR EQUAL

NOTES

1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" MINUS CRUSHED ROCK AND COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180
3. WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCHEDULE 40 PVC SHALL BE INSTALLED ACCORDING TO STANDARD DRAWING NO. 318
4. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY
5. FOR LOCATION OF WATER MAIN, SEE STANDARD DRAWING NO. 105



MATERIALS:
CAST IRON PER ASTM A48 CL30



414 E. FIRST STREET
NEWBERG, OREGON 97132

VALVE BOX AND COVER

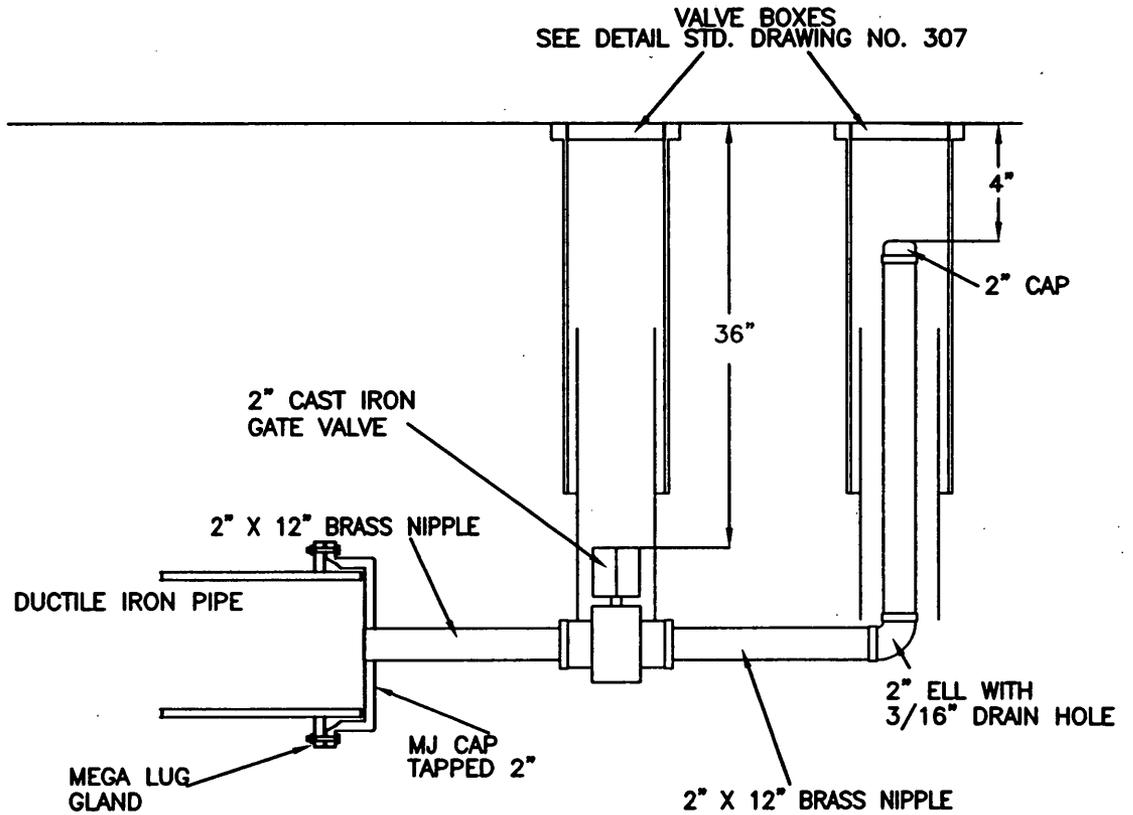
SCALE: N.T.S.

DATE: JUNE 2000

APP. BY: L. ANDERSON

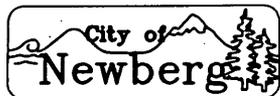
STANDARD
DRAWING

307



NOTES

1. COAT ALL GALVANIZED PIPE OR EXPOSED STEEL WITH PROTECTIVE COATING CONFORMING TO AWWA C 203
2. RESTRAIN MJ CAP TO PIPE WITH MEGA LUG GLAND
3. THIS STANDARD APPLICABLE FOR PIPE SIZES THROUGH 8"



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NEWBERG, OREGON 97132

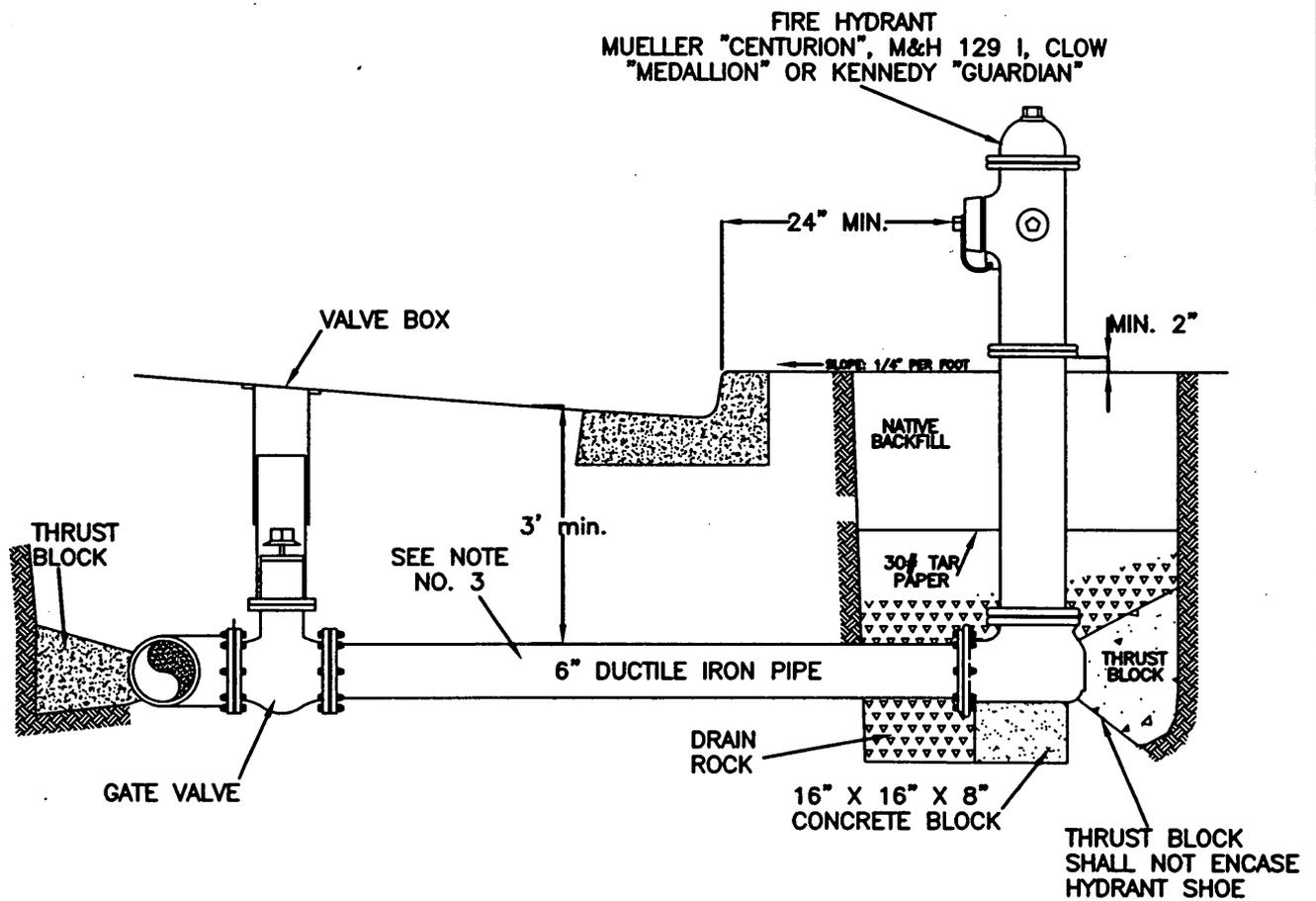
BLOW-OFF ASSEMBLY

SCALE: N.T.S.

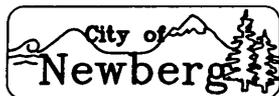
DATE: JAN 2003

APP. BY: D. DANICIC

STANDARD DRAWING 312



1. HYDRANT TO HAVE 2-2 1¹/₂ AND 1-4 1¹/₂ OPENINGS (ANSI STD.).
2. 6" MINIMUM PIPE SIZE SUPPLYING HYDRANT.
3. 6" M.J. HOLDING SPOOL AS PER STANDARD DRAWING NO. 320, FLANGED FITTINGS OR MEGA LUG RESTRAINERS.
4. ADJUSTING SPOOL NOT TO BE USED ON NEW CONSTRUCTION.
5. HYDRANTS SHALL BE INSTALLED UPON A PRE-FORMED CONCRETE BLOCK WITH CLEAN 1 1/2" DRAIN ROCK PLACED A MINIMUM OF 6" ABOVE DRAIN HOLES.
6. 30# TAR PAPER SHALL BE PLACED ON TOP OF THE DRAIN ROCK TO SEPARATE ROCK FROM NATIVE MATERIAL.
7. THRUST BLOCK REQUIREMENTS AS PER STANDARD DRAWING NO. 302.



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NEWBERG, OREGON 97132

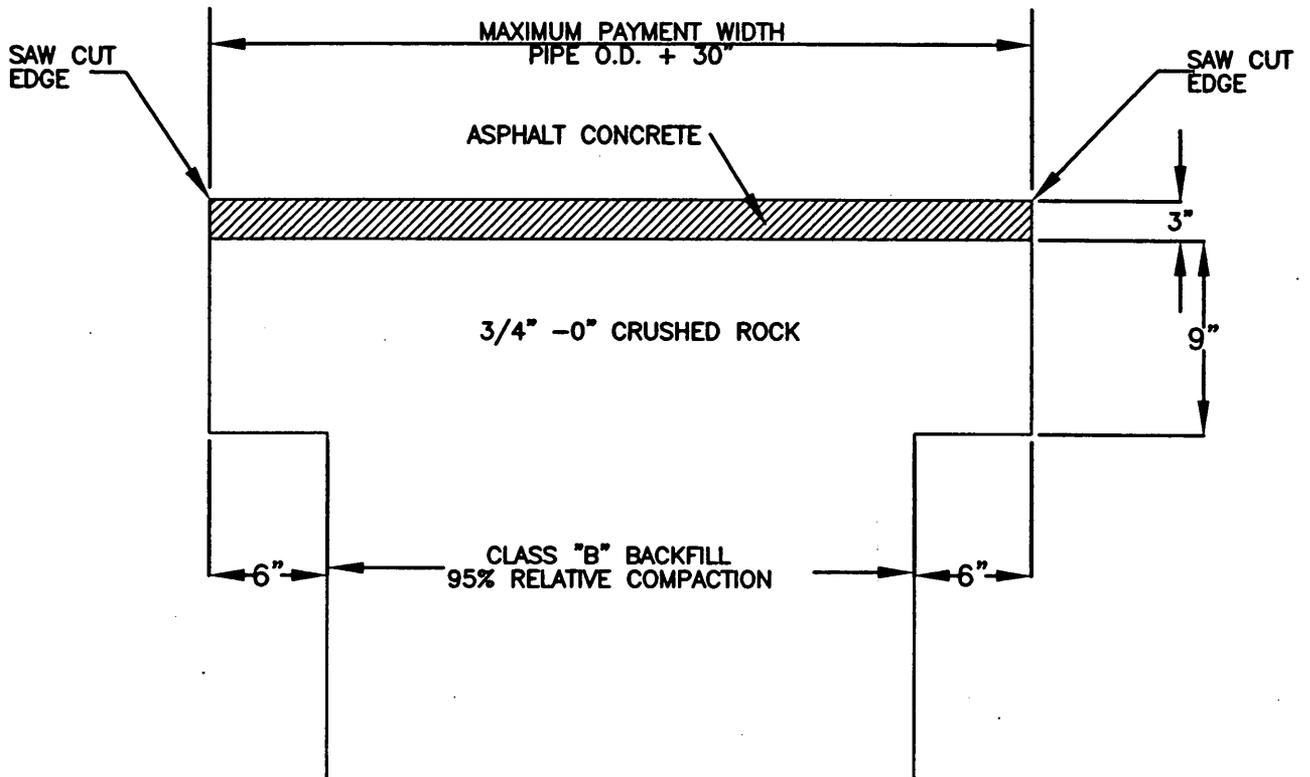
FIRE HYDRANT ASSEMBLY

SCALE: N.T.S.

DATE: JAN 2003

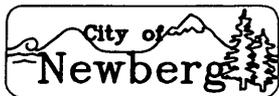
APP. BY: D. DANICIC

STANDARD DRAWING 313



NOTES

1. SAW CUT ASPHALT TO NEAT STRAIGHT LINES.
2. ASPHALT - CLASS "C" MIX PLACED IN 2 LIFTS.
3. OIL AND SAND ALL JOINTS.
4. ACTUAL PAYMENT WIDTH TO BE DETERMINED AT SITE PRIOR TO PAVING.



414 E. FIRST STREET
NEWBERG, OREGON 97132

TRENCH PAVING

SCALE: N.T.S.

DATE: JAN 2003

APP. BY: D. DANICIC

STANDARD DRAWING **518**

414 E. FIRST STREET
NEWBERG, OREGON 97132



ASPHALT PAVEMENT
REPAIR

SCALE: N.T.S.
DATE: JAN 2003
APP. BY: D. DANICIC
STANDARD DRAWING 528

EXCAVATE EXISTING STREET TO DEPTH SPECIFIED IN TABLE
REPLACE MATERIAL AS SHOWN BELOW

REQ'D COMPACTION
% OF LABRATORY MAX.

98
MODIFIED PROCTOR
(ASTM D-1559)

95
MODIFIED PROCTOR
(ASTM D-1557)
(AASHTO T-180)

SAW-CUT EDGES

CLASS C or D ASPHALT
CLASS B or C CONCRETE

LEVELING COURSE
3/4"-0" CRUSHED ROCK

BASE COURSE
1 1/2"-0" or 3/4"-0"
CRUSHED ROCK

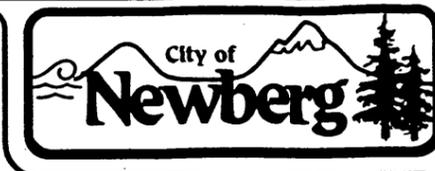
COMPACTED SUBGRADE

GEOTEXTILE (NON-WOVEN)

STREET TYPE					
LOCAL		COLLECTOR		ARTERIAL	
DEPTH	LIFTS	DEPTH	LIFTS	DEPTH	LIFTS
3"	2	4"	2	6"	3
3"	1	3"	1	3"	1
6"	1	9"	2	12"	2
TOTAL DEPTH		12"	16"	21"	

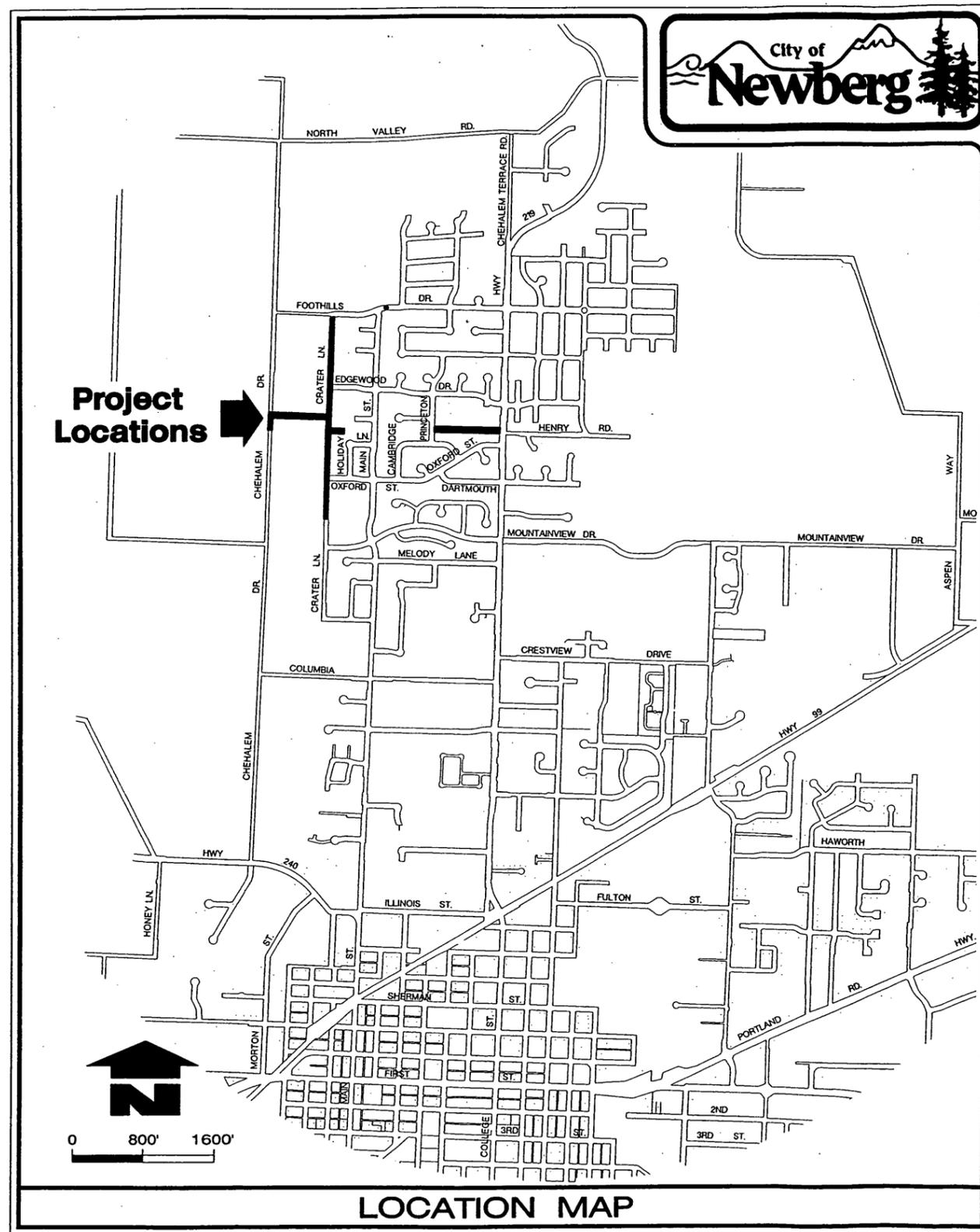
GEOTEXTILE SPECIFICATIONS

PROPERTY	TEST	MIN. VALUE
TENSILE STRENGTH, lbs	ASTM D-4632	120
ELONGATION, WET %	ASTM D-4632	40
COEFFICIENT OF WATER PERMEABILITY, cm/sec	ASTM D-4491	0.10
PUNCTURE STRENGTH, lbs	ASTM D-4833	80
MULLEN BURST STRENGTH, psi	ASTM D-3786	250



The City of Newberg

CRATER LANE LID GRAVITY SEWER AND FORCE MAIN



INDEX TO DRAWINGS

SHEET NUMBER	TITLE	SHEET NUMBER	TITLE
1	LOCATION MAP AND INDEX TO DRAWINGS	9	FORCE MAIN NO. 1
2	DESIGN DATA, KEY PLAN, SEQUENCE OF CONSTRUCTION, AND LEGEND	10	FORCE MAIN NO. 2 STA 0+00 TO STA 4+00
3	GRAVITY SEWER 'A', FORCE MAIN, AND WATER LINE - STA 0+00 TO STA 1+52	11	FORCE MAIN NO. 2 STA 4+00 TO STA 7+35
4	GRAVITY SEWER 'A', FORCE MAIN, AND WATER LINE - STA 1+52 TO STA 8+35	12	EXISTING PUMP STATION DEMOLITION
5	GRAVITY SEWER 'B', STA 0+00 TO STA 6+00		
6	GRAVITY SEWER 'B', STA 6+00 TO STA 11+60		
7	GRAVITY SEWER 'C', STA 0+00 TO STA 6+00		
8	GRAVITY SEWER 'C', STA 6+00 TO STA 11+63		



VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DESIGN BY:
SOUTHWOOD ENGINEERING CORPORATION
 3301 SOUTHWOOD DR.
 PHILOMATH, OR 97370
 (541) 929-2533

DRAWN BY:
NEW TECH GRAPHICS
 510 3RD ST NW
 CORVALLIS, OR 97330
 (541) 753-9221

REVISIONS	
NO.	DATE

CITY OF NEWBERG, OREGON
**CRATER LANE LID
 GRAVITY SEWER
 AND FORCE MAIN**

**LOCATION MAP AND
 INDEX TO DRAWINGS**

SHEET
1 of 12
 DATE
 May 2003

GRAVITY SEWER DESIGN DATA

ASSUMPTIONS:	RESIDENTS PER LOT = 3.5 PEOPLE LOTS PER ACRE = 5.3 DESIGN FLOW = 80 GPDC AVG FLOW BASED ON AN 18 HOUR DAY PEAKING FACTOR = 3.0 I/I = 2,500 GPDA
GRAVITY SEWER 'C'	TRIBUTARY AREA 7 ACRES NUMBER OF LOTS 37 PEAK DAILY FLOW 29 GPM I/I FLOW 12 GPM PWWF FROM SCHOOL 230 GPM PWWF FOR SEWER 'C' 271 GPM USE AN 8" SEWER AT SLOPE OF 0.004 FT/FT
GRAVITY SEWER 'B'	TRIBUTARY AREA 7 ACRES NUMBER OF LOTS 37 PEAK DAILY FLOW 29 GPM I/I FLOW 12 GPM PWWF FOR SEWER 'B' 41 GPM USE AN 8" SEWER AT SLOPE OF 0.004 FT/FT
GRAVITY SEWER 'A' BETWEEN CRATER LANE AND CHEHALEM DRIVE	TRIBUTARY AREA 4.5 ACRES NUMBER OF LOTS 24 PEAK DAILY FLOW 19 GPM I/I FLOW 8 GPM FLOW FROM SEWER 'B' 41 GPM FLOW FROM SEWER 'C' 271 GPM PWWF FOR SEWER 'A' 339 GPM USE AN 8" SEWER AT SLOPE OF 0.004 FT/FT
GRAVITY SEWER 'A' ON CHEHALEM DRIVE	TRIBUTARY AREA 116 ACRES NUMBER OF LOTS 615 PEAK DAILY FLOW 478 GPM I/I FLOW 201 GPM PWWF FOR SEWER 'A' 679 GPM USE A 10" SEWER AT SLOPE OF 0.004 FT/FT
GRAVITY SEWER INTO PUMP STATION	TRIBUTARY AREA 157 ACRES NUMBER OF LOTS 832 PEAK DAILY FLOW 647 GPM I/I FLOW 273 GPM PWWF FOR SEWER 920 GPM USE A 12" SEWER AT SLOPE OF 0.003 FT/FT

GENERAL NOTES

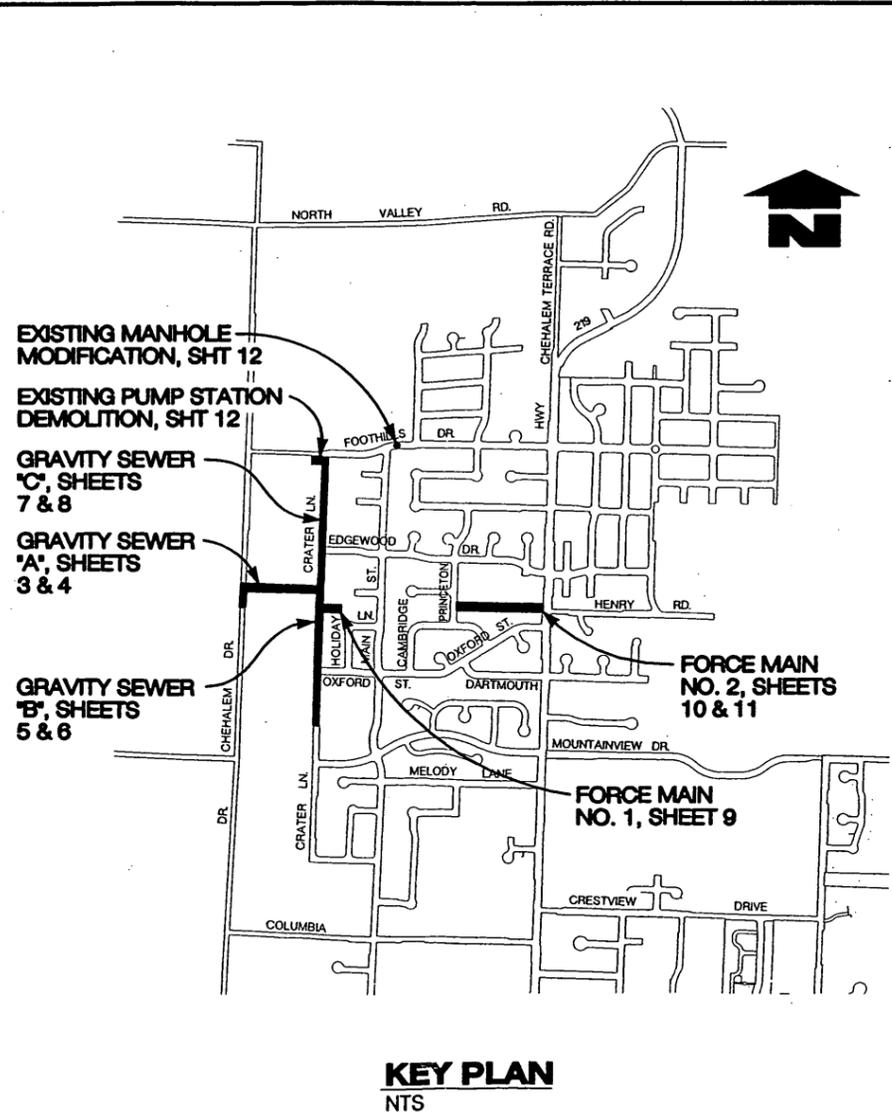
- PIPE BEDDING FOR WATER LINES SHALL BE CLASS 'D' PER CITY OF NEWBERG STD DWG 301.
- PIPE BEDDING FOR SANITARY SEWERS AND FORCE MAINS SHALL BE CLASS 'B' PER CITY OF NEWBERG STD DWG 202.
- REFER TO CITY OF NEWBERG STD DWG 201 FOR TRENCH BACKFILL MATERIAL. THE CLASSIFICATION OF BACKFILL IS DESIGNATED ON THE PROFILE DRAWINGS IN THE \square SYMBOL.
- REFER TO CITY OF NEWBERG STD DWG 518 FOR TRENCH PAVING REQUIREMENTS.

RECOMMENDED SEQUENCE OF CONSTRUCTION

- CONSTRUCT GRAVITY SEWERS, WATER LINE, AND FORCE MAIN.
- CONSTRUCT MANHOLE 12 OVER EXISTING SEWER AT FOOTHILLS DRIVE AND CRATER LANE, BUT DO NOT BREAK INTO EXISTING SEWER UNTIL AUTHORIZED BY THE OWNER.
- UPON RECEIVING AUTHORIZATION FROM THE OWNER, BREAK INTO EXISTING SEWER IN MANHOLE 12 AND DIVERT FLOW INTO NEW GRAVITY SEWER 'C'.
- PLUG EXISTING SEWER TO EXISTING PUMP STATION.
- DEMOLISH EXISTING RAW SEWAGE PUMP STATION AT FOOTHILLS DRIVE AND CRATER LANE.

LEGEND:

	NEW WATER OR SEWER LINE W/ STATIONING (IN 100'S OF FEET)
	GATE VALVE
	FIRE HYDRANT
	PAVEMENT REPLACEMENT (A.C. UNLESS SHOWN OTHERWISE)
	BLOWOFF WITH SIZE
	TRENCH BACKFILL CLASSIFICATION
	SIZE AND TYPE OF PIPE
EXISTING	
	WATERLINE WITH SIZE AND TYPE
	GATE VALVE
	FIRE HYDRANT
	BLOWOFF
	SANITARY SEWER WITH MANHOLE
	FORCE MAIN
	STORM SEWER WITH CATCH BASIN AND MANHOLE
	GAS PIPELINE
	UNDERGROUND ELECTRICAL
	UNDERGROUND TELEPHONE CABLE
	UNDERGROUND TELEVISION CABLE
	WATER LINE
	WATER METER
	CULVERT WITH SIZE AND TYPE
	FENCE LINE
	POWER POLE
	POWER POLE WITH GUY ANCHOR
	EXISTING GROUND ELEVATION
GENERAL	
	PROPERTY LINE
	EASEMENT LINE
	WIDTH OF TEMPORARY EASEMENT
	WIDTH OF PERMANENT EASEMENT
	CENTERLINE (C)
	DITCH SHOWING DIRECTION OF FLOW
	BENCH MARK LOCATION AND NUMBER
	MAIL BOX



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SOUTHWOOD ENGINEERING CORPORATION
3301 SOUTHWOOD DR.
PHILOMATH, OR 97370
(541) 929-2533

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

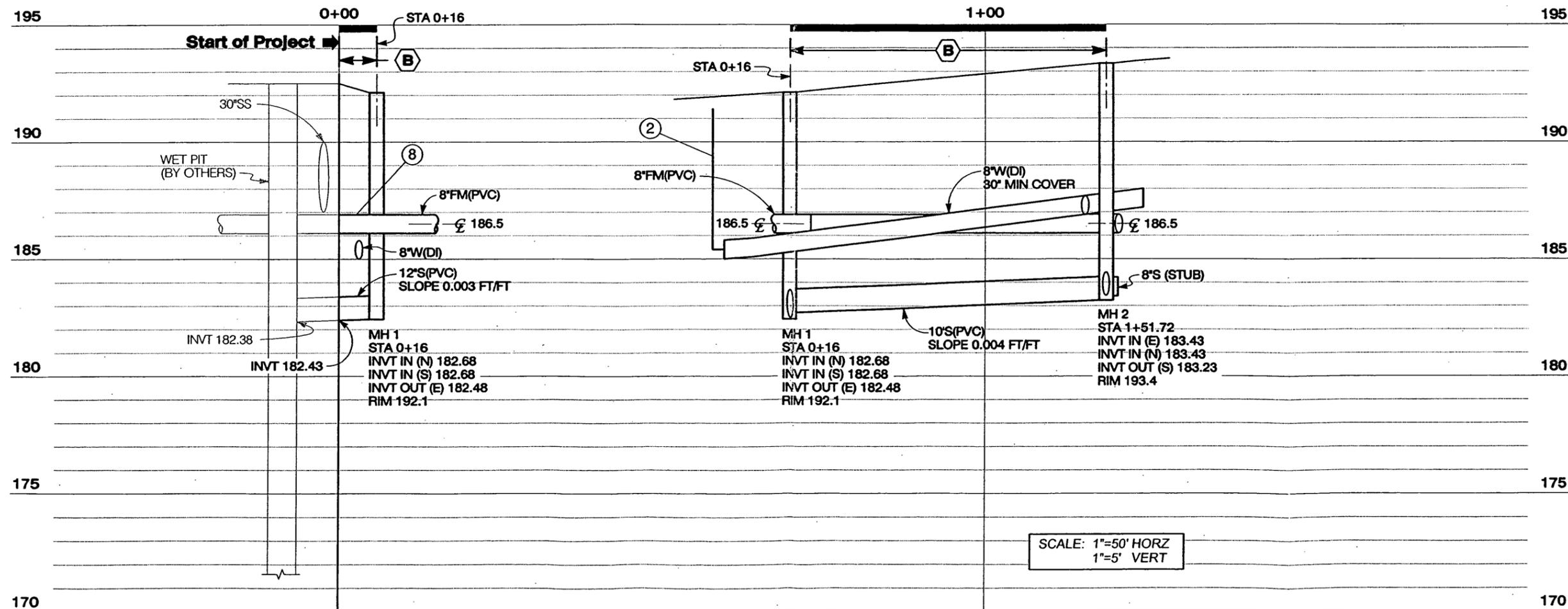
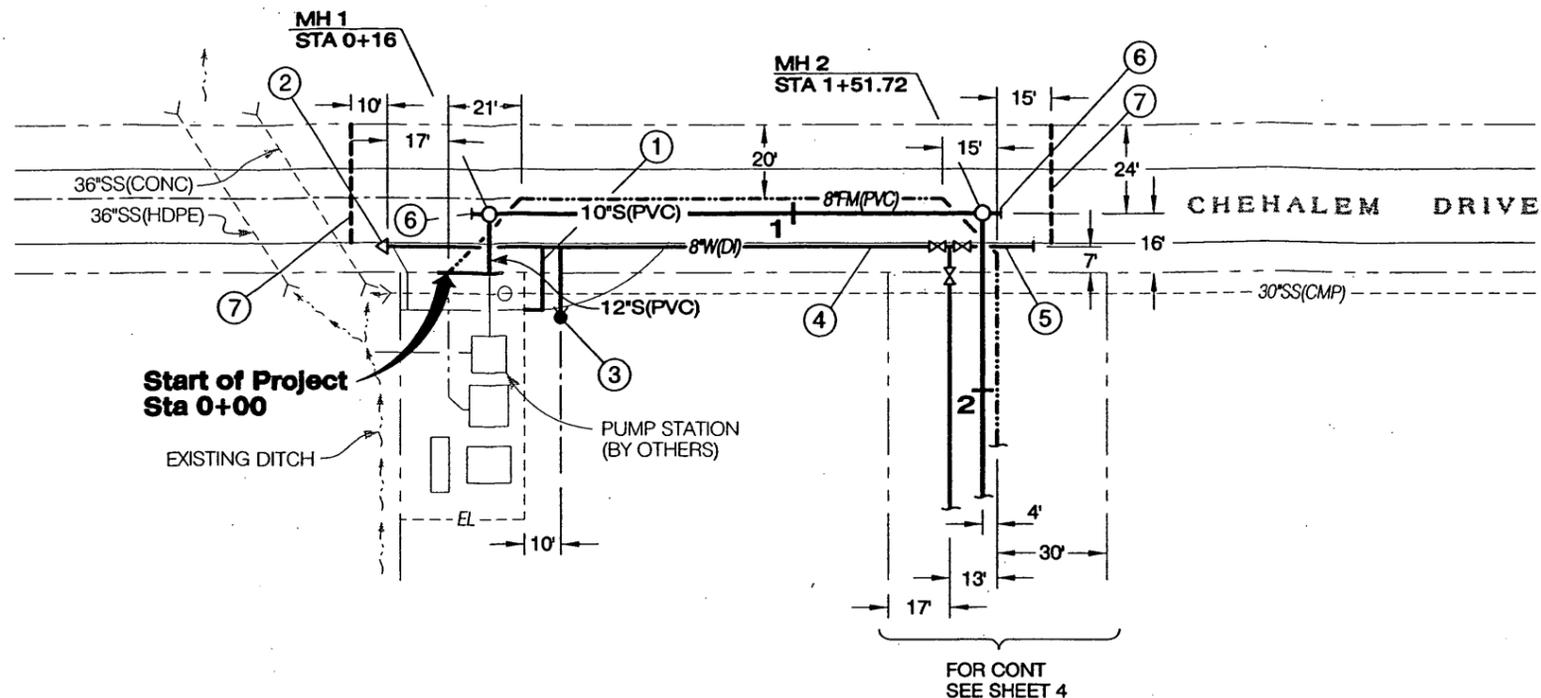
REVISIONS	
NO.	DATE

CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

DESIGN DATA, KEY PLAN, SEQUENCE OF CONSTRUCTION, AND LEGEND

NOTES:

- ① PROVIDE 1" SERVICE CONNECTION. SEE CITY OF NEWBERG STD DWG 308.
- ② PROVIDE 2" BLOW OFF ASSEMBLY. SEE CITY OF NEWBERG STD DWG 312.
- ③ CONSTRUCT FIRE HYDRANT. SEE CITY OF NEWBERG STD DWG 313.
- ④ DUCTILE IRON PIPE SHALL BE CLASS 52 WITH RESTRAINED JOINTS.
- ⑤ PROVIDE 1 LENGTH OF 8" PIPE BEYOND VALVE. PROVIDE MJ PLUG WITH THRUST RESTRAINT ON END OF PIPE.
- ⑥ PROVIDE 8" PVC STUB OUT OF MH, 18" MINIMUM. PLUG END WITH REMOVEABLE PLUG.
- ⑦ SAW CUT AND REMOVE ALL AC PAVEMENT BETWEEN LIMITS SHOWN. REPLACE WITH 2" OF CLASS C AC OVER 2" OF CLASS B AC. COMPACT SUBGRADE PRIOR TO INSTALLING AC PAVEMENT.
- ⑧ JOINTS IN FM SHALL BE A MINIMUM OF 9 FEET FROM WATER LINE AT WATER LINE CROSSING.



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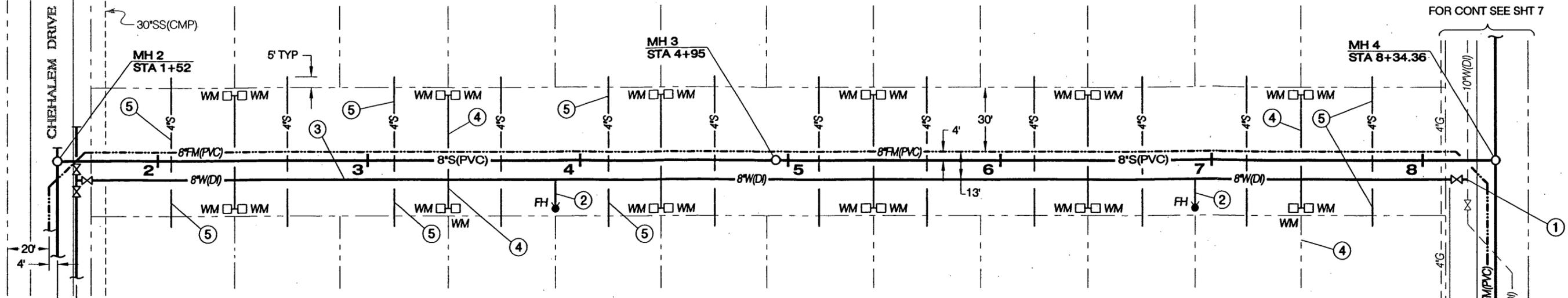
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 510 3RD ST NW
 CORYALLIS, OR 97330
 NEW TECH GRAPHICS (541) 753-9021

REVISIONS	
NO.	DATE

CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

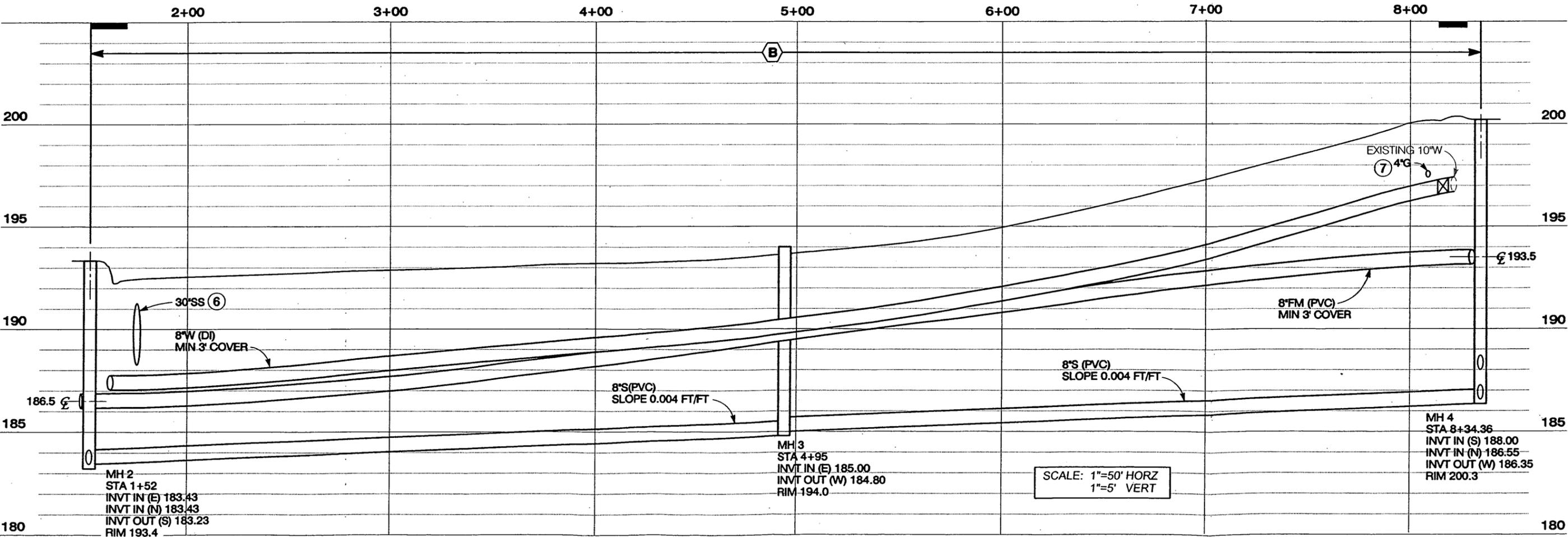
GRAVITY SEWER 'A', FORCE MAIN, AND WATER LINE STA 0+00 TO STA 1+52

SHEET
3 of 12
 DATE
 May 2003



NOTES:

- ① HOT TAP EXISTING 10" D.I. WATER LINE. SEE CITY OF NEWBERG STD DWG 305.
- ② CONSTRUCT FIRE HYDRANT. SEE CITY OF NEWBERG STD DWG 313.
- ③ DUCTILE IRON PIPE SHALL BE CLASS 52 WITH RESTRAINED JOINTS.
- ④ CONSTRUCT DOUBLE WATER SERVICE. SEE CITY OF NEWBERG STD DWG 309.
- ⑤ CONSTRUCT 4" SEWER SERVICE BRANCH. SEE CITY OF NEWBERG STD DWG 210.
- ⑥ POT HOLE 30"SS TO VERIFY INVT ELEVATION.
- ⑦ POT HOLE 4"G AND 10"W TO VERIFY DEPTHS.



REGISTERED PROFESSIONAL ENGINEER
Ronald P. Staehlin
 JULY 12, 1989
 RONALD P. STAHLIN
 EXPIRES 6/30/04

VERIFY SCALE
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 3301 SOUTHWOOD DR.
 PHILOMATH, OR 97370
 (541) 929-2533

DRAWN BY:

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 510 3RD ST NW
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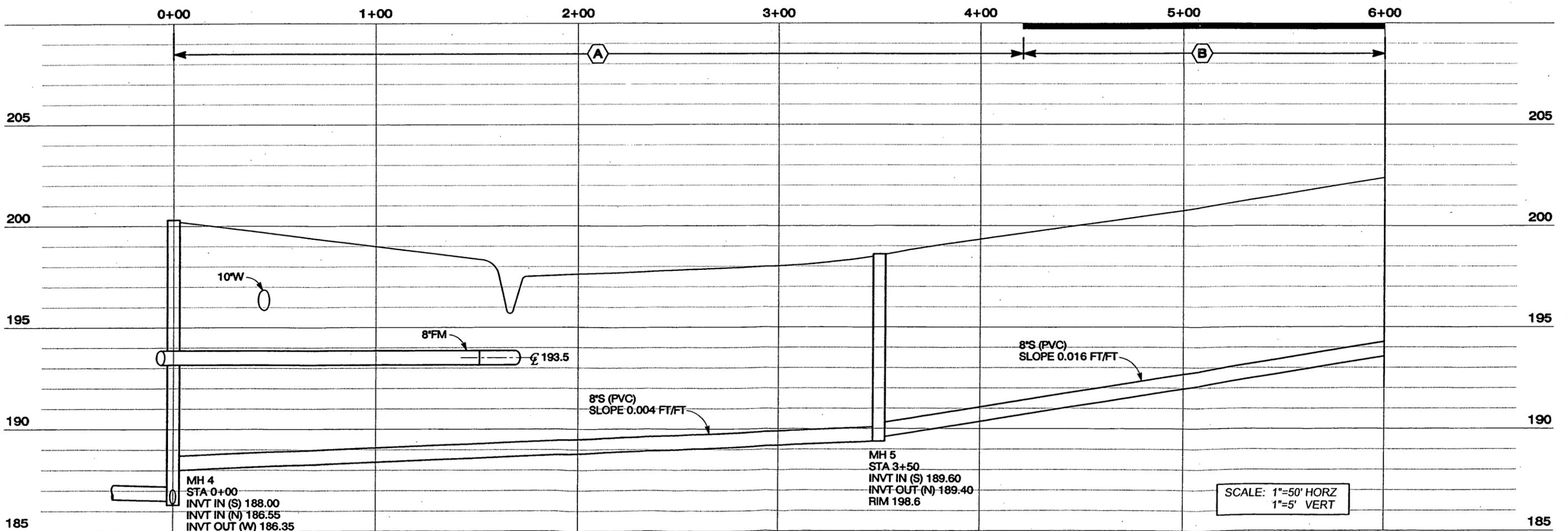
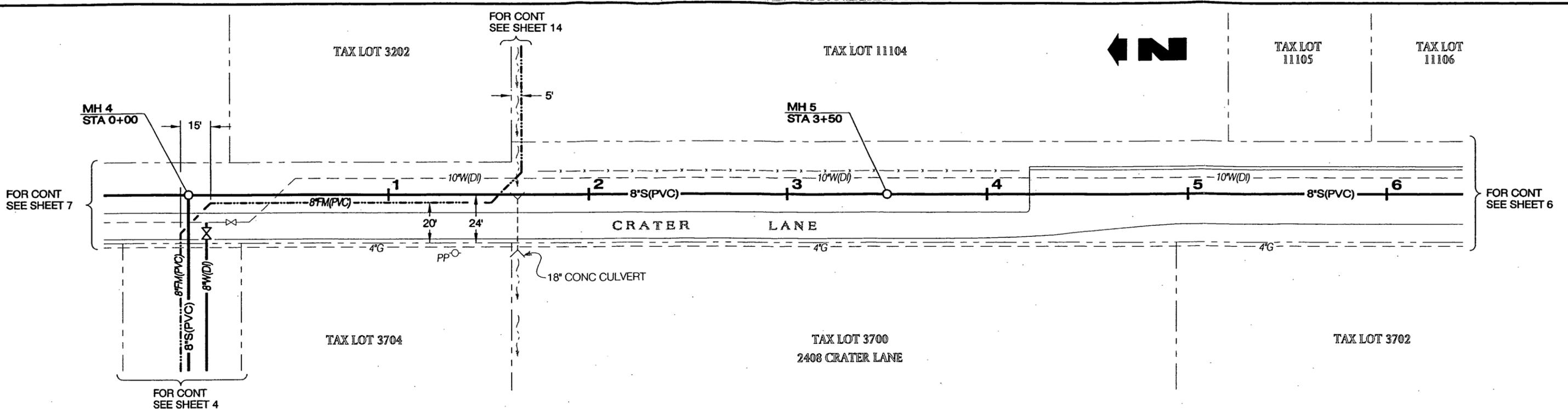
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NO.	DATE	DESCRIPTION

CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

GRAVITY SEWER 'A', FORCE MAIN, AND WATER LINE
STA 1+52 TO STA 8+35

SHEET
4 of 12
DATE
 May 2003



Ronald P. Stierlin
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 12,088
 STATE OF OREGON
 EXPIRES 6/30/04

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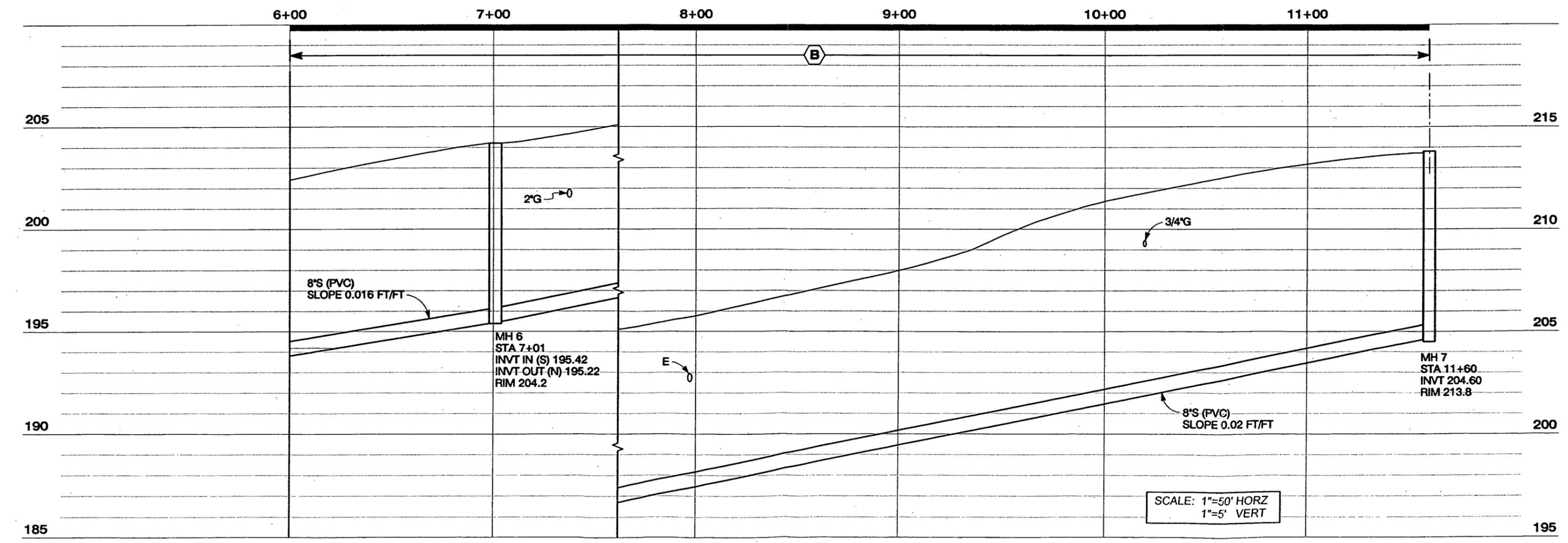
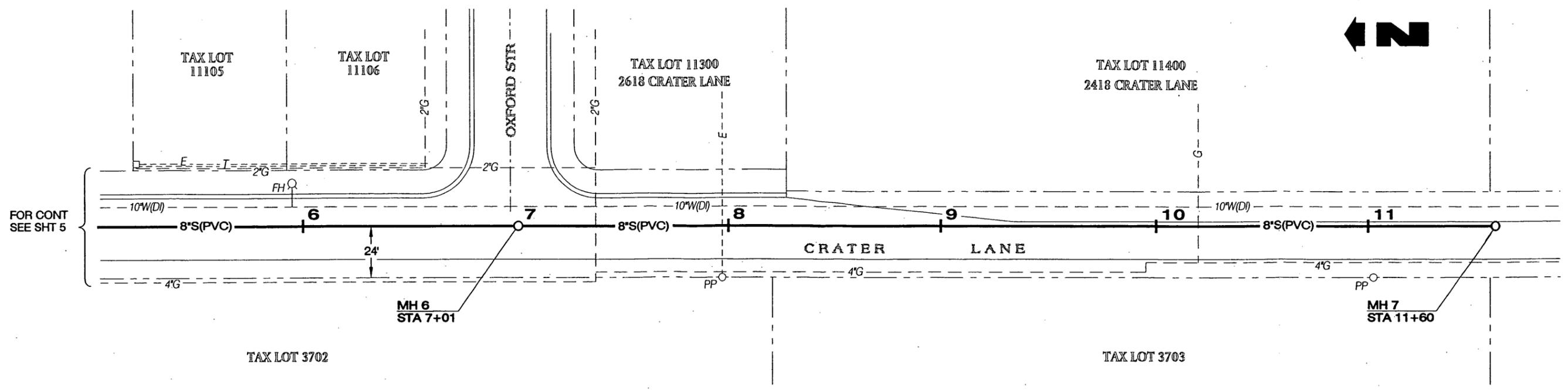
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CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

GRAVITY SEWER 'B', STA 0+00 TO STA 6+00

SHEET
5 of 12
 DATE
 May 2003



SCALE: 1"=50' HORZ
1"=5' VERT

Ronald P. Staehlin
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 6/30/04

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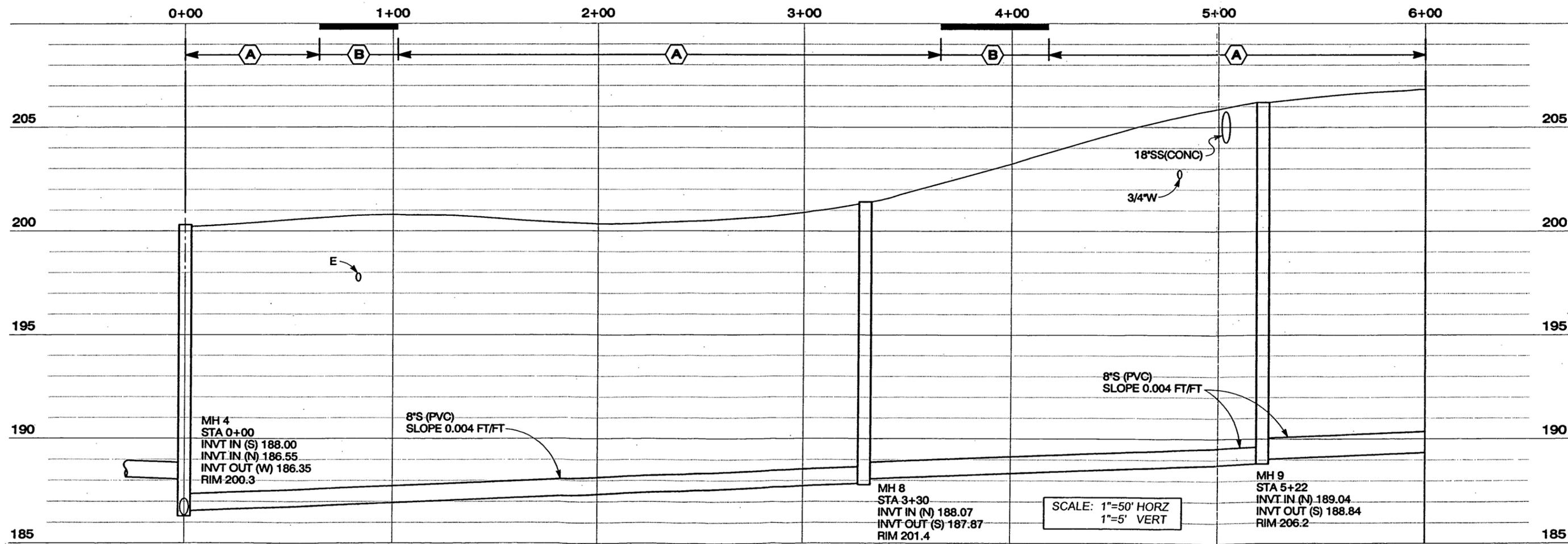
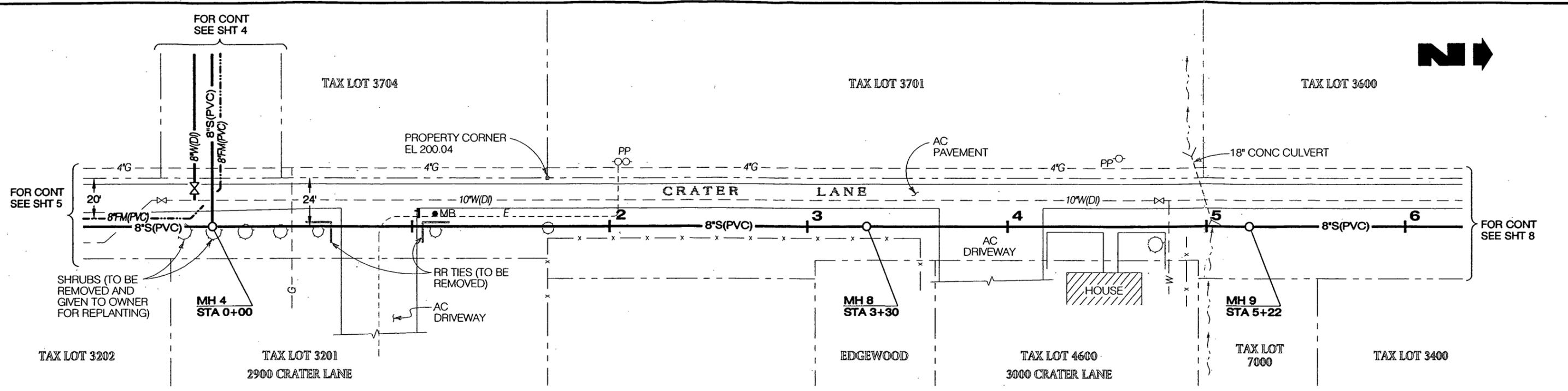
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CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

GRAVITY SEWER 'B', STA 6+00 TO STA 11+60

SHEET
6 of 12
DATE
May 2003



REGISTERED PROFESSIONAL ENGINEER
 RONALD P. STAEBLIN
 JULY 12, 1988
 PHILMATH, OREGON
 EXPIRES 6/30/04

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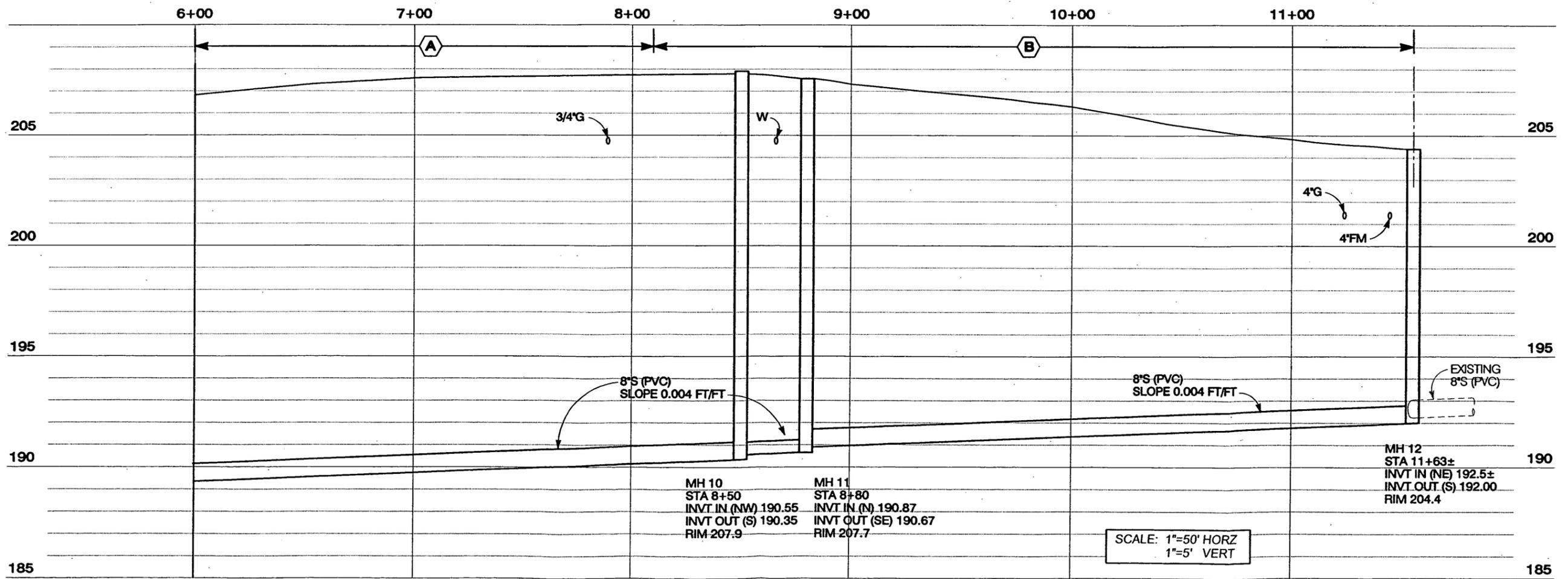
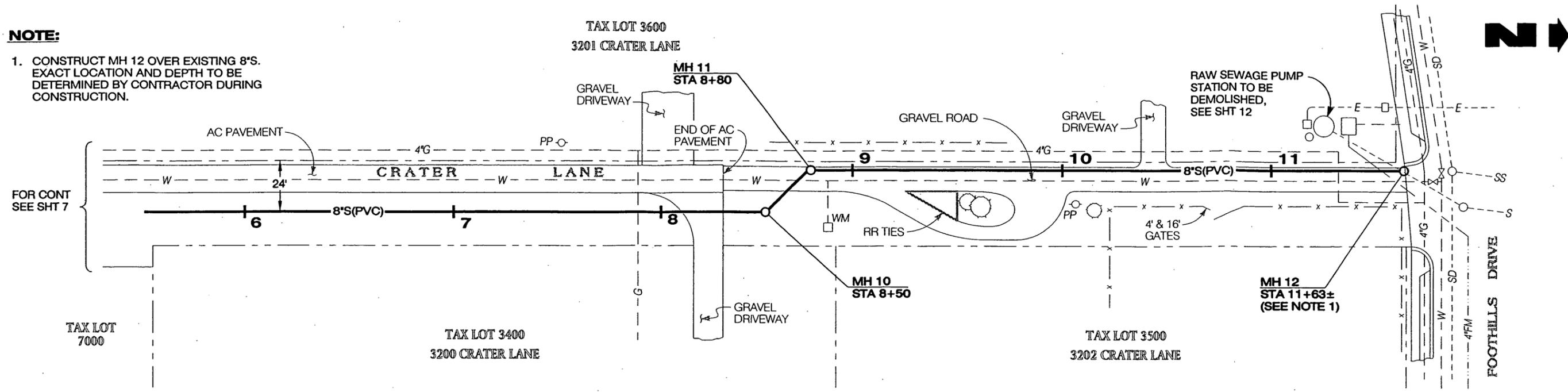
CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

GRAVITY SEWER 'C'
STA 0+00 TO STA 6+00

SHEET
7 of 12
 DATE
 May 2003

NOTE:

1. CONSTRUCT MH 12 OVER EXISTING 8"S. EXACT LOCATION AND DEPTH TO BE DETERMINED BY CONTRACTOR DURING CONSTRUCTION.



SCALE: 1"=50' HORZ
1"=5' VERT



VERIFY SCALE
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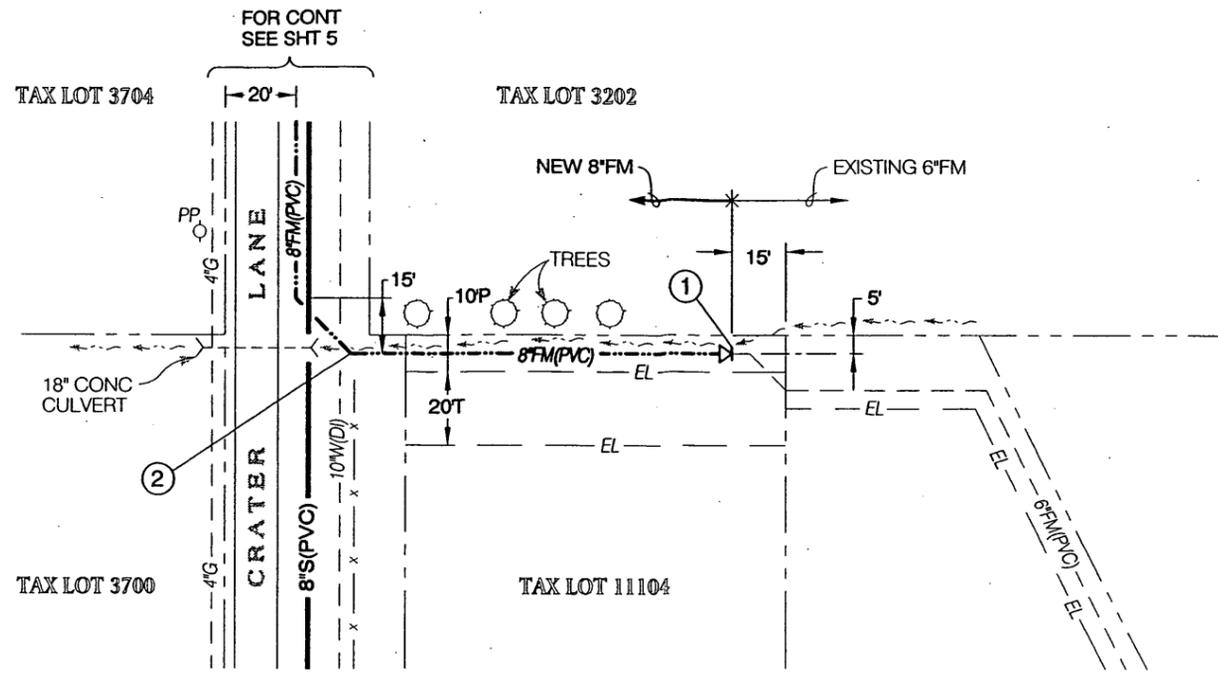
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CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

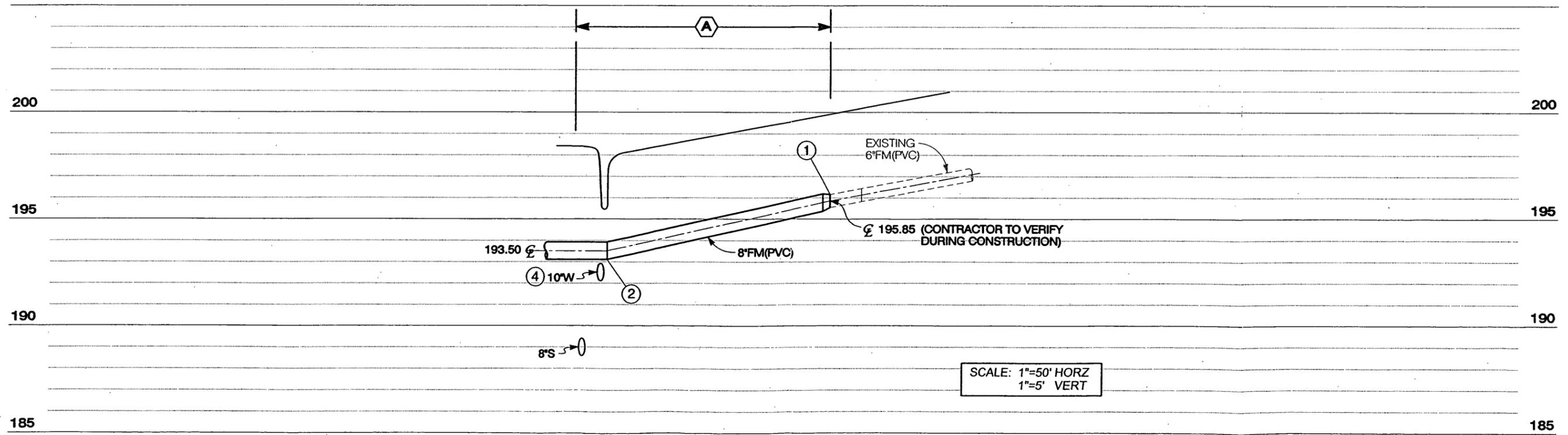
GRAVITY SEWER 'C', STA 6+00 TO STA 11+63

SHEET
8 of 12
DATE
May 2003



NOTES:

- ① PROVIDE 8" x 6" REDUCER AND CONNECT NEW 8"FM TO EXISTING 6" FM.
- ② PROVIDE 45° BENDS IN FORCE MAIN. PROVIDE CONCRETE THRUST BLOCK AT ALL BENDS IN FORCE MAIN. SEE CITY OF NEWBERG STD DWG 302.
- ③ PROVIDE TONE WIRE IN FORCE MAIN TRENCH.
- ④ POT HOLE 10"W TO VERIFY DEPTH. ADJUST FM DEPTH TO AVOID 10"W.



Ronald P. Staerlin
 REGISTERED PROFESSIONAL ENGINEER
 JULY 12, 1988
 RONALD P. STAERLIN
 EXPIRES 6/30/04

VERIFY SCALE
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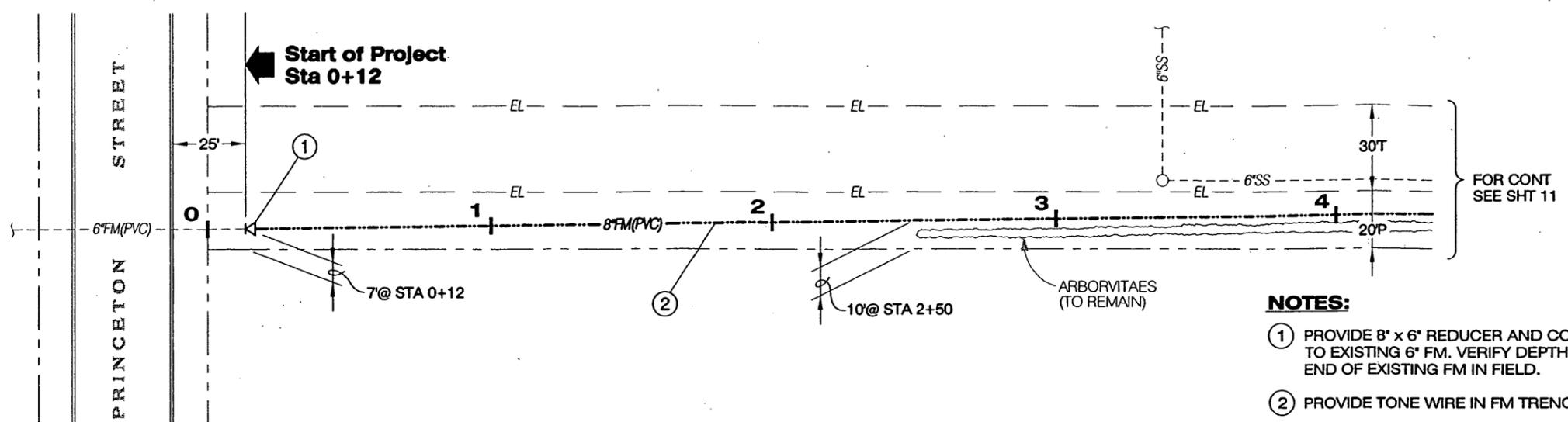
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CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

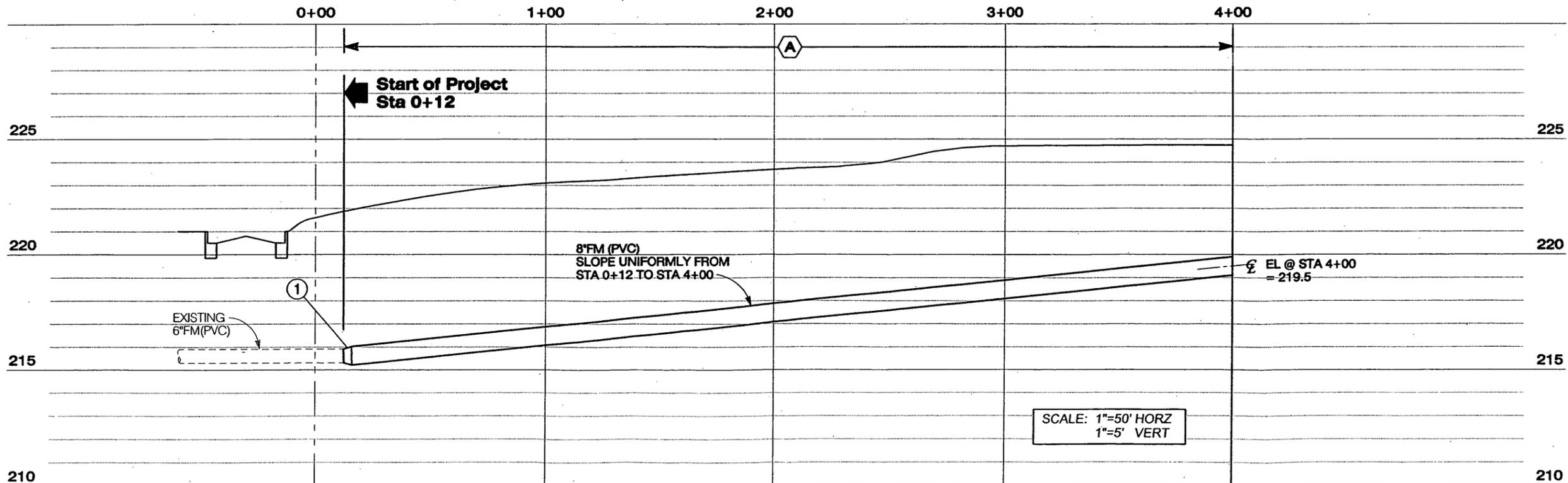
FORCE MAIN NO. 1

SHEET
9 of 12
 DATE
 May 2003



NOTES:

- ① PROVIDE 8" x 6" REDUCER AND CONNECT NEW 8" FM TO EXISTING 6" FM. VERIFY DEPTH AND LOCATION OF END OF EXISTING FM IN FIELD.
- ② PROVIDE TONE WIRE IN FM TRENCH.
- ③ THERE IS AN EXISTING LANDSCAPE IRRIGATION LINE THAT RUNS PARALLEL AND ADJACENT TO THE ARBORVITAE FROM STA 2+20 TO STA 6+95. REPLACE ALL PIPE OR SPRINKLER HEADS DAMAGED DURING CONSTRUCTION. THERE ARE ALSO TWO LINES RUNNING PERPENDICULAR TO THE FORCE MAIN THAT CONNECT TO THE LINE ALONG THE ARBORVITAE. THE EXACT LOCATION OF THESE TWO LINES IS UNKNOWN. REPLACE LINES IF DAMAGED DURING CONSTRUCTION.



Ronald P. Steellin
 REGISTERED PROFESSIONAL ENGINEER
 JULY 12 1988
 RONALD P. STEELLIN
 EXPIRES 6/30/04

VERIFY SCALE
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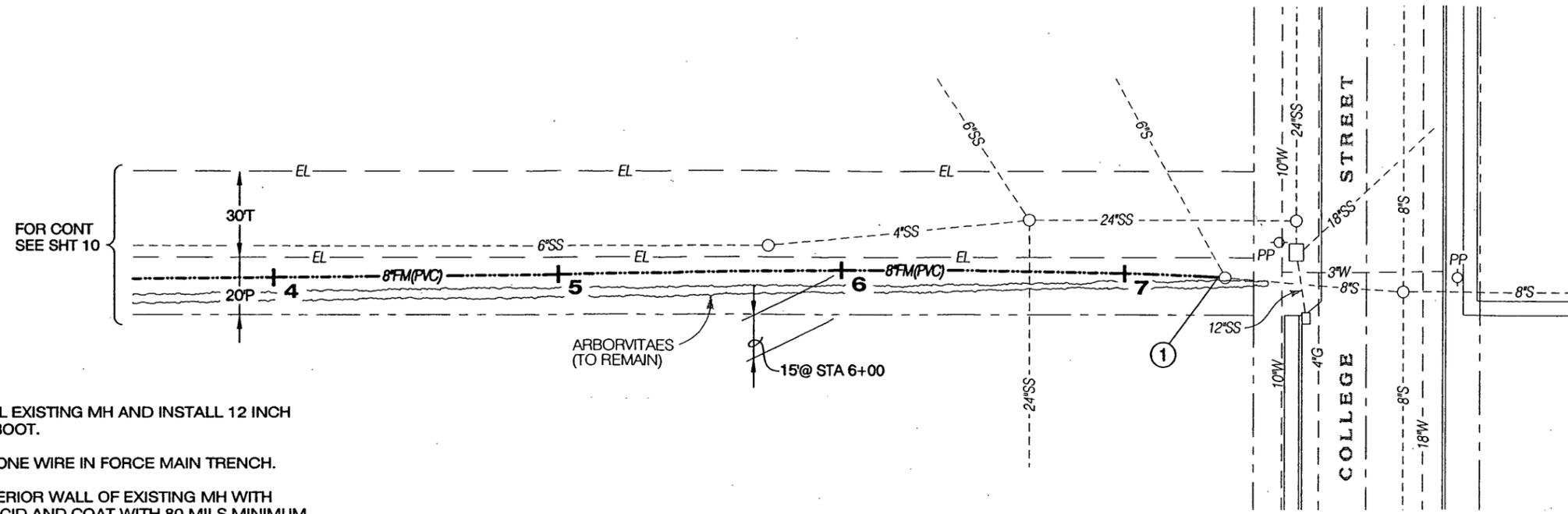
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CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

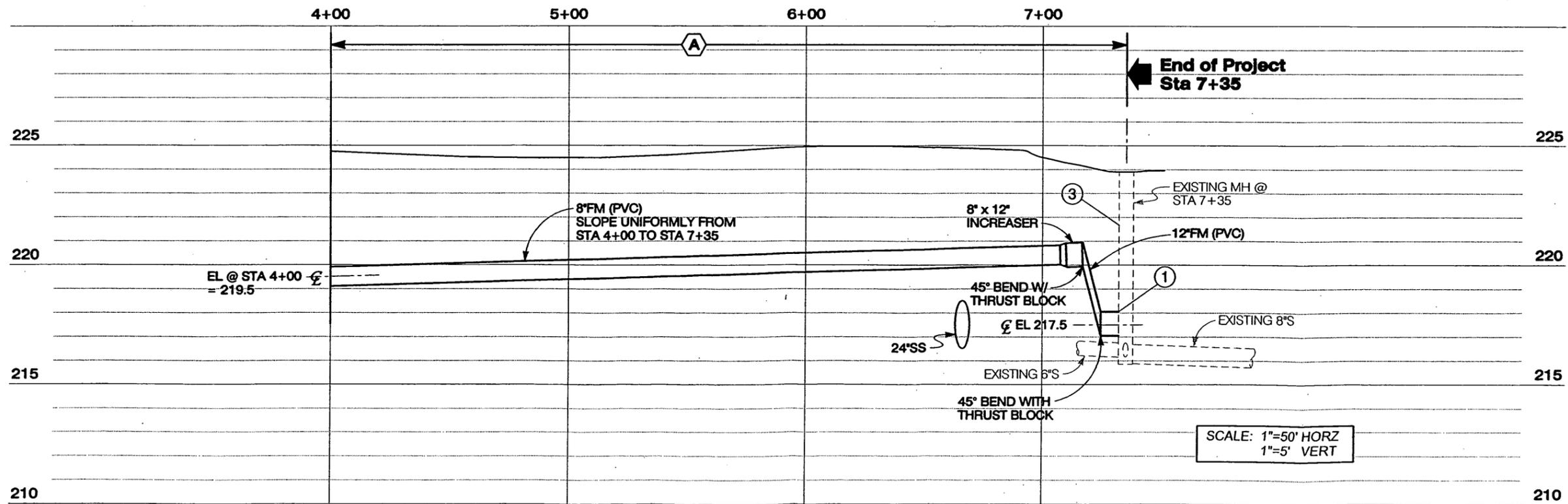
**FORCE MAIN NO. 2
 STA 0+00 TO STA 4+00**

SHEET
10 of 12
 DATE
 May 2003



NOTES:

- ① CORE DRILL EXISTING MH AND INSTALL 12 INCH FM IN MH BOOT.
- ② PROVIDE TONE WIRE IN FORCE MAIN TRENCH.
- ③ CLEAN INTERIOR WALL OF EXISTING MH WITH MURATIC ACID AND COAT WITH 80 MILS MINIMUM RAVEN 405 COATING.



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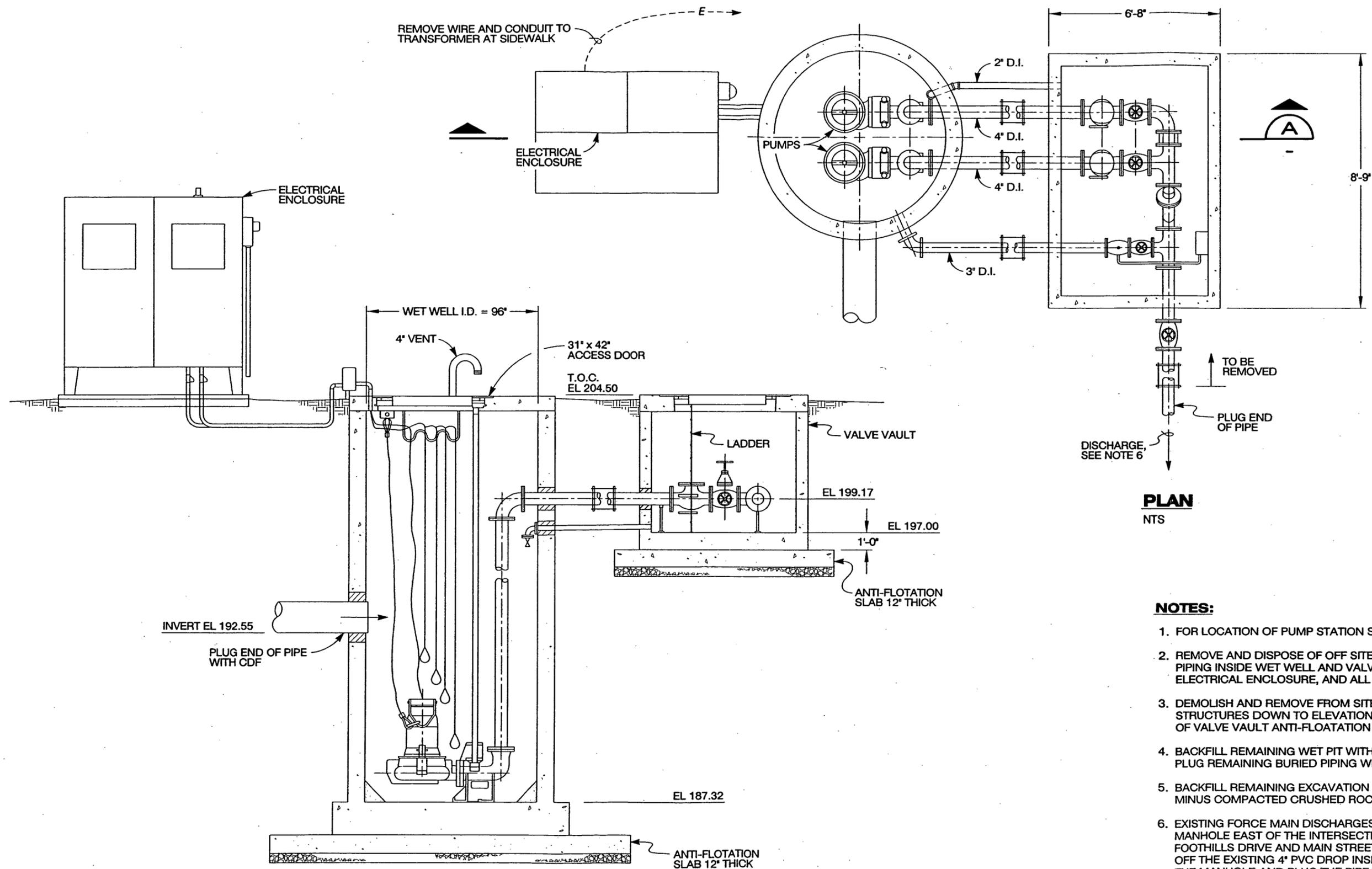
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CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

**FORCE MAIN NO. 2
 STA 4+00 TO STA 7+35**

SHEET
11 of 12
 DATE
 May 2003



PLAN
NTS

SECTION A
NTS

NOTES:

1. FOR LOCATION OF PUMP STATION SEE SHEET 8.
2. REMOVE AND DISPOSE OF OFF SITE BOTH PUMPS, PIPING INSIDE WET WELL AND VALVE VAULT, ELECTRICAL ENCLOSURE, AND ALL WIRE AND CONDUIT.
3. DEMOLISH AND REMOVE FROM SITE ALL CONCRETE STRUCTURES DOWN TO ELEVATION 195.0 (BOTTOM OF VALVE VAULT ANTI-FLOATATION SLAB).
4. BACKFILL REMAINING WET PIT WITH PEA GRAVEL. PLUG REMAINING BURIED PIPING WITH CDF.
5. BACKFILL REMAINING EXCAVATION WITH 3/4 INCH MINUS COMPACTED CRUSHED ROCK.
6. EXISTING FORCE MAIN DISCHARGES INTO A MANHOLE EAST OF THE INTERSECTION OF FOOTHILLS DRIVE AND MAIN STREET. CUT OFF THE EXISTING 4\"/>



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CITY OF NEWBERG, OREGON
CRATER LANE LID GRAVITY SEWER AND FORCE MAIN

EXISTING PUMP STATION DEMOLITION

SHEET
12 of 12
DATE
May 2003