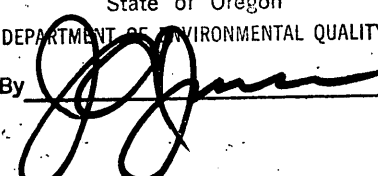


CITY OF NEWBERG
CITY RECORDER INDEX NO. 1099

Contractor:
Richard L. Martin
P.O. Box 482
Lake Oswego, Oregon

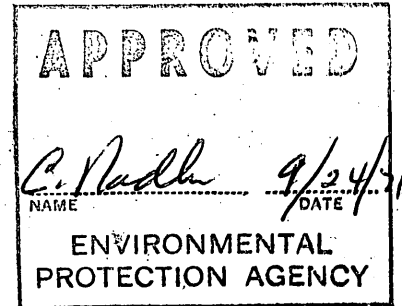
Project No. C5504.2
Project: Sewage Treatment Plant
Expansion
Owner: City of Newberg, Oregon
Change Order No. 3
Date: 1 June 1971

APPROVED
on SEP 16 1971
subject to provisions in letter of same
date.
State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
By 

CHANGE ORDER NO. 3 TO CONTRACT
for
construction of the
SEWAGE TREATMENT PLANT EXPANSION
CITY OF NEWBERG, OREGON

This Change Order covers the changes indicated below to the
subject Contract, and the Contractor is hereby directed to perform
the work in accordance with the provisions of this Change Order.

1. Install a heavy-duty single-throw non-fused disconnect switch in the power leads for each blower motor. The switch shall be mounted on a suitable angle iron support attached to the blower concrete pad. The connections to the switch shall be made with rigid steel conduit and the final connection to the motor from the switch shall be made with flexible conduit. The switch shall be 3-pole, 60 amp, 480-volts, a-c in a NEMA 1 enclosure and shall be Cutler-Hammer No. H332.



Additive

\$ 655.00

2. Install a heavy-duty single-throw non-fused disconnect switch in the power leads of the existing clarifier. Mount on handrail with suitable angle iron supports near the motor. The switch shall be 3-pole, 30 amp, 480-volts, a-c in a NEMA 3R enclosure and shall be Cutler-Hammer No. H3331.

Additive

\$ 120.00

3. Remove one heater (as directed by Owner) from the upstairs in the blower building, and its respective circuit breaker from the heater panel. Reinstall heater in existing chlorine room as directed by Owner. Also install circuit breaker in the existing panel and run 1/2-inch conduit with three No. 12 wires from circuit breaker

RECEIVED
SEP 20 1971

FWQA

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
AUG 13 1971

WATER QUALITY CONTROL

Project: Sewage Treatment Plant
Expansion
Change Order No. 3

to heater and connect up. Rewire existing thermostat to heater. Use a standard cover plate for circuit breakers installed in the switch-board.

Additive \$ 152.00

4. Furnish and install one 2-ton Coffing low headroom worm drive hoist with 20-foot lift, lift speed 20 fpm, bottom safety hook, plain trolley, 4-hp motor, 230/460-volt, 3-Hz, electric overload cut off and 110-volt, push button control; including full credit for hoist previously specified, and 25 feet of wire rings and power cable complete, and operable, including electrical connections.

Additive \$1,930.00

5. Furnish and install three new inlet filters for the existing blowers, complete.

Additive \$ 330.00

6. Raise existing motor control center in basement of blower building to match new floor elevation.

Additive \$ 432.00

7. Raise 6-inch and 8-inch piping in basement of existing blower building as directed.

Additive \$ 384.00

8. Provide 6-inch control valve with pneumatic operation for return activated sludge line in basement of blower building to increase discharge capacity of return activated sludge pumps.

Additive \$ 895.00

9. Remove 3 trees from bank behind plant.

Additive \$ 260.00

Project: Sewage Treatment Plant
Expansion
Change Order No. 3

10. Provide 16-inch flow tube and new calibrated register for plant flowmeter.

Additive \$ 573.00

11. Provide one spare impeller for each return activated sludge pump, complete with backup wearing plate. Installation to be by the Owner at a later date.

Additive \$ 361.00

12. Provide crushed rock base and a-c paving to cover the area adjacent to the existing sludge loading dock.

Additive \$ 523.00

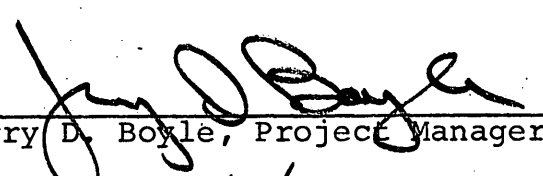
The amount of the basic Contract will be increased in the sum of \$6,615.00, and it is agreed that this increase constitutes full compensation for the work added by this Change Order.

The Contract time will not be increased.

Except as herein modified, the terms of the basic Contract shall remain in full force and effect.

Approved:

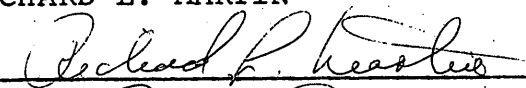
CORNELL, HOWLAND, HAYES & MERRYFIELD

By 
Jerry D. Boyle, Project Manager

Date 8/4/71

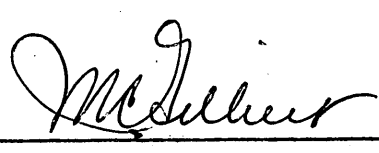
Receipt acknowledged and terms and conditions agreed to this 5 day of August, 1971.

RICHARD L. MARTIN

By 

Title President

Authorized for the CITY OF NEWBERG, OREGON, this 11 day of August, 1971.

By 

Title _____

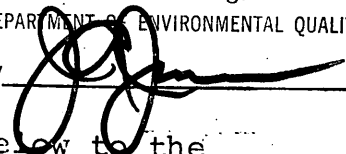
CITY OF NEWBERG
Contractor: CITY RECORDER INDEX NO. 1077
Richard T. Robertson
3906 East 8th St.
Vancouver, Washington 98661

Project No. C5505.2
Project: Hess Creek Pump Station,
Schedule L
Owner: City of Newberg, Oregon
Change Order No. 1
Date: 15 July 1971

APPROVED
SEP 16 1971

CHANGE ORDER NO. 1 TO CONTRACT
FOR
CONSTRUCTION OF HESS CREEK PUMP STATION
SCHEDULE L
CITY OF NEWBERG, OREGON

subject to provisions in letter of same date.

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
By 

This Change Order covers the changes indicated below to the subject Contract, and the Contractor is hereby directed to perform the work in accordance with the provisions of this Change Order.

1. Repair 12-inch C.I. pressure line breaks.

Addition \$2,440.00

Install high water alarm and telemetry system to the City Hall as directed.

Addition \$2,330.00

Construct access road down to lift station. Provide miscellaneous fencing and gates along access road as required.

Addition \$1,086.00

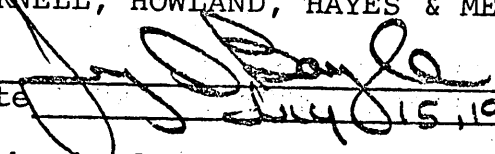
TOTAL \$5,856.00

The amount of the basic Contract will be increased in the sum of FIVE THOUSAND EIGHT HUNDRED FIFTY-SIX DOLLARS (\$5,856.00), and it is agreed that this increase constitutes full compensation for all work added by this Change Order.

The Contract time will not be increased.

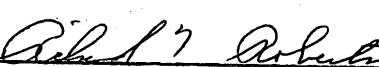
Except as herein modified, the terms of the basic Contract shall remain in full force and effect.

Approved:
CORNELL, HOWLAND, HAYES & MERRYFIELD

By 
Date July 15, 1971

Receipt acknowledged and terms and conditions agreed to this
28 day of July, 1971.

RICHARD T. ROBERTSON

By 
Title City Recorder

Authorized for the CITY OF NEWBERG,
OREGON, this 19 day of July, 1971.

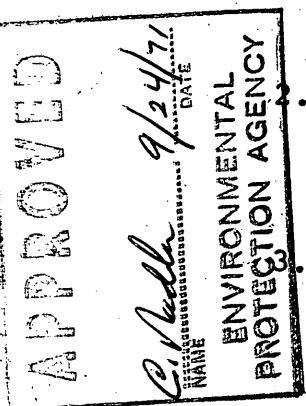
By 
Title City Recorder

RECEIVED

SEP 20 1971

FWQA

-1-



State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED

AUG 4 1971

WATER QUALITY CONTROL

ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

October 7, 1971

Re: WPC-ORE-251
Newberg, City of

M. C. Gilbert
Finance Officer
City Hall
Newberg, Oregon 97132

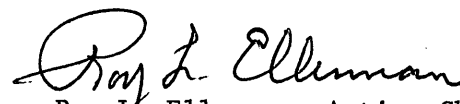
Dear Mr. Gilbert:

Change Order No. 1 (Schedule L, Hess Creek pump station) to the Richard T. Robertson contract and Change Order No. 3 (sewage treatment plant) to the Richard L. Martin contract has been reviewed and approved by this office and the Oregon Department of Environmental Quality.

Copies of Change Orders Nos. 1 and 3 have been stamped with our approval and are being returned to you. Please incorporate these change orders in the appropriate plans, specifications, or contract documents. Copies of these approved change orders should be available for our representative's use during periodic field inspections.

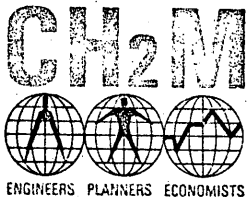
The approval of changes by the Environmental Protection Agency should not be construed as approval for additional grant funds.

Sincerely yours,


Roy L. Ellerman, Acting Chief
Municipal Section

Enclosures:

cc: CH₂M, Corvallis
DEQ, Portland, Oregon



CITY OF NEWBERG
CITY RECORDER INDEX NO. 1099

RECEIVED

CORNELL, HOWLAND, HAYES & MERRYFIELD

1600 S. W. Western Blvd., P.O. Box 428, Corvallis, Oregon 97330, Telephone: 503/752-4271 DEC 14 1970 Corvallis Regional Office

CITY OF NEWBERG, ORE.
OFFICE OF RECORDER

10 December 1970

Project No. C5504.2

Richard P. Robertson, Contractors
3906 East 8th Street
Vancouver, Washington

Dear Mr. Robertson:

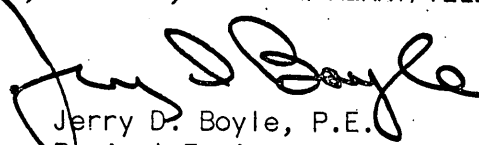
In answer to your letter of 18 November 1970 regarding the delay of completion of the Hess Creek pump station for the City of Newberg, your request for delay is hereby approved.

Prior to completion of the work this fall the pump station must be operable. The startup services on the part of Cornell Pump Company must be completed and the operating instructions submitted. In other words, the City must have had all of their operating instructions from Cornell such that the station can be turned over to them for operation this winter.

It is understood that the new completion date for all of the work involved for this project will be 30 May 1971.

Very truly yours,

CORNELL, HOWLAND, HAYES & MERRYFIELD


Jerry D. Boyle, P.E.
Project Engineer

JDB:cec

cc: City of Newberg

Contractor:
System Construction, Inc.
8130 S. E. Tolman Street
Portland, Oregon 97206

Project No. C5505.2
Project: Hess Creek-Springbrook
Sanitary Sewer Collection
System Improvements
Owner: City of Newberg, Oregon
Change Order No. 1
Date: 4 August 1970

CHANGE ORDER NO. 1 TO CONTRACT
FOR
CONSTRUCTION OF HESS CREEK - SPRINGBROOK
SANITARY SEWER COLLECTION SYSTEM IMPROVEMENTS
SCHEDULE S
CITY OF NEWBERG, OREGON

This Change Order covers the changes indicated below to the subject Contract, and the Contractor is hereby directed to perform the work in accordance with the provisions of this Change Order.

Relocate Interceptor A as shown on Drawing No's. C5505-3, Sheet 1 of 1, and E5505-1, Sheets 6 and 7 of 20, as revised 3 August 1970. Confine operations to avoid trees as directed in field. Provide fill and clearing as shown. Remove existing barb wire fencing as directed.

Addition \$12,589.00

Drawing No's. C5505-3, Sheet 1 of 1, and E5501-1, Sheets 6 and 7 of 20, as revised 3 August 1970, are hereby made a part of the Contract Documents by this reference.

The amount of the basic Contract will be increased in the sum of TWELVE THOUSAND FIVE HUNDRED EIGHTY-NINE DOLLARS (\$12,589.00), and it is agreed that this increase constitutes full compensation for all work added by this Change Order.

The Contract time will not be increased.

Except as herein modified, the terms of the basic Contract shall remain in full force and effect.

Approved:
Cornell, Howland, Hayes & Merryfield

By [Signature]
Date AUG 4, 1970

Receipt acknowledged and terms and conditions agreed to this _____ day of _____, 19__.

SYSTEM CONSTRUCTION, INC.

By _____
Title _____

Authorized for the CITY OF NEWBERG, OREGON, this _____ day of _____, 19__.

By _____
Title _____

CITY OF NEWBERG
CITY RECORDER INDEX NO. 1099

FILE COPY (P)

6/19/70

CONTRACT DOCUMENTS
FOR THE CONSTRUCTION OF
**HESS CREEK - SPRINGBROOK
SANITARY SEWER
COLLECTION SYSTEM
IMPROVEMENTS**

CITY OF NEWBERG
OREGON

ROBERTSON

MAY 1970

CITY COPY - SIGNED DOCUMENT

CORNELL, HOWLAND, HAYES & MERRYFIELD
Engineers and Planners

SEATTLE

CORVALLIS

BOISE

PORTLAND

ADDENDUM NO. 1
to the
CONTRACT DOCUMENTS
for the construction of
HESS CREEK-SPRINGBROOK SANITARY SEWER
COLLECTION SYSTEM IMPROVEMENTS
CITY OF NEWBERG, OREGON

To All Planholders:

20 May 1970

Gentlemen:

Project No. C5505.1

The following change is hereby made a part of the Contract Documents for the construction of City of Newberg, Oregon, Hess Creek-Springbrook Sanitary Sewers dated May, 1970, as fully and completely as if the same were fully set forth therein:

1. PROPOSAL (SCHEDULE L)

Page 14, L2A. ACCESS ROAD AND PARKING AREA. Due to difficulties in obtaining an easement for the access road as shown on Sheet 3 of the Plans, the access road will be redesigned.

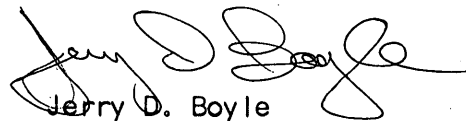
Delete Line 1, "Access complete," and substitute "Access Road and Parking Area, to Station 0+50 only, complete,".

As soon as a new alignment has been obtained for the access road, a Change Order will be issued to the successful Bidder and the cost negotiated for the relocated access road.

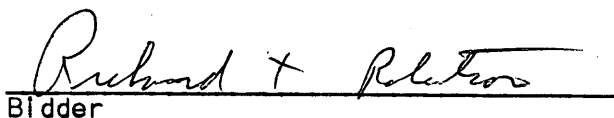
All bidders shall acknowledge receipt and acceptance of this Addendum No. 1 by signing in the space provided and submitting the signed Addendum with the bid. Bids submitted without this Addendum will be considered informal.

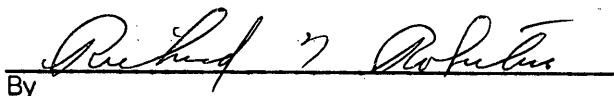
Very truly yours,

CORNELL, HOWLAND, HAYES & MERRYFIELD


Jerry D. Boyle

Receipt acknowledged and conditions
agreed to this 30 day of June
1970.


Bidder


By

-1-

CITY OF NEWBERG

OREGON

CONTRACT DOCUMENTS

for the construction of the
HESS CREEK-SPRINGBROOK SANITARY SEWERS

Consisting of:
Form of Bid Bond
Advertisement for Bids
Form of Proposal
Form of Contract
Form of Performance and Payment Bond
Information for Bidders
Special Provisions
General Conditions
Special Specifications
Plans

Cornell, Howland, Hayes & Merryfield
Engineers-Planners-Economists
Corvallis, Oregon

May 1970

Project No. C5505.1

Copy No. 85

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PLANS

ADVERTISEMENT FOR BIDS

Sealed proposals for the construction of Hess Creek-Springbrook Sanitary Sewers, addressed to the Honorable Mayor and City Council, City Hall, City of Newberg, Oregon, will be received at the office of the City Finance Officer, until 7:30 p.m., Pacific Daylight Time, on the 9th day of June, 1970, and then will be publicly opened and read.

Proposals will be received on three (3) schedules, as follows:

Schedule S - Gravity Sewers: The gravity sewers consist of approximately 11,700 linear feet of 15-inch sewer pipe and 540 linear feet of 4- and 6-inch service connection pipe, including 2 State highway crossings, together with necessary manholes and appurtenances.

Schedule P - Pressure Main: The pressure main consists of approximately 4,100 linear feet of 12-inch pressure pipe.

Schedule L - Pump Station and Access Road: The pump station and access road consist of a steel factory-built pump station installation served by 900 linear feet of graveled access road.

Plans and Specifications may be examined in the office of M. C. Gilbert, Finance Officer, City Hall, Newberg, Oregon, or at the office of Cornell, Howland, Hayes & Merryfield, Engineers-Planners-Economists, 1600 S.W. Western Boulevard, Corvallis, Oregon 97330. A copy of said Documents may be obtained at the Engineer's office at 1600 S.W. Western Boulevard, Corvallis, Oregon 97330, upon a deposit of Thirty Dollars (\$30.00) for each Document. The full amount of the deposit will be refunded if said Documents are returned in good condition within ten (10) days after bid opening.

Bidders must be prequalified in compliance with applicable parts of Chapter 279 of Oregon Revised Statutes. Prequalification forms, completely filled out, shall be mailed to Cornell, Howland, Hayes & Merryfield, 1600 S.W. Western Boulevard, Corvallis, Oregon 97330, at least ten (10) days prior to the bidding date.

No bid will be received or considered by the public body or any officer of the public body unless the bid contains a statement by the Bidder as a part of his bid that the provisions required by ORS 279.350 shall be included in his Contract.

Each proposal must be submitted on the prescribed form and accompanied by a certified check or bid bond payable to the City of Newberg, Oregon, in an amount not less than ten percent (10%) of the amount bid.

The successful Bidder will be required to furnish a Performance and Payment Bond for faithful performance of the Contract in the full amount of the Contract price.

Bidders on this work will be required to comply with the provisions of the President's Executive Order No. 11246 and requirements issued thereunder. The requirements for bidders and contractors under this order are explained in the Contract Documents.

The attention of bidders is directed to the requirements and conditions of employment to be observed and minimum wage rates to be paid under the Contract.

The right is reserved to reject any or all proposals, to postpone the award of the Contract for a period not to exceed thirty (30) days, and to accept that proposal which is to the best interests of the City of Newberg.

Dated this 7th day of May, 1970.

CITY OF NEWBERG, OREGON

By _____
M. C. Gilbert, Finance Officer

PROPOSAL

To: Honorable Mayor and City Council
City Hall
Newberg, Oregon

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein; that this Proposal is, in all respects, fair and without fraud; that it is made without collusion with any official of the Owner; and that the Proposal is made without any connection or collusion with any person making another proposal on this Contract.

The Bidder further declares that he has carefully examined the Contract Documents for the construction of the project; that he has personally inspected the site; that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents; and that this Proposal is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Proposal. The Bidder further declares that the provisions required by ORS 279.350 relating to prevailing wage rates shall be included in his Contract.

The Bidder further agrees that he has exercised his own judgment regarding the interpretation of subsurface information and has utilized all data which he believes pertinent from the Engineer, Owner, and other sources in arriving at his conclusions.

The Bidder agrees that if this Proposal is accepted, he will, within seven (7) calendar days after notification of acceptance, execute the Contract with the Owner in the form of Contract annexed hereto; and will, at the time of execution of the Contract, deliver to the Owner the Performance and Payment Bond required herein; and will, to the extent of his Proposal, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the 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 Engineer thereunder.

The Bidder further agrees to begin work within ten (10) calendar days after the date of the execution of the Contract and to complete the construction, in all respects, of each schedule for which his Proposal is accepted, within one hundred eighty (180) calendar days after the date of the execution of the Contract by the Owner.

All schedules will be let under one (1) contract, separately, or in any combination as best serves the interests of the Owner.

In the event the Bidder is awarded the Contract and shall fail to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid to the Owner at the rate of ONE HUNDRED DOLLARS (\$100.00) per day for all work awarded under one (1) contract until the work shall have been finished as provided by the Contract Documents. Sundays and legal holidays shall be excluded in determining days in default.

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

The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

SCHEDULE S
GRAVITY SEWERS
BASE BID

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>S2A. TRENCH EXCAVATION AND BACKFILL</u>					
<u>Trench Excavation and Backfill for Gravity Sewers</u>					
<u>Class C</u>					
0- 6 ft.	30	lin.ft.	\$ _____	_____	\$ _____
6- 8 ft.	1,225	lin.ft.	\$ _____	_____	\$ _____
8-10 ft.	2,145	lin.ft.	\$ _____	_____	\$ _____
10-12 ft.	1,325	lin.ft.	\$ _____	_____	\$ _____
12-14 ft.	250	lin.ft.	\$ _____	_____	\$ _____

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>Class C (Cont'd.)</u>					
14-16 ft.	210	lin.ft.	\$ _____	_____	\$ _____
16-18 ft.	100	lin.ft.	\$ _____	_____	\$ _____
<u>Class D</u>					
0- 6 ft.	50	lin.ft.	\$ _____	_____	\$ _____
6- 8 ft.	600	lin.ft.	\$ _____	_____	\$ _____
8-10 ft.	270	lin.ft.	\$ _____	_____	\$ _____
10-12 ft.	70	lin.ft.	\$ _____	_____	\$ _____
12-14 ft.	110	lin.ft.	\$ _____	_____	\$ _____
14-16 ft.	50	lin.ft.	\$ _____	_____	\$ _____
16-18 ft.	50	lin.ft.	\$ _____	_____	\$ _____
<u>Class E</u>					
0- 6 ft.	150	lin.ft.	\$ _____	_____	\$ _____
6- 8 ft.	620	lin.ft.	\$ _____	_____	\$ _____
8-10 ft.	360	lin.ft.	\$ _____	_____	\$ _____
10-12 ft.	460	lin.ft.	\$ _____	_____	\$ _____
12-14 ft.	895	lin.ft.	\$ _____	_____	\$ _____
14-16 ft.	30	lin.ft.	\$ _____	_____	\$ _____

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>Foundation Stabilization</u>					
	50	cu.yds.	\$ _____	_____	\$ _____
<u>Water Settlement of Trenches</u>					
	1,200	lin.ft.	\$ _____	_____	\$ _____
<u>S2B. MANHOLE CONSTRUCTION</u>					
Standard Nonwatertight Manholes, 0-6 Ft					
	27	each	\$ _____	_____	\$ _____
Additional Standard Manhole Depth					
	100	lin.ft.	\$ _____	_____	\$ _____
<u>Service Connection Pipe Stubouts</u>					
4-Inch	3	each	\$ _____	_____	\$ _____
6-Inch	1	each	\$ _____	_____	\$ _____
<u>Pipe Stubouts for Future Lateral Connections</u>					
8-Inch	7	each	\$ _____	_____	\$ _____
10-Inch	2	each	\$ _____	_____	\$ _____

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>Connections to Existing System</u>					
At Station 89+82.1 Interceptor A		lump sum	\$ _____	_____	\$ _____
<u>S2C. SURFACE RESTORATION</u>					
<u>Replacement of Pavement and Rock Surfacing</u>					
Crushed 3/4-Inch Minus	200	cu.yds.	\$ _____	_____	\$ _____
Crushed 1-1/2-inch Minus	50	cu.yds.	\$ _____	_____	\$ _____
Asphalt Concrete Over Sewer Trenches	1,200	lin.ft.	\$ _____	_____	\$ _____
Asphalt Concrete Over Sewer Trenches	25	sq.yds.	\$ _____	_____	\$ _____
Asphalt Concrete Over Service Connection Trenches	135	lin.ft.	\$ _____	_____	\$ _____

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>Removal and Replacement of Culverts and Catch Basins</u>					
Culverts	160	lin.ft.	\$ _____	_____	\$ _____
Catch Basins	2	each	\$ _____	_____	\$ _____
<u>S2D. HIGHWAY UNDERCROSSINGS</u>					
Highway Undercrossing No. 1					
		lump sum	\$ _____	_____	\$ _____
Highway Undercrossing No. 2					
		lump sum	\$ _____	_____	\$ _____
<u>S15A. GRAVITY SEWER PIPE</u>					
<u>Concrete, Clay, or Asbestos-Cement Sewer Pipe</u>					
15-Inch, Extra Strength					
	8,760	lin.ft.	\$ _____	_____	\$ _____
<u>Concrete, Clay, or Asbestos-Cement Tees</u>					
15 x 4	16	each	\$ _____	_____	\$ _____
15 x 6	2	each	\$ _____	_____	\$ _____

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>Bypassing Flow of Existing Sewers</u>					
Station 89+82.1 Interceptor A		lump sum	\$ _____	_____	\$ _____
<u>S15B. SEWER SERVICE CONNECTIONS</u>					
<u>Trench Excavation and Backfill</u>					
Class C	80	lin.ft.	\$ _____	_____	\$ _____
Class D	140	lin.ft.	\$ _____	_____	\$ _____
Class E	270	lin.ft.	\$ _____	_____	\$ _____
<u>Water Settlement of Trenches</u>					
	410	lin.ft.	\$ _____	_____	\$ _____
<u>Service Connection Pipe</u>					
4-Inch	460	lin.ft.	\$ _____	_____	\$ _____
6-Inch	20	lin.ft.	\$ _____	_____	\$ _____
TOTAL BASE BID, SCHEDULE S					\$ _____

ADDITIVE ALTERNATE NO. 1
SCHEDULE S

The Bidder further agrees to accept as full payment for Additive Alternate No. 1, Schedule S, for the construction of Interceptor B from Station 0+30 to Station 28+36, as shown on the Plans, the unit prices set forth in the Base Bid for Schedule S hereinbefore.

The following tabulation is a list of the estimated quantities included for Additive Alternate No. 1. Unit prices, identical to those submitted in the Base Bid for Schedule S, shall be filled in by the Bidder when applicable. Where new line items are included, the Bidder shall fill in lump sum or unit prices on the same basis as for the Base Bid.

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>S2A. TRENCH EXCAVATION AND BACKFILL</u>					
<u>Trench Excavation and Backfill for Gravity Sewers, Class C</u>					
0- 6 ft.	50	lin.ft.	\$ _____ *	_____	\$ _____
6- 8 ft.	2,090	lin.ft.	\$ _____ *	_____	\$ _____
8-10 ft.	400	lin.ft.	\$ _____ *	_____	\$ _____
10-12 ft.	120	lin.ft.	\$ _____ *	_____	\$ _____
12-14 ft.	20	lin.ft.	\$ _____ *	_____	\$ _____
<u>Foundation Stabilization</u>					
	100	cu.yds.	\$ _____ *	_____	\$ _____

* Unit price to be identical to those indicated for the Base Bid.

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>S2B. MANHOLE CONSTRUCTION</u>					
Standard Watertight Manholes, 0-6 Ft	8	each	\$ _____ *	_____	\$ _____
Additional Standard Manhole Depth	11	lin.ft.	\$ _____ *	_____	\$ _____
Special Drop Manhole		lump sum	\$ _____ *	_____	\$ _____
<u>Service Connection Pipe Stubouts</u>					
4-Inch	1	each	\$ _____ *	_____	\$ _____
6-Inch	1	each	\$ _____ *	_____	\$ _____
<u>Pipe Stubouts for Future Lateral Connections</u>					
8-Inch	1	each	\$ _____ *	_____	\$ _____
10-Inch	1	each	\$ _____ *	_____	\$ _____
15-Inch	1	each	\$ _____ *	_____	\$ _____
<u>Connections to Existing System</u>					
At Station 28+36 Interceptor B		lump sum	\$ _____ *	_____	\$ _____

* Unit price to be identical to those indicated for the Base Bid.

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>S2E. CREEK CROSSINGS</u>					
Creek Crossing No. 1					
		lump sum	\$ _____	_____	\$ _____
Creek Crossing No. 2					
		lump sum	\$ _____	_____	\$ _____
Creek Crossing No. 3					
		lump sum	\$ _____	_____	\$ _____
Creek Crossing No. 4					
		lump sum	\$ _____	_____	\$ _____
Creek Crossing No. 5					
		lump sum	\$ _____	_____	\$ _____
<u>S15A. GRAVITY SEWER PIPE</u>					
<u>Concrete, Clay, or Asbestos-Cement Sewer Pipe</u>					
15-Inch, Extra Strength					
2,644		lin.ft.	\$ _____ *	_____	\$ _____
<u>Concrete, Clay, or Asbestos-Cement Tees</u>					
15 x 4	2	each	\$ _____ *	_____	\$ _____
15 x 6	1	each	\$ _____ *	_____	\$ _____

* Unit price to be identical to those indicated for the Base Bid.

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>S15B. SEWER SERVICE CONNECTIONS</u>					
<u>Trench Excavation and Backfill</u>					
Class C	60	lin.ft.	\$ _____ *	_____	\$ _____
<u>Service Connection Pipe</u>					
4-Inch	40	lin.ft.	\$ _____ *	_____	\$ _____
6-Inch	40	lin.ft.	\$ _____ *	_____	\$ _____
TOTAL ADDITIVE ALTERNATE NO. 1, SCHEDULE S					\$ _____

* Unit price to be identical to those indicated for the Base Bid.

SCHEDULE P
PRESSURE MAIN

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
<u>P2A. TRENCH EXCAVATION AND BACKFILL</u>					
<u>Trench Excavation and Backfill</u>					
Class C	1,370	lin.ft.	\$ _____	_____	\$ _____
Class D	310	lin.ft.	\$ _____	_____	\$ _____
Class E	2,310	lin.ft.	\$ _____	_____	\$ _____
<u>Foundation Stabilization</u>					
	30	cu.yds.	\$ _____	_____	\$ _____
<u>Water Settlement of Trenches</u>					
	1,800	lin.ft.	\$ _____	_____	\$ _____
<u>P2B. SURFACE RESTORATION</u>					
<u>Replacement of Pavement, Sidewalks, Rock Surfacing, and Drainage Facilities</u>					
Crushed 3/4-Inch Minus	50	cu.yds.	\$ _____	_____	\$ _____
Asphalt Concrete Over Sewer Trenches	310	lin.ft.	\$ _____	_____	\$ _____

<u>Item</u>	<u>Quantity</u>	<u>Unit of Measure</u>	<u>Unit Price or Lump Sum Figures</u>	<u>Unit Price or Lump Sum in Writing</u>	<u>Total Amt.- Quan. x Unit Price or Lump Sum</u>
Asphalt Concrete Over Sewer Trenches	20	sq.yds.	\$ _____	_____	\$ _____
Sidewalk Crossings	2	each	\$ _____	_____	\$ _____
<u>Removal and Replacement of Culverts and Catch Basins</u>					
Culverts	100	lin.ft.	\$ _____	_____	\$ _____
Catch Basins	2	each	\$ _____	_____	\$ _____
<u>P2C. RAILROAD UNDERCROSSING</u>					
		lump sum	\$ _____	_____	\$ _____
<u>P2D. CREEK CROSSING</u>					
Hess Creek Crossing		lump sum	\$ _____	_____	\$ _____
<u>P15A. PRESSURE SEWER PIPE</u>					
Cast Iron Pressure Pipe					
12-Inch	410	lin.ft.	\$ _____	_____	\$ _____
6-Inch	20	lin.ft.	\$ _____	_____	\$ _____
Asbestos-Cement Pressure Pipe, 12-Inch, Class 150	3,850	lin.ft.	\$ _____	_____	\$ _____
<u>P15B. AIR AND VACUUM RELEASE STRUCTURE</u>					
		lump sum	\$ _____	_____	\$ _____
TOTAL FOR SCHEDULE P					\$ _____

SCHEDULE L
PUMP STATION AND ACCESS ROAD

L2A. ACCESS ROAD AND PARKING AREA

Access Road and Parking Area, complete,
for the lump sum price of:
Two Thousand Three Hundred
Seventy Two Dollars

and No Cents, complete

(\$ 2,372.00) complete

\$ 2,372.00

The Bidder further proposes to furnish and install in accordance with the Special Specifications, bound herewith, the items of mechanical equipment specified in Section LIIA, PUMP STATION listed below. The equipment under this section is to be furnished and installed in operating condition by the Bidder for the total price as shown in the Proposal and is to be described by information furnished to the Engineer by the equipment manufacturer prior to bid opening.

The Bidder shall list separate price proposals from at least three (3) separate equipment manufacturers and include the cost of installation, complete. Selection of the equipment to be furnished will be made by the Owner.

Section LIIA. PUMP STATION

<u>Cornell</u>	<u>Compac</u>	<u>Pump Station</u>
Name of Manufacturer	Type or Model	
for		
<u>Twenty-Six Thousand Nine Hundred</u>		
<u>and Twenty-Two</u>		
and <u>No</u>	Cents	<u>\$ 26,922.00</u>
<u>OR</u>		

		<u>Pump Station</u>
Name of Manufacturer	Type or Model	
for		
<u>Dollars</u>		
and <u></u>	Cents	<u>\$</u>
<u>OR</u>		

		<u>Pump Station</u>
Name of Manufacturer	Type or Model	
for		
<u>Dollars</u>		
and <u></u>	Cents	<u>\$</u>

TOTAL, SCHEDULE L (Including
Lowest Priced Pump Station)

\$ 29,294.00

SUMMARY OF PROPOSAL

(To be filled in by Bidder)

SCHEDULE S

BASE BID \$ _____

ADDITIVE ALTERNATE NO. 1 \$ _____

TOTAL, SCHEDULE S
(Including Additive
Alternate No. 1)

\$ No Bid

SCHEDULE P

\$ No Bid

SCHEDULE L (Including lowest priced pump
station)

\$ 29,294.00

GRAND TOTAL*

\$ 29,294.00

*--Use total of Schedule S including Additive Alternate No. 1, Schedule P, and Schedule L including the lowest priced pump station.

The form of "Compliance Statement" appended hereto shall be executed by the Bidder and submitted as part of this Proposal. Bids received without the signed "Compliance Statement" will be considered as informal.

The Bid submitted for Schedule S is based on the use of _____
(Indicate type
of pipe) type gravity sewer pipe and it is agreed that this type of material
will be used if the Contract is awarded on the basis of this Proposal.

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 specified Performance and Payment Bond within seven (7) calendar days after receipt of notification of acceptance of his Proposal, then, in that event, the bid security deposited herewith according to the conditions of the Advertisement for Bids and Information for Bidders shall be retained by the Owner as liquidated damages; and it is agreed that the said sum is a fair measure of the amount of damage the Owner will sustain in case the Bidder shall fail or refuse to enter into the Contract for the said work and to furnish the Performance and Payment Bond as specified in the Contract Documents. Bid security in the form of a certified check shall be subject to the same requirements as a bid bond.

If the Bidder is awarded a construction Contract on this Proposal, the Surety who will provide the Performance and Payment Bond will be _____

United Pacific _____ whose address is
_____, Tacoma, Washington
Street City State

The name of the Bidder who is submitting this Proposal is _____

Richard T. Robertson _____ doing business at
3906 E 8th _____, Vancouver, Washington,
Street City State

which is the address to which all communications concerned with this Proposal and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Proposal, or of the partnership, or of all persons interested in this Proposal as principals are as follows:

Richard T. Robertson _____

(If Sole Proprietor or Partnership)

In witness hereto the undersigned has set his (its) hand this 1
day of June, 1970.

Richard T. Robertson
/s/ Richard T. Robertson
Signature of Bidder

Owner
Title

(If Corporation)

In witness whereof the undersigned corporation has caused this instru-
ment to be executed and its seal affixed by its duly authorized officers
this _____ day of _____, 19____.

Name of Corporation

By _____

Title

Attest _____
Secretary

(See "Compliance Statement" on next page)

UNITED STATES DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

CONTRACTOR'S COMPLIANCE STATEMENT
(Executive Order #11246)

Date June 1, 1970

This statement relates to a proposed contract with _____

City of Newberg

(name of borrower or grantee)

who expects to finance the contract with assistance from the Federal Water Pollution Control Administration, United States Department of the Interior. I am the undersigned bidder or prospective contractor. I represent that--

1. I ☒ have, ☐ have not, participated in a previous contract or subcontract subject to Executive Order 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.

/s/ Richard T. Robertson

Signature of Bidder or Prospective Contractor

3906 E 8th, Vancouver, Washington 98660

Address (including Zip Code)

CS - 1

Printed Jan. '70

CONTRACT FOR CONSTRUCTION

THIS CONTRACT, made and entered into this _____ day of _____, 19____, by and between the City of Newberg, Oregon, a municipal corporation, hereinafter called the "Owner," and Richard T. Robertson

of _____
hereinafter called the "Contractor."

WITNESSETH:

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 construction of Schedule(s) L of the Hess Creek-Springbrook Sanitary Sewers to the extent of the Proposal made by the Contractor on the 1st day of June, 1970, all in full compliance with the Contract Documents referred to herein.

The "Advertisement for Bids," the signed copy of the "Proposal" made by the Contractor on the 1st day of June, 1970, the fully executed "Performance and Payment Bond," the "Information for Bidders," the "Special Provisions," the "General Conditions," the "Specifications," and the "Plans," which consist of 20 sheets entitled "City of Newberg, Oregon, Hess-Creek-Springbrook Sanitary Sewers," Drawing Nos. E5505-1 and C5505-1, dated May 1970, are hereby referred to and by reference made a part of this Contract as fully and completely as if the same were fully set forth herein and are mutually cooperative therewith.

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 Engineer and to his satisfaction to the extent provided in the Contract Documents, the Owner agrees to pay to the Contractor the amount bid as adjusted in accordance with the Proposal as determined by the Contract Documents, or as otherwise herein provided, and based on the said Proposal made by the Contractor, 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 Proposal.

The Contractor agrees to indemnify and save harmless the Owner from any and all defects appearing or developing in the materials furnished and the workmanship performed under this Contract for a period of one (1) year after the date of acceptance of the work in the Contract by the Owner.

The provisions required by 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.

IN WITNESS WHEREOF, we, the parties hereto, each herewith subscribe the same this 19th day of June, A.D., 1970.

By Dwight Belanger

By McGillivray

Richard T. Roberts
Contractor

By Richard J. Roberts

Title Owner

City Attorney

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we RICHARD T. ROBERTSON, an
individual, of Vancouver, Washington

as Principal, and UNITED PACIFIC INSURANCE COMPANY (Washington corporation)

a corporation, duly authorized to do a general surety business in Oregon, as
 Surety, are jointly and severally held and bound unto

CITY OF NEWBERG, OREGON,

the Oblige here in, in the sum of TWENTY-NINE THOUSAND TWO HUNDRED NINETY-

FOUR and no/100- - - - - (Dollars) (\$ 29,294.00- - -), for
 the payment of which we jointly and severally bind ourselves, our heirs, ex-
 ecutors, administrators, successors, and assigns, firmly by these presents:

THE CONDITION OF THIS BOND IS SUCH THAT

WHEREAS, RICHARD T. ROBERTSON
 Contractor

the Principal herein, on the 16th day of June, 19 70
 entered into a Contract with the Oblige, which Contract Documents consist of
 the Advertisement for Bids, the Proposal, the Contract, the Performance and
 Payment Bond, the Information for Bidders, the Special Provisions, the General
 Conditions, the Specifications, and the Plans, all as hereto attached and made
 a part hereof, whereby said Principal undertakes to do all labor, furnish all
 plant and equipment, and furnish all material, in accordance with all the
 terms and conditions set forth in said Contract Documents; and to promptly
 make payment for all labor, services, material, and sums due the State Indus-
 trial Accident Commission, or equivalent, the Collector of Internal Revenue,
 and the Treasurer of the State of Oregon; and to save harmless the Oblige
 from any claim for damages or injury to property or persons arising by reason
 of said work, as set out more fully in said Contract Documents; and to do and
 perform all things in said Contract Documents required, in the time and manner
 and under the terms and conditions therein set forth; and in conformity with
 all laws, State and national, applicable thereto.

Now, therefore, if said Principal herein shall promptly pay all persons
 furnishing labor, services, and material, and Industrial Accident Insurance or
 equivalent, and Social Security and Unemployment Compensation, to him and to
 his subcontractor, or to their assigns, on or about said work; and shall, com-
 mencing with the date hereof and continuing for one (1) year after the complete

performance of the Contract and the final acceptance of the work in the Contract, save harmless the Obligees, its officers and agents, from all claims therefor, or from any claim for damages or injury to property or persons arising by reason of said work; and shall, in the time and manner, and under the terms and conditions prescribed, well and faithfully do, perform, and furnish all matters and things as by them in said Contract undertaken, and as by law, State and National, prescribed, then this obligation shall be void; but otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, that this Bond is subject to the following further conditions.

(a) All materialmen, and all persons who shall supply such laborers, mechanics, or subcontractors with material, supplies, or provisions for carrying on such work, shall have a direct right of action against the Principal and Surety on this Bond, second only to the right of the Obligees under this Bond, which right of action shall be asserted in proceedings instituted in the appropriate court of the State of Oregon, and insofar as permitted by the laws of Oregon, such right of action shall be asserted in a proceeding instituted in the name of the Obligees to the use and benefit of the person, firm, or corporation instituting such action and of all other persons, firms, or corporations having claims hereunder, and any other person, firm, or corporation having a claim hereunder shall have the right to be made a party to such proceeding (but not later than one (1) year after the complete performance of said Contract and final acceptance of the work in the Contract) and to have such claim adjudicated in such action and judgment rendered thereon.

(b) In no event shall the Surety be liable for a greater sum than the penalty of this Bond.

(c) The said Surety, for the value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

(d) The Principal herein shall faithfully and truly observe and comply with the terms of the Contract and shall well and truly perform all matters and things by him undertaken to be performed under said Contract upon the terms proposed therein and shall promptly make payments to all persons supplying labor or material for any prosecution of the work provided for in such Contract and shall not permit any lien or claim to be filed or prosecution against the obligees, on account of any labor or material furnished, and shall promptly pay all contributions or amount due the State Industrial Accident Commission or equivalent and all contributions or amounts due the State Employment Compensation Trust Fund incurred in the performance of said Contract, and shall also pay all sums of money withheld from the employees and payable to the State Tax Commission pursuant to ORS 316.711 and shall promptly, as due, make payment to any person, copartnership, 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 Principal, pursuant to the laws of this State and any contract entered into pursuant thereto or collected or deducted from the wages of said employees pursuant to any law, contract, or agreement for the purpose of providing or paying for such services, and shall do all things required of said Principal by the laws of this State.

This Bond is given and received under the authority of ORS Chapter 279, the provisions of which hereby are incorporated into this Bond and made a part hereof.

IN WITNESS WHEREOF, the parties hereto have caused this Bond to be executed in Portland, Oregon,, this 24th day of June 19 70

RICHARD T. ROBERTSON (SEAL)

By _____ (SEAL)

Richard T. Robertson (SEAL)

Richard T. Robertson (SEAL)
Principal

Witnesses:

UNITED PACIFIC INSURANCE COMPANY (SEAL)

By L. W. Neff (SEAL)

L. W. Neff, Attorney-in-fact (SEAL)

Surety

Countersigned:

MANSFIELD & CO.

By [Signature]

Resident Agent

2828 SW Corbett St., Portland, Oregon 97201

The Attorney-in-Fact (Resident Agent), who executes this Bond in behalf of the Surety Company, must attach a copy of his power-of-attorney as evidence of his authority.

To each executed original of this Bond there must be attached a complete set of the "Contract Documents," as the term is defined in the General Conditions, with all corrections, interlineations, signatures, etc., completely reproduced therein.

P & P Bond -3-

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INFORMATION FOR BIDDERS

1. General Description of the Project. A general description of the work to be done is contained in the Advertisement for Bids. The scope is indicated on the accompanying Plans and specified in applicable parts of these Contract Documents.

2. Contract Documents. The Contract Documents under which it is proposed to execute the work consist of the material bound herewith. These Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the proposed work. Any person contemplating the submission of a proposal and being in doubt as to the meaning or intent of said Contract Documents should request of the Engineer, in writing, an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing, and a copy of such interpretation or change will be mailed or delivered to each person receiving a set of the Documents. The Owner will not be responsible for any other explanation or interpretations of said Documents.

3. Plans. When the Plans are photographic reductions of the original tracings, the amount of reduction is indicated by a note on the Plans. Full-scale prints of reduced Plans may be obtained for the amount stated in the Special Provisions.

4. Type of Proposal.

a. Unit Price. When the Proposal for the work is to be submitted on a unit price basis, unit price proposals will be accepted on all items of work set forth in the Proposal, except those designated to be paid for as a lump sum. The estimate of quantities of work to be done is tabulated in the Proposal and, although stated with as much accuracy as possible, is approximate only and is assumed solely for the basis of calculation upon which the award of Contract shall be made. Payment to the Contractor will be made on the measurement of the work actually performed by the Contractor as specified in the Contract Documents. The Owner reserves the right to increase or diminish the amount of any class of work as may be deemed necessary, unless otherwise specified in the Special Provisions.

b. Lump Sum. When the Proposal for the work is to be submitted on a lump sum basis, a single lump sum price shall be submitted in the appropriate place. The total amount to be paid the Contractor shall be the amount of the lump sum Proposal as adjusted for additions or deletions resulting from changes in construction. The Bidder shall furnish, in the space provided in the Proposal, a breakdown of his lump sum bid.

c. Lump Sum with Equipment Selected By Owner. When the Proposal for the work is to be submitted on a lump sum basis with equipment to be selected by the Owner, a lump sum price shall be submitted in the appropriate place and separate price proposals shall be submitted for listed items of equipment as produced by different manufacturers and shall include the cost of installation. The lump sum Proposal shall not include these listed items or cost of their installation. The total amount to be paid the Contractor

shall include the price bid for the listed items of equipment to be furnished as selected by the Owner, plus the amount of the lump sum Proposal, as adjusted for additions and deletions resulting from changes in construction. Bidder shall provide a breakdown of the lump sum as specified hereinbefore in b.

5. Preparation of Proposals. All blank spaces in the Proposal form must be filled in, in ink, in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amounts shall govern in cases of discrepancy between the amounts stated in writing and the amounts stated in figures.

Any proposal shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Advertisement for Bids.

The Bidder shall sign his Proposal in the blank space provided therefor. Proposals made by corporations or partnerships shall contain names and addresses of the principal officers or partners. If the Proposal is made by a corporation, it must be acknowledged by one of the principal officers thereof; if made by a partnership, by one of the partners.

6. Submission of Proposals. All proposals must be submitted at the time and place and in the manner prescribed in the Advertisement for Bids. Proposals must be made on the prescribed Proposal forms, bound herewith, and submitted intact with the Contract Documents. Each proposal must be submitted in a sealed envelope, so marked as to indicate its contents without being opened, and addressed in conformance with the instructions in the Advertisement for Bids. The Bidder is wholly responsible to see that his Proposal is submitted at the time and place named for the opening of bids.

7. Telegraphic Modification or Withdrawal of Proposal. Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time. The telegraphic communication should not reveal the bid price but should state the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

Any proposal may be withdrawn prior to the scheduled time for the opening of proposals either by telegraphic or written request, or in person. No proposal may be withdrawn after the time scheduled for opening of proposals, unless the time specified in Paragraph 12 of this Information for Bidders shall have elapsed.

8. Bid Security. Proposals must be accompanied by a certified check or cashiers check drawn on a bank in good standing, or a Bid Bond issued by a surety company authorized to issue such bonds in the State of Oregon, in an amount not less than ten percent (10%) of the total amount of the Proposal submitted. This check or Bid Bond shall be given as a guarantee that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish a properly executed Performance Bond in the full amount of the Contract price within the time specified.

If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form bound herewith, or one conforming substantially to it in form and content.

The Owner reserves the right to retain the bid security of the three (3) lowest bidders until the successful Bidder has signed and delivered the Contract and furnished a one hundred percent (100%) Performance Bond. Upon failure of the successful Bidder to sign and deliver said Contract and Performance Bond within the specified time, the next lowest bid may be accepted at the Owner's discretion, whereupon the above instructions and requirements will apply to the said second bidder.

Bid security in the form of a certified check or cashiers check will be returned promptly after the canvass of bids, except those of the three (3) lowest bidders, which will be retained and returned within seven (7) days after the Contract has been executed or other disposition made in accordance with the provisions stated herein.

9. Prequalification of Bidders for Public Work. Bidders for public work in Oregon must be prequalified in conformance with Oregon Law ORS, Chapter 279. A prequalification form is bound inside the front cover of the Documents, and must be completed by the prospective Bidder and submitted to the Owner at least ten (10) days prior to the bid opening date. The form shall be detached and filled out by the prospective Bidder and mailed to the office designated in the Advertisement for Bids. Prequalification forms should not be submitted with the bid.

10. Conditions of Work. Each bidder must inform himself of the conditions relating to the execution of the work, and it is assumed that he will inspect the site and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents.

Each bidder must inform himself on all laws and statutes, both Federal and State, relative to the regular execution of the work, the employment of labor, protection of public health, the protection of private property, fire protection regulations, access to the work, and similar requirements.

11. Payments. Monthly payments for the work performed will be made by the Owner as specified in the General Conditions, unless otherwise modified in the Special Provisions.

12. Award of Contract. Within thirty (30) calendar days after the opening of proposals, the Owner will accept one of the proposals or will act in accordance with Paragraph 13 of this Information for Bidders. The acceptance of the Proposal will be by notice, in writing, mailed or delivered to the office designated in the Proposal.

13. Basis of Award. The award will be made by the Owner on the basis of that Proposal from the lowest responsible Bidder which, in the Owner's sole and absolute judgment, will best serve the interest of the Owner. When projects are paid for in part by Federal aid, the award will be made on the basis of that Proposal submitted by the responsible Bidder submitting the lowest acceptable Proposal.

The Owner reserves the right to accept or reject any or all proposals, and to waive any informalities and irregularities in said proposals.

14. Execution of Contract. The successful Bidder shall, within seven (7) days after receiving notice of award, execute the Contract hereto attached.

15. Performance Bond. The successful Bidder shall file with the Owner at the time of execution of the Contract, a Performance Bond of the form bound herewith in the full amount of the Contract price, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work, and to cover all guarantees against defective workmanship or materials, or both, for a period of one (1) year after the date of final acceptance of the work by the Owner. The surety company furnishing this bond shall have a sound financial standing and a record of service satisfactory to the Owner and shall be authorized to do business in the State of Oregon.

The Attorney-in-Fact (Resident Agent) who executes this Performance Bond in behalf of the surety company must attach a copy of his power-of-attorney as evidence of his authority. A notary shall acknowledge the power as of the date of the execution of the surety bond which it covers.

16. Failure to Execute Contract and Furnish Bond. The Bidder who has a Contract awarded to him and who fails to promptly and properly execute the Contract and furnish the bond shall forfeit the bid security that accompanied his bid, and the bid security shall be retained as liquidated damages by the Owner; and it is agreed that this said sum is a fair estimate of the amount of damages the Owner will sustain in case the Bidder fails to enter into a Contract and furnish bond as hereinbefore provided. Bid security deposited in the form of a certified check or cashiers check shall be subject to the same requirement as a Bid Bond.

17. Time of Completion. The time of completion of the work to be performed under this Contract is the essence of the Contract. Delays and extensions of time may be allowed in accordance with the provisions of the General Conditions. The time allowed for the completion of the work is stated in the Proposal.

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SPECIAL PROVISIONS

The Contractor's attention is directed to GENERAL REQUIREMENTS, Section 1A of the Special Specifications, containing other directions pertinent to the project.

SPECIFICATION FORMAT. "Command" type sentences are used in the Contract Documents; these refer to and are directed to the Contractor.

LOCATION AND PLANS.

LOCATION. The location of the work is shown on Drawing No. E5505.1, Sheet 1 of 20 of the Plans.

PLANS. The Plans for the construction of Hess Creek-Springbrook Sanitary Sewers consist of 20 sheets, each entitled "Hess Creek-Springbrook Sanitary Sewers," and dated May 1970.

REVISIONS TO INFORMATION FOR BIDDERS. The Information for Bidders is hereby revised as follows:

General. On Pages 1, 2, 3, and 4 wherever the words "Performance Bond" are used, delete the words and substitute "Performance and Payment Bond."

Page 1, 3. Plans. Delete the last sentence and substitute the following:

Full-scale prints of reduced Plans may be obtained for Five Dollars (\$5.00) per set from the Engineer.

REVISIONS TO THE GENERAL CONDITIONS. The General Conditions are hereby revised as follows:

Page 4, Article C-6. Lines and Grades. Add the following:

The Engineer will establish the center lines of principal structures, roads, pipelines, and facilities, set slope stakes when required, and set bench marks convenient for the Contractor's use as necessary to establish the basic layout. All labor and stakes will be provided by the Owner. It will be the Contractor's responsibility to lay out the work from the lines set by the Engineer and to transfer elevations from bench marks. Where new construction connects to existing facilities, the Contractor shall check and establish the exact location prior to construction of the facilities.

The Engineer will establish the location of the sewers by means of offset stakes set at 25-foot intervals, and will indicate cut-to-flow line on each stake. The Contractor shall lay out the work from the offset stakes given and transfer elevations from the cut stakes. The Engineer will not be responsible for any elevations given other than those indicated herein for the sewers.

The Owner will furnish all stakes and labor for staking out the work.

The Contractor shall make every effort to notify the Engineer at least three (3) days, but in no case more than seven (7) days, in advance of the time when the grade and line will be needed. In general, the Engineer will be able to supply line and grade within a few hours. However, the Contractor will not be allowed extensions of time or damages because of delays caused by insufficient line and grade, unless the Engineer has been notified three (3) days in advance.

Page 5, Article D-2. Performance Bond. Change to read "Performance and Payment Bond" in this paragraph and wherever the words "Performance Bond" appears in the General Conditions.

Page 7, Article D-3.d. Fire Insurance. Fire Insurance is not required.

Page 8, Article D-9. Requirements of Oregon Law for Public Contracts. At the end of the Article add the following:

D-9.d. Compliance with Labor Standards and Rate of Wage Requirements. The work is to be paid for in part by Federal Funds, the requirements of ORS Chapter 279-1963 and ORS 369-1969 relative to the payment of prevailing wages and the Federal Requirements for Compliance with the Wage Determination of the U.S. Secretary of Labor shall apply. In case of discrepancies between the two (2) lists of wage rates, the Contractor shall pay the higher rate for the respective crafts. A copy of the Minimum Prevailing Wage Rate from the State Department of Labor and the Wage Determination from the U.S. Secretary of Labor are appended hereto.

The Owner does not guarantee that labor can be procured for the minimum wages set forth in wage rates listed. The rates of wages listed are minimum only, below which the Contractor cannot pay, and they do not constitute a representation that labor can be procured for the minimum listed. The Contractor shall ascertain for himself the wages above the minimum set forth that he may have to pay.

In the event the appended wage rate and wage determination have expired on the date the Contract is signed, the then current wage rate and wage determination shall apply.

Appended hereto is a sample copy of the Wage Certification Form. These forms shall be provided by the Contractor. A completed copy of the form, fully executed, shall be filed with the Owner at the time of the submission of each claim for a progress payment and also when the claim for final payment is submitted. Wage report forms shall be completed and submitted as required by the applicable Federal agency.

Page 12, Article E-7. Delays and Extension of Time. Add the following:

In addition to the conditions for extension of time as set forth in Article E-7 of the General Conditions, no extension of time will be considered for weather conditions known to have previously occurred in the area in which the work is being performed, unless the total precipitation during any two (2) month period exceeds the recognized normal for these months by twenty percent (20%) or more as determined by the U.S. Weather Bureau Climatological Data.

Page 15, Article F-2. Extra Work. At the end of the Article add the following:

F-2.d. Claims. In any case where the Contractor deems extra compensation is due him for work or materials not clearly covered in the Contract or not ordered by the Engineer as an extra as defined herein, the Contractor shall notify the Engineer, in writing, of his intention to make claim for such compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper facilities by the Contractor for keeping strict account of actual cost, then the Contractor hereby agrees to waive the claim for such extra compensation. Such notice by the Contractor, and the fact that the Engineer has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim. In case the claim is found to be just, it shall be allowed and paid for as an extra as provided herein for extra work, or it shall be allowed and paid under a supplemental agreement to be entered into between the parties to the Contract.

F-2.e. Notice of Claim for Delay. If the Contractor intends to file a claim for additional compensation for a delay caused by the Owner at a particular time, he shall file a Notice of Claim with the Engineer within seven (7) days of the beginning of the occurrence. The Notice of Claim shall be in duplicate, in writing, and shall state the circumstances and the reasons for the claim, but need not state the amount. No claim for additional compensation will be considered unless a Notice of Claim has been filed with the Engineer in writing, as stated above.

Page 16, Article F-4. Final Payment. At the end of the Article add the following:

F-4.a. No Waiver of Rights. Neither the inspection by the Owner, through the Engineer or any of his employees, nor any order by the Owner for payment of money, nor any payment for, or acceptance of, the whole or any part of the work by the Owner or Engineer, nor any extension of time, nor any possession taken by the Owner or its employees, shall operate as a waiver of any provision of this Contract, or any power herein reserved to the Owner, or any right to damages herein provided; nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

CHANGES IN QUANTITIES. The Owner reserves the right to increase or diminish the amount of any class of unit price work that may be deemed necessary, provided, however, that in no event will the Owner increase or decrease the amount of footage of pipe by more than twenty percent (20%) of the gross footage as shown on the Plans and Specifications, without the written approval of the Contractor. It is agreed, however, that this paragraph does not apply to the increase or decrease of any quantities except total pipe footage.

SUBSTITUTION OF MATERIALS. All workmanship, equipment, materials, and articles incorporated in the work are to conform to the Specifications. Whenever any material, article, device, product, fixture, form, type of construction, or process is indicated or specified by patent or proprietary name, by name of manufacturer, or by catalog number, such Specifications shall be deemed to be used for the purpose of establishing a standard of quality and facilitating the description of the material or process desired. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design, and shall be deemed to be followed by the words "or as approved" or "approved equal." The Contractor may, in such case, submit complete data to the Engineer for consideration of another material, type, or process, and if the Owner's approval is obtained (in writing), purchase and use the item, type, or process, which shall be substantially equal in every respect to that so indicated or specified. The Owner will be the sole judge of the substituted article or material. No substitute materials shall be used unless approved in writing.

NONDISCRIMINATION IN EMPLOYMENT. The Contractor shall comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor. The requirements for bidders and contractors under this Order are explained in the Specifications or Labor Standards.

ARBITRATION. Any controversy arising out of or relating to this Contract, or the breach thereof shall be settled by arbitration in accordance with the Rules of the American Arbitration Association and judgment upon the award rendered by the arbitrator or arbitrators may be entered in any Court having jurisdiction thereof.

The Contractor shall not delay the work because arbitration proceedings are pending unless he shall have written permission from the Engineer to do so. Such delay shall not extend beyond the time when the arbitrators shall have opportunity to determine whether the work shall continue or be suspended pending decision by the arbitrators of such a dispute. Any demand for arbitration shall be in writing and shall be delivered to the Engineer and any adverse party either by personal delivery or by registered mail addressed to the last known address of each within ten (10) days of receipt of the Engineer's decision, and in no event after final payment has been made and accepted, subject, however, to any express stipulation to the contrary in the Contract Documents.

TERMINATION BECAUSE OF A NATIONAL EMERGENCY. If work on this project is terminated by order of a competent Governmental authority because of a national emergency, the Owner or the Contractor, each at his option, with or

without the consent of the other, may, upon seven (7) days' written notice, stop work or terminate the Contract. The Contractor shall recover payment from the Owner for all work executed, but in no event shall the Contractor be allowed any sum or sums in addition to those above specified, except that a reasonable profit may be allowed upon the work actually executed. In no event shall the Contractor be allowed any damages or any anticipated profits whatsoever.

PERMIT FOR WORK WITHIN THE COUNTY AND/OR STATE RIGHTS-OF-WAY. The Owner has obtained from the County and/or State the necessary permit for work within the rights-of-way. A copy of the permit is available at the office of the Owner. The Contractor shall abide by all regulations and conditions stipulated in the permits, and such conditions and requirements are hereby made a part of these Special Provisions, as fully and completely as though the same were fully set forth herein. The Contractor shall examine the permits granted to the Owner, by the County and/or State; failure to do so will not relieve the Contractor from compliance with the requirements stated therein.

CONTRACTOR'S BOND FOR WORK IN COUNTY AND/OR STATE RIGHTS-OF-WAY. The Contractor shall provide performance bonds in the amount of Five Thousand Dollars (\$5,000.00) each for the County and State. The bonds shall be made payable to the County or State as applicable. The bonds shall be in force for a period of one (1) year from the date of acceptance of the work to cover all guarantees against defective workmanship and materials and other requirements for work within the rights-of-way as specified. The surety company furnishing the bond or bonds shall have a good financial standing and a record of service satisfactory to the Owner and the County and/or State, and shall be authorized to do business in the State. The Contractor shall pay all costs for these bonds.

CERTIFICATION OF NONSEGREGATED FACILITIES. Contractors and subcontractors, where Contract awards exceed Ten Thousand Dollars (\$10,000.00), shall submit certifications of nonsegregated facilities as required by the May 9, 1967, Order (32 F.R. 7439), and as stated hereinafter.

NOTICE TO PROSPECTIVE FEDERALLY ASSISTED CONSTRUCTION CONTRACTORS

a. A Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a federally assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

b. Contractors receiving federally assisted construction contract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT
FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

a. A Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

b. Contractors receiving subcontract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause. A copy of the form for Certification of Nonsegregated Facilities is included at the end of this section.

CONTRACTOR TO FURNISH LABOR TO ASSIST ENGINEER IN CHECKING AND MEASURING. The Contractor shall provide a competent man in his employ during normal working hours to assist the Engineer, when required, in checking lines and elevations in the Contractor's layout and for measuring quantities for payment purposes as the work proceeds. The Contractor shall cooperate with the Engineer so that the checking and measuring may be accomplished with the least interference to the Contractor's operations.

SPECIAL REQUIREMENTS FOR WORK IN OREGON STATE RIGHTS-OF-WAY. The Contractor's attention is directed to the special requirements for work within the Oregon State Rights-of-way specified in Section GENERAL REQUIREMENTS.

LOWEST ACCEPTABLE PROPOSAL. The lowest acceptable Proposal for each schedule will be determined as follows:

Schedule S. Total base bid plus Additive Alternate 1.

Schedule P. Total for schedule.

Schedule L. Total for schedule, using lowest priced pump station.

The Owner reserves the right to accept or reject Additive Alternate 1, Schedule S and/or to select any of the equipment bids under Schedule L after the lowest acceptable Proposal has been determined, as outlined hereinbefore.

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity Clause.)

The federally assisted construction Contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction Contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. The federally assisted construction Contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that he will retain such certifications in his files.

Signature

Date

Name and Title of Signer (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

LABOR STANDARDS Contract Provisions

JANUARY, 1967

(1) *Minimum wages.* (i) All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amounts due at time of payment computed at wage rates not less than those contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics; and the wage determination decision shall be posted by the contractor at the site of the work in a prominent place where it can be easily seen by the workers. For the purpose of this clause, contributions made or costs reasonably anticipated under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of (1)(iv) hereof. Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds, or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

(ii) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary of Labor for final determination.

(iii) The contracting officer shall require whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly wage rate and the contractor is obligated to pay a cash equivalent of such a fringe benefit, an hourly cash equivalent thereof to be established. In the event the interested parties cannot agree upon a cash equivalent of the fringe benefit, the question, accompanied by the recommendation of the contracting officer, shall be referred to the Secretary of Labor for determination.

(iv) If the contractor does not make payments to a trustee or other third person, he may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing benefits under a plan or program of a type expressly listed in the wage determination decision of the Secretary of Labor which is a part of this contract: *Provided, however,* The Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) *Withholding.*

The Federal Water Pollution Control Administration may withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the contractor or any subcontractor on the work, the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic employed or working on the site of the work all or part of the wages required by the contract, the Federal Water Pollution Control Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) *Payrolls and basic records.* (i) Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of three

years thereafter for all laborers and mechanics working at the site of the work. Such records will contain the name and address of each such employee, his correct classification, rates of pay (including rates of contributions or costs anticipated of the types described in section 1 (b) (2) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found (as provided for by (1) (iv) hereof) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1 (b) (2) (B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(ii) The contractor will submit weekly a copy of all payrolls to the applicant, sponsor, or owner, as the case may be. The copy shall be accompanied by a statement signed by the employer or his agent indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor and that the classifications set forth for each laborer or mechanic conform with the work he performed. A submission of a "Weekly Statement of Compliance" which is required under this contract and the Copeland regulations of the Secretary of Labor (29 CFR, Part 3) and the filing with the initial payroll or any subsequent payroll of a copy of any findings by the Secretary of Labor pursuant to (1) (iv) hereof shall satisfy this requirement. The prime contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The contractor will make the records required under the labor standards clauses of the contract available for inspection by authorized representatives of the Federal Water Pollution Control Administration and the Department of Labor, and will permit such representatives to interview employees during working hours on the job.

(4) *Apprentices.* Apprentices will be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, United States Department of Labor; or, if no such recognized agency exists in a State, under a program registered with the Bureau of Apprenticeship and Training, United States Department of Labor. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed. The contractor or subcontractor will be required to furnish to the contracting officer written evidence of the registration of his program and apprentices as well as of the appropriate ratios and wage rates, for the area of construction prior to using any apprentices on the contract work.

(5) *Compliance with Copeland Regulations (29 CFR Part 3).* The contractor shall comply with the Copeland Regulations (29 CFR Part 3) of the Secretary of Labor which are herein incorporated by reference.

(6) *Subcontracts.* The contractor will insert in any subcontracts clauses (1) through (5) and (7) hereof and such other clauses as the Federal Water Pollution Control Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

(7) *Contract termination; debarment.* A breach of clauses (1) through (6) may be grounds for termination of the contract, and for debarment as provided in Regulations of the Secretary of Labor at 29 CFR 5.6.

(8) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he is employed on such work to work in excess of eight hours in any calendar day or in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, as the case may be.

(9) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (8), the contractor and any subcontractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such district or such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the clause set forth in paragraph (8), in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (8).

(10) *Withholding for unpaid wages and liquidated damages.* The Federal Water Pollution Control Administration may withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (9).

(11) *Subcontracts.* The contractor shall insert in any subcontracts the clauses set forth in paragraphs (8), (9), and (10) hereof and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

NONDISCRIMINATION PROVISIONS TO BE INCLUDED IN FEDERALLY ASSISTED CONSTRUCTION CONTRACTS

"During the performance of this contract, the contractor agrees as follows:

"(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

"(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

"(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

"(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

"(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

"(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies involved as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

"(7) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: *Provided, however,* That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States."

NOTICE TO LABOR UNIONS OR OTHER ORGANIZATION OF WORKERS

NONDISCRIMINATION IN EMPLOYMENT

To: _____
(Name of Union or Organization of Workers)

The undersigned currently holds contract(s) with _____
(Name of Applicant)
_____ involving funds or credit of the U.S. Government or

(a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that under the provisions of the above contract(s) or subcontract(s) and in accordance with Section 202 of Executive Order No. 11246, dated September 24, 1965, the undersigned is obliged not to discriminate against any employee or applicant for employment because of race, color, creed, or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

EMPLOYMENT, UPGRADING, TRANSFER, OR DEMOTION

RECRUITMENT AND ADVERTISING

RATES OF PAY OR OTHER FORMS OF COMPENSATION

SELECTION FOR TRAINING INCLUDING APPRENTICESHIP, LAYOFF, OR
TERMINATION

This Notice is furnished you pursuant to the provisions of the above contract(s) or subcontract(s) and Executive Order No. 11246.

Copies of this Notice will be posted by the undersigned in conspicuous places available to employees or applicants for employment.

(Contractor or subcontractor)

(Date)

-1-

Feb. '70 [FWPCA]
May '70

Re-run:

DEPARTMENT, AGENCY, OR BUREAU AF-ARMY-BIA-BLM-BPA-CF-EDA(OEL)-
EDA(OPW)-FAA(AS)-FAA(LG)-FHA-FWPCA-GSA-MD-NAVY-NPS-OR(CS)-PES-
POD-RAA-RECL.

STATE OREGON COUNTY YAMHILL

DESCRIPTION OF WORK
BUILDING CONSTRUCTION

DECISION NO. 95-6618
DATE OF DECISION 2-18-70
EXPIRES 6-17-70
SUPERSEDES DECISION NO.

36-ORE-YAM-1- t (2-2)

PAID HOLIDAYS:

A-New Year's Day; B-Memorial Day; C-Independence Day;
D-Labor Day; E-Thanksgiving Day; F-Christmas Day.

FOOTNOTES:

- a. Employer credits 4% basic hourly rate for employee with over 5 years' service, and 2% basic hourly rate for employee with 6 months to 5 years' service to Vacation Pay. Six Paid Holidays: A through F.
- b. 4% of all gross wages to be placed to the credit of employees with less than one year of service. 6% to employees with more than one year of service.

36-ORE-YAM-1- t (1-2)

	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
ASBESTOS WORKERS	\$6.13	.25	.25		.03	
BOILERMAKERS	6.30	.30	.55	.35	.02	
BOILERMAKERS' HELPERS	6.00	.30	.55	.35	.02	
BRICKLAYERS; Stonemasons	5.95	.20	.20			
CARPENTERS:						
Acoustical & Drywall Applicators;						
Automatic Nailing Machine; Carpenters						
Form Strippers; Manhole Builders	5.58	.25	.25	.20	.03	
Piledrivermen, Bridge, Dock & Wharf						
Builders	5.68	.25	.25	.20	.03	
Floor Layers & Finishers; Stationary						
Power Saw Operator	5.705	.25	.25	.20	.03	
Boom Men	5.78	.25	.25	.20	.03	
Millwrights & Machine Erectors	5.83	.25	.25	.20	.03	
CEMENT MASONS:						
Cement Masons	5.61	.30	.20		.06	
Mastic Worker, Composition Workers,						
Gunite Men & Power Machinery	5.735	.30	.20		.06	
ELECTRICIANS:						
Electricians (M of County)	6.20	.15	.30+1%		.02	
Electricians (S of County)	6.50	.15	1%		.02	
Cable Splicers (M of County)	6.70	.15	.30+1%		.02	
Cable Splicers (S of County)	6.85	.15	1%		.02	
ELEVATOR CONSTRUCTORS	5.93	.16	.185	2%+a		
ELEVATOR CONSTRUCTORS' HELPERS	70%JR	.16	.185	2%+a		
ELEVATOR CONSTRUCTORS' HELPERS (PROB.)	50%JR					
GLAZIERS	5.11	.14	.20	4%	.01	
IRONWORKERS:						
Reinforcing	6.22	.40	.25		.01	
Structural & Ornamental; Fence Erectors						
Riggers; Signal Men	6.33	.40	.25		.01	
LABORERS:						
Tenders for Bricklayers, Plasterers,						
Topping for Cement Masons	4.85	.30	.35		.02	
PAINTERS:						
Brush	5.45	.15	.15	.10	.015	
Spray	5.70	.15	.15	.10	.015	
High Work over 100'	5.95	.15	.15	.10	.015	
High Work over 300'	6.45	.15	.15	.10	.015	
PLASTERERS	5.90	.20	.20		.01	
PLUMBERS; Steamfitters						
Plumbers						
M of County	5.30	.37	.27		.05	
S of County	5.05	.28	.25	.40	.04	
ROOFERS	5.07	.20				
SHEET METAL WORKERS	5.81	.20	.24	.23	.02	
SOFT FLOOR WORKERS	5.81	.20	.15	b	.02	
SPRINKLER FITTERS	5.16	.15	.25		.04	
WELDERS: Receive rate prescribed for						
craft performing operation to which						
welding is incidental.						

JAN 2

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JAN 2

FW

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage pre-determination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes of labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract by contractors and subcontractors on the work.

The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor,



E. IRVING MANGER, Associate Administrator
Division of Wage Determinations
Wage and Labor Standards Administration

(1-3)

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
5.36	.35	.35			
5.48	.35	.35			
5.60	.35	.35			
5.74	.35	.35			
5.78	.35	.35			

POWER EQUIPMENT OPERATORS (Cont'd)	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
GROUP VI ASPHALT PLANT, ENGINEER; Asphalt Paver (Adnum, Yeager, Barber Greere or similar type); Concrete Paving Finishing Machine; Concrete Paving Spreader; Overhead & Front End Loader, rubber tired type under 2½ cu. yds. Rock Spreaders self propelled (Koshring, Blaw Knox & similar types)	5.84	.35	.35			
GROUP VII BLADE OP., SELF PROPELLED (50 H.P. fly-wheel & under); Boom Truck, single & double drums & "A" Frame, double drum (includes Karry Crane); Cement Pump (Fuller, Kanyon & similar); Concrete Pump; Concrete Mixer, single drum, 5 bag & over; Churn Drill & Earth Boring Machine; Elevating Grader (tractor towed requiring op. on grader); Locomotive, 40 tons & larger; Pumpcrete Road Roller, finishing high type pavement; Tower Mobile; Tractor, with scraper, 2 & 4 wheel (50 H.P. flywheel & under); Wheel or Crawler Type Hoe, 3/8 cu.yd. & under & front end attachments, (Ford, Ferguson, Deere & similar types); Railroad Ballast Regulator, self propelled; Railroad Power Tamper, self propelled; Railroad Track Liner, self propelled; Railroad Power Tamper Jack, self propelled	5.92	.35	.35			
GROUP VIII GENERATOR PLANT (Diesel-Electric when required by employer); Batch Plant and/or wet mix op., 1 & 2 drums-Kolman & Co; Cal Loaders	6.00	.35	.35			
GROUP IX BOLT THREADING MACHINE; Crushing Plant; H.D. Mechanic or Welder; Overhead & Front End Loader, rubber tired type 2½ cu.yds. & under 4 cu. yds.; Surface Heater & Planer; Tractor, rubber tired or crawler type over 50 H.P. flywheel; Self Propelled Compactor, with dozer blade; Jack, elevating barges; Stationary Drag Scraper; Trenching Machine, over 7 ft. depth; Percussion Drills (Quarry Master, Gardner Denver, Robbins, Drill Master, Joy & similar types); Bit Grinder; Concrete Cooling Plant; Cleaning & Doping, Bending, Wrapping & Boring Machine; Grizzly Op.	6.08	.35	.35			

POWER EQUIPMENT OPERATORS (Cont'd)

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
GROUP X DIAMOND CORE, CABLE & ROTARY DRILL MACHINE, exploration and grout work	6.12	.35	.35		
GROUP XI MIXERMOBILE; Mucking Machine; Shovel, Drag- line, Crane, Skooper, or Backhoe, under 1 cu. yd.; Truck Crane 25 tons & under	6.16	.35	.35		
GROUP XII BLADE OP., self propelled (over 50 H.P.), flywheel; Combination Batch Plant & Mixer, multiple units of 3 mixers or more; Hoist, 2 or more active drums; Elevating Loader (Athay, & similar types); Pile Driver Engineer; Tractor, with scraper (over 50 H.P.) flywheel, DW 20, DW 21, TS 24, 641 or similar types; Blade Mounted Spreaders (Ulrich & similar types); Tunnel Shield Operator	6.20	.35	.35		
GROUP XIII CABLEWAY, up to 25 tons; Clamshell Dredge; Concrete Paving Road Mixer (incl. dual drum); Crane, Locomotive, Gantry, Hammer- head, Overhead Bridge & Tower Cranes (Pecco, Linden); Darrick, live boom; Elevating Grader (operated by tractor op., similar to Sierra, Euclid & Dumas); Shovel, Dragline, Crane, Skooper, or Backhoe (1 cu. yd. incl. 3 cu. yds.); Truck Cranes, over 25 tons & incl. 40 tons; Backfilling Machine	6.30	.35	.35		
GROUP XIV MD-9 CAT (Robot); Tractor, with rubber tire or crawler with tandem attachments	6.44	.35	.35		
GROUP XV ROCK BOUND, WAGNER, LETOURNEAU & similar; Overhead & Front End Loader, rubber tired type, 4 cu. yds. & incl. 7 cu. yds.	6.62	.35	.35		
GROUP XVI CABLEWAY, 25 tons & over; Crane, Whirley (Washington, American, Colby or similar types); Shovel, Dragline, Crane, Skooper, or Backhoe, over 3 cu. yds.; Truck Crane, over 40 tons; Concrete Slip Form Paving & Finishing Machine; Overhead & Front End Loader, rubber tired type over 7 yds.	6.78	.35	.35		

LINE CONSTRUCTION - OREGON - b

WOOD POLE TRANSMISSION &
DISTRIBUTION LINES

Cable Splicer; Leadmen Pole Sprayer
Heavy Line Equipment Man; Linemen;
Pole Sprayer.
Tree Trimmer
Line Equipment Man
Head Groundman; Head Groundman
(Chipper); Jackhammer Man;
Powder Man
Groundman; Tree Trimmer Helper
Hole Digger

STEEL TOWER TRANSMISSION LINE &
STEEL SUBSTATIONS

Certified Welder; Heavy Line Equipment
Man; Lineman (Erection & Wire)
Line Equipment Man; Lineman (Assembly)
Head Groundman
Groundman

(1-1)					
BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
\$6.78	.15	1%		1%	
6.12	.15	1%		1%	
5.53	.15	1%		1%	
5.27	.15	1%		1%	
4.61	.15	1%		1%	
4.36	.15	1%		1%	
4.17	.15	1%		1%	
6.12	.15	1%		1%	
5.27	.15	1%		1%	
4.61	.15	1%		1%	
4.36	.15	1%		1%	

1-ORE-LAB-1-2-3-

(1-2)

1-ORE-LAB-1-2-3-

(2-2)

LABORERS

GROUP I

Asphalt plant laborers; Asphalt spreaders; Batch weighman; Broomers; Brush burners & cutters; Car & truck loaders; Carpenter tender; Change-House man or dry shack men; Choker setters; Clean up laborers; Concrete laborers; Crusher feeders; Culvert, hand labor; Curing, concrete; Demolition, wrecking, & moving laborers; Driller helpers; Dumpers, Road oiling crew; Dumpman (for grading crew); Elevator feeders; Fence builder (incl. Guard rail, Median rail, Reference post, Guide post, Right-of-way marker); Fine graders; Form strippers (not swinging stages); GENERAL LABORERS; Landscaping or planting laborers; Leverman on aggregate spreader (Flaherty & similar types); Loading spotters; Material yard man (incl. electrical); Pittsburgh chipper operator or similar types; Powderman helper; Railroad track laborers; Ribbon setters (incl. steel forms); Rip Rap man (hand placed); Road pump tender; Sewer labor; Skidman; Signalman; Slopers; Sprayers; Stake chaser-Stake setter-Grade checker; Stockpiler; Timber faller & buckar (hand labor); Toolroom man (at job site); Tunnel bull gang (above ground); Weigh man-crusher aggregate (when used);

4.50

.35

.35

.02

GROUP II

Applicator (incl. pot tender for same), applying protective material by hand or nozzle on utility lines or storage tanks on project; Burners; Choker splicer; Clary power spreader & similar types; Clean-up nozzleman-Greencutter (Concrete rock, etc.); Concrete power buggyman; Demolition & wrecking charred materials; Gunite nozzleman tender; Gunite or sand blasting pot tender; Handlers or mixers of all materials of an irritating nature (incl. cement & lime); Manhole builder; Powertool op., incl. but not limited to: Chipping Guns, JACKHAMMER, Paving breakers, Post hole digger, Air, Gas, or Electric, Tampers, Vibrating screed, Vibrators (less than 4" in diameter); Ribbon setter, head; Rip rap man (head), Hand placed; Sand blasting (wet); Sewer timberman; Timber buckers & fallers, Brush cutters(power saw); Tunnel-Muckers, Brakemen, Concr. crew, Bull gang (underground).

4.65

.35

.35

.02

LABORERS (Cont'd)

GROUP III

Asphalt rakers; Bid grinder; Concrete saw op.; Drill doctor; Drill operator, Air tracks, Cat drills, Wagon drills, Rubber-mounted drills, & other similar types; Gunite nozzleman; High scalers, strippers & drillers (covers work in swinging stages, chairs or belts, under extreme conditions unusual to normal drilling, blasting, barring-down, or sloping & stripping); Powdermen; Power saw ops. (Bucking & falling merchantable logs); Pumpcrete nozzlemen; Sand blasting (Dry); SEWER PIPE LAYERS; Track liners, Anchor machines, Ballast regulators, Multiple tampers, Power jacks; Tugger op.; Tunnel--Chuck tenders, Nippers, & Timbermen; Vibrators (4" & larger); Water blaster; Welder.

4.80

.35

.35

.02

GROUP IV

Tunnel miners; Tunnel powderman

4.95

.35

.35

.02

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS

1-OEE-TD-1-2-3 a (1-2)

TRUCK DRIVERS:

	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
Truck mechanic-Welder-Body repairman Dumpsters or similar equipment-all sizes	5.48	.30	.25			
Flaherty spreader driver or leverman; Low bed equipment, flat bed semi-trail- er, truck & trailer or doubles trans- porting equipment or wet or dry materials; Lumber carrier driver- Straddle carrier - used in loading, unloading & transporting of materials on job site; Oil distributor driver or leverman	5.38	.30	.25			
Slurry truck driver or leverman; Tire- man, full-time basis	5.33	.30	.25			
A-frame or hydra-lift truck w/load bearing surface; Lubricating man, fuel truck driver, Fireman, Wash rack, Steam cleaner or combination; Team drivers	5.28	.30	.25			
Battery rebuilders; Bus or man-haul driver; Concrete buggies (power op- erated); Lift jitneys, Fork lifts - all sizes - used in loading, unload- ing & transporting material on job site; Loader and/or leverman on con- crete dry batch plant, manually op- erated; Pilot car; Solo flat bed & misc. body trucks 0-10 tons; Truck helper; Truck mechanic helper; Warehouseman (warehouse parts, tool man & parts chaser, checkers & re- ceivers)	5.23	.30	.25			
Bump trucks, side. end & bottom dumps, incl semi-trucks & trains or combin- ations thereof:	5.18	.30	.25			
6 cu yds & under	5.18	.30	.25			
Over 6 cu yds & incl 10 cu yds	5.28	.30	.25			
Over 10 cu yds & incl 20 cu yds	5.48	.30	.25			
Over 20 cu yds & incl 30 cu yds	5.58	.30	.25			
Over 30 cu yds & incl 40 cu yds	5.68	.30	.25			
Over 40 cu yds & incl 50 cu yds	5.78	.30	.25			
Over 50 cu yds & incl 60 cu yds	5.95	.30	.25			
Over 60 cu yds & incl 70 cu yds	6.05	.30	.25			
Transit mix & wet or dry mix trucks:						
5 cu yds & under	5.28	.30	.25			
Over 5 cu yds & incl 7 cu yds	5.38	.30	.25			
Over 7 cu yds & incl 9 cu yds	5.48	.30	.25			
Over 9 cu yds & incl 11 cu yds	5.58	.30	.25			
Over 11 cu yds & incl 13 cu yds	5.68	.30	.25			

1-OEE-TD-1-2-3 a (2-2)

TRUCK DRIVERS CONT'D:

	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
Two or four wheeled tractor w/trailer such as Turner-Rocker or similar type equipment top-loaded:						
9 cu yds & under	5.48	.30	.25			
Over 9 cu yds & incl 20 cu yds	5.58	.30	.25			
Over 20 cu yds & incl 30 cu yds	5.68	.30	.25			
Over 30 cu yds & incl 40 cu yds	5.78	.30	.25			
Over 40 cu yds & incl 50 cu yds	5.88	.30	.25			
Over 50 cu yds & incl 60 cu yds	5.98	.30	.25			
Water wagons						
Up to 1600 gals	5.18	.30	.25			
1600 to 3000 gals	5.28	.30	.25			
3000 to 5000 gals	5.33	.30	.25			
5000 to 7000 gals	5.48	.30	.25			
Over 7000 gals	5.58	.30	.25			
Drivers & helpers handling sacked cement add \$.15 per hour						
Winch truck - takes classification of truck on which winch is mounted.						

E. Irving Manger, Associate Administrator -
Division of Wage Determinations
Wage and Labor Standards Administration

DEPARTMENT, AGENCY, OR BUREAU AF-ARMY-BIA-BLM-BPA-CF-CG-EDA(OBL)-
EDA(OPW)-FAA(AS)-FAA(LG)-FRA-FS-FWPCA-MD-NAVY-NPS-OS(CS)-POD-RAA-
RECL-OREGON STATE HIGHWAY COMMISSION.

DECISION NO.
AD-6628
DATE OF DECISION
2-18-70
EXPIRES
6-17-70
SUPERSEDES DECISION NO.

STATE OREGON COUNTY STATEWIDE
DESCRIPTION OF WORK:

HEAVY & HIGHWAY CONSTRUCTION & DREDGING.

1-ORE-2-3- b (1-2)

	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
CARPENTERS:						
Carpenters	5.58	.25	.25	.20	.03	
Piledriversmen	5.68	.25	.25	.20	.03	
CEMENT MASONS						
Cement Masons	5.61	.30	.20		.06	
Power Machine Operator	5.735	.30	.20		.06	
ELECTRICIANS:						
Malheur Co.						
Electricians	5.45	.15	1%	4%		
Cable Splicers	5.995	.15	1%	4%		
Baker; Gilliam; Grant; Morrow; Umatilla; Union; Wallowa; Wheeler Cos.						
Electricians	6.22	.25	1%		.02	
Cable Splicers	6.67	.25	1%		.02	
Coos; Curry; Lincoln; Those portions of Douglas & Lane Cos. lying west of a line north & south from the NE corner of Coos Co. to the SE corner of Lincoln Co.						
Electricians	5.95	.15	1%			
Cable Splicers	6.54	.15	1%			
Clatsop; Tillamook Cos.						
(Electrical Contracts under \$15,000)						
Electricians	6.60	.15	1%			
Cable Splicers	7.40	.15	1%			
(Electrical Contracts Including & Over \$15,000)						
Electricians	6.90	.15	1%			
Cable Splicers	7.40	.15	1%			
Benton; Crook; Deschutes; Jefferson; Lane (except coast portion); Linn; Marion; Polk; St of Yamhill Cos.						
Electricians	6.50	.15	1%		.02	
Cable Splicers	6.85	.15	1%		.02	
Clackamas; Columbia; Hood River; Multnomah; Sherman; Wasco; Washington; St of Yamhill Cos.						
Electricians	6.20	.15	.30 +1%		.02	
Cable Splicers	6.70	.15	.30 +1%		.02	
Horne; Jackson; Josephine; Klamath; Lane; That portion of Douglas lying east of a line running north & south from the corner of Coos Co. to the southeast corner of Lincoln Co.						
Electricians	6.52	.15	1%		.02	
Cable Splicers	6.97	.15	1%		.02	
IRONWORKERS:						
Reinforcing	6.22	.40	.25		.01	
Structural	6.33	.40	.25		.01	
PAINTERS; Brush	5.45	.15	.15	.10	.015	

PLUMBERS; STEAMFITTERS:
Baker; Harney (except NW portion);
Malheur Cos.
Grant (except SW corner); Morrow;
Umatilla; Wallowa; Union Cos.
Clatsop; St of Tillamook Cos.
St of Benton, Lincoln, & Linn Cos.;
Marion; Polk; St of Tillamook &
Yamhill Cos.
Clackamas; Columbia; Gilliam; Hood
River; Multnomah; Sherman; Wasco;
Wheeler; Washington; St of Yamhill &
Jefferson Cos.
Coos; Curry; Coast portion of
Douglas Co; Lane (City of Florence)
Lane (except for City of Florence);
Douglas (except coast portion);
Crook; Deschutes; N.W. portion of
Harney; Northern portions of
Klamath and Lake Cos.; St of Lincoln,
Linn, Benton and Jefferson Cos.;
SW corner of Grant Cos.
Remainder of Klamath & Lake Cos.
Jackson; Josephine Cos.

1-ORE-2-3- b (2-2)

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
5.58	.20	.20		.05	
5.95	.21	.30	.37	.03	
5.96	.30	.30	.40	.03	
6.05	.28	.25	.40	.04	
6.30	.37	.27		.05	
6.31	.30	.35		.0175	
6.60	.21	.30		.02	
6.36	.25	.35	.40		
6.40	.25	.15	.43	.02	

1-ORE-PEO (DREDGING)- a (1-1)

DREDGING

DIPPER LEVERMAN:

- (a) 5 yards and over
(b) 5 yards and under

HYDRAULIC LEVERMAN

ASSISTANT ENGINEER (Electric Generator
Operator for Primary Pump, Power Barge
or Dredge)

ENGINEER WELDER-CRANEMAN

ASSISTANT ENGINEER (Electric, Diesel,
Steam or Booster Pump)-MATES AND BOATMEN

FIREMAN-OILER

ASSISTANT MATE (Deckhand)

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
7.06	.35	.35			
6.66	.35	.35			
6.30	.35	.35			
5.96	.35	.35			
5.91	.35	.35			
5.86	.35	.35			
5.61	.35	.35			
5.51	.35	.35			

JAN 22

RECEIVED

JAN 26 1970

FWPCA

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes of labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract by contractors and subcontractors on the work.

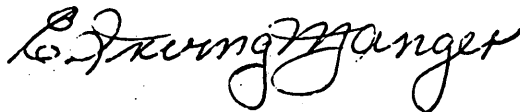
The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor,



E. IRVING MANGER, Associate Administrator
Division of Wage Determinations
Wage and Labor Standards Administration

1-ORE-LAB-1-2-3-

(1-2)

1-ORE-LAB-1-2-3-

(2-2)

LABORERS

GROUP I

Asphalt plant laborers; Asphalt spreaders; Batch weighman; Broomers; Brush burners & cutters; Car & truck loaders; Carpenter tender; Change-house man or dry shack man; Choker setters; Clean up laborers; Concrete laborers; Crusher feeders; Culvert, hand labor; Curing, concrete; Demolition, wrecking, & moving laborers; Driller helpers; Dumpers, Road oiling crew; Lampman (for grading crew); Elevator feeders; Fence builder (incl. Guard rail, Median rail, Reference post, Guide post, Right-of-way marker); Fine graders; Form strippers (not swinging stages); GENERAL LABORERS; Landscaping or planting laborers; leverman on aggregate spreader (Flaherty & similar types); Loading spotters; Material yard man (incl. electrical); Pittsburgh chipper operator or similar types; Powderman helper; Railroad track laborers; Ribbon setters (incl. steel forms); Rip Rap man (hand placed); Road pump tender; Sewer labor; Shipman; Signalman; Slopers; Spraymen; Stake checker-Stake setter-Grade checker; Stockpiler; Timber faller & buckar (hand labor); Toolroom man (at job site); Tunnel bull gang (above ground); Weigh man-crusher aggregate (when used);

4.50

.35

.35

.02

GROUP II

Applicator (incl. pot tender for same), applying protective material by hand or nozzle on utility lines or storage tanks on project; Burners; Choker splicer; Clary power spreader & similar types; Clean-up nozzleman-Greencutter (Concrete rock, etc.); Concrete power buggyman; Demolition & wrecking charred materials; Gunite nozzleman tender; Gunite or sand blasting pot tender; Handlers or mixers of all materials of an irritating nature (incl. cement & lime); Manhole builder; Powertool op., incl. but not limited to: Chipping Gun, JACKHAMMER, Paving breakers, Post hole digger, Air, Gas, or Electric, Tampers, Vibrating screed, Vibrators (less than 4" in diameter); Ribbon setter, head; Rip rap man (head), Hand placed; Sand blasting (wet); Sewer timberman; Timber buckers & fallers, Brush cutters(power saw);Tunnel-Muckers,Brakenen, Concr. crew,Bull gang (underground).

4.65

.35

.35

.02

LABORERS (Cont'd)

GROUP III

Asphalt rakers; Bid grinder; Concrete saw op.; Drill doctor; Drill operator, Air tracks, Cat drills, Wagon drills, Rubber-mounted drills, & other similar types; Gunite nozzleman; High scalers, strippers & drillers (covers work in swinging stages, chairs or belts, under extreme conditions unusual to normal drilling, blasting, barring-down, or sloping & stripping); Powdermen; Power saw ops. (Bucking & falling merchantable logs); Pumpcrete nozzlemen; Sand blasting (Dry); SEWER PIPE LAYERS; Track liners, Anchor machines, Ballast regulators, Multiple tampers, Power jacks; Tugger op.; Tunnel--Chuck tenders, Mippers, & Timbermen; Vibrators (4" & larger); Water blaster; Welder.

4.80

.35

.35

.02

GROUP IV

Tunnel miners; Tunnel powderman

4.95

.35

.35

.02

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS

1-ORE-TD-1-2-3 a (1-2)

TRUCK DRIVERS:

	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
Truck mechanic-Welder-Body repairman	5.48	.30	.25			
Dumpsters or similar equipment-all sizes	5.38	.30	.25			
Flaherty spreader driver or leverman;						
Low bed equipment, flat bed semi-trailer, truck & trailer or doubles transporting equipment or wet or dry materials; Lumber carrier driver-Straddle carrier - used in loading, unloading & transporting of materials on job site; Oil distributor driver or leverman	5.33	.30	.25			
Slurry truck driver or leverman; Tireman, full-time basis	5.28	.30	.25			
A-frame or hydra-lift truck w/load bearing surface; Lubricating man, fuel truck driver, Tireman, Wash rack, Steam cleaner or combination; Team drivers	5.23	.30	.25			
Battery rebuilder; Bus or man-haul driver; Concrete buggies (power operated); Lift jitneys, Fork lifts - all sizes - used in loading, unloading & transporting material on job site; Loader and/or leverman on concrete dry batch plant, manually operated; Pilot car; Solo flat bed & misc. body trucks 0-10 tons; Truck helper; Truck mechanic helper; Warehouseman (warehouse parts, tool man & parts chaser, checkers & receivers)	5.18	.30	.25			
Dump trucks, side. and & bottom dumps, incl semi-trucks & trains or combinations thereof:						
6 cu yds & under	5.18	.30	.25			
Over 6 cu yds & incl 10 cu yds	5.28	.30	.25			
Over 10 cu yds & incl 20 cu yds	5.48	.30	.25			
Over 20 cu yds & incl 30 cu yds	5.58	.30	.25			
Over 30 cu yds & incl 40 cu yds	5.68	.30	.25			
Over 40 cu yds & incl 50 cu yds	5.78	.30	.25			
Over 50 cu yds & incl 60 cu yds	5.95	.30	.25			
Over 60 cu yds & incl 70 cu yds	6.05	.30	.25			
Transit mix & wet or dry mix trucks:						
5 cu yds & under	5.28	.30	.25			
Over 5 cu yds & incl 7 cu yds	5.38	.30	.25			
Over 7 cu yds & incl 9 cu yds	5.48	.30	.25			
Over 9 cu yds & incl 11 cu yds	5.58	.30	.25			
Over 11 cu yds & incl 13 cu yds	5.68	.30	.25			

1-ORE-TD-1-2-3 a (2-2)

TRUCK DRIVERS CONT'D:

	BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
		H & W	PENSIONS	VACATION	APP. TR.	OTHERS
Two or four wheeled tractor w/trailer such as Turner-Rocker or similar type equipment top-loaded:						
9 cu yds & under	5.48	.30	.25			
Over 9 cu yds & incl 20 cu yds	5.58	.30	.25			
Over 20 cu yds & incl 30 cu yds	5.68	.30	.25			
Over 30 cu yds & incl 40 cu yds	5.78	.30	.25			
Over 40 cu yds & incl 50 cu yds	5.88	.30	.25			
Over 50 cu yds & incl 60 cu yds	5.98	.30	.25			
Water wagons						
Up to 1600 gals	5.18	.30	.25			
1600 to 3000 gals	5.28	.30	.25			
3000 to 5000 gals	5.33	.30	.25			
5000 to 7000 gals	5.48	.30	.25			
Over 7000 gals	5.58	.30	.25			
Drivers & helpers handling sacked cement add \$.15 per hour						
Winch truck - takes classification of truck on which winch is mounted.						

1-ORE-PEO-1-2-3-

(1-3)

POWER EQUIPMENT OPERATORS

GROUP I
BRAKEMAN & DECKHAND (if used); Crusher Feeder, Power (when required); Oilers, all equip.; Oilers & Cable Tenders on Mucking Machines; Pumpman, under 4"; Grade Checker; Conveyor

GROUP II
"A" FRAME TRUCK, single drum-Blade Op., pull type; Fireman; Dredge Floating Derrick; Retort; Shovel; H.D. Mechanic Helmer; Road Roller; Grading; Base & Surfacing; Truck Crans Oiler Driver; Drill Helper; Welding Machine; Tar Pot Fireman (power agitated)

GROUP III
AIR COMPRESSOR, portable or stationary under 1,000 cu. ft.; Burnerman; Drier; Fireman; Cement Hog; Concrete Saw, self propelled unit; Fork Lift; Lumber Stacker on construction job site; Lumber Carrier, on construction job site; Bucket Elevator Loader (Barber Greene and similar types); Pughill; Pumpman, 4" & over; Tamping Machine, mechanical self propelled; Wire Mat Machine; Brooming Machine, on concrete paving; Truck Mounted Asphalt Spreaders; Hydraulic Pipe Press (sewer and water line); Oiler on equipment spread.

GROUP IV
CONE CRUSHER or similar types; Compactor, self propelled; Concrete Mixer, single drum under 5 bag & grout pump; Locomotive, under 40 tons; Screed (Asphalt or Rock Spreader)

GROUP V
AIR COMPRESSOR, stationary over 1,000 cu. ft.; Batch Plant Material Control Op. (Portland cement concrete multiple unit mixers); Bell Boy (Cableway, Cranes & Hoists); Hoist Op., single drum; Chip Spreader; Flaherty & similar; Tractor, rubber tired or crawler type, 50 H.P. flywheel & under; Trenching Machine, 7 ft. depth & under; Elevator Op.

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
5.36	.35	.35			
5.48	.35	.35			
5.60	.35	.35			
5.74	.35	.35			
5.78	.35	.35			

1-ORE-PEO-1-2-3-

(2-3)

POWER EQUIPMENT OPERATORS (Cont'd)

GROUP VI

ASPHALT PLANT, ENGINEER; Asphalt Paver (Adnum, Yeager, Barber Greene or similar type); Concrete Paving Finishing Machine; Concrete Paving Spreader; Overhead & Front End Loader, rubber tired type under 2½ cu. yds. Rock Spreaders self propelled (Koehring, Blaw Knox & similar types)

GROUP VII

BLADE OP., SELF PROPELLED (50 H.P. flywheel & under); Boom Truck, single & double drums & "A" Frame, double drum (includes Karry Crane); Cement Pump (Fuller, Kenyon & similar); Concrete Pump; Concrete Mixer, single drum, 5 bag & over; Churn Drill & Earth Boring Machine; Elevating Grader (tractor towed requiring op. on grader); Locomotive, 40 tons & larger; Pumpcrete; Road Roller, finishing high type pavement; Tower Mobile; Tractor, with scraper, 2 & 4 wheel (50 H.P. flywheel & under); Wheel or Crawler Type Hoe, 3/8 cu. yd. & under & front end attachments, (Ford, Ferguson, Deere & similar types); Railroad Ballast Regulator, self propelled; Railroad Power Tamper, self propelled; Railroad Track Liner, self propelled; Railroad Power Tamper Jack, self propelled

GROUP VIII

GENERATOR PLANT (Diesel-Electric when required by employer); Batch Plant and/or wet mix op., 1 & 2 drums-Kolman & Co; Cal Loaders

GROUP IX

BOLT THREADING MACHINE; Crushing Plant; H.D. Mechanic or Welder; Overhead & Front End Loader, rubber tired type 2½ cu. yds. & under 4 cu. yds.; Surface Heater & Planer; Tractor, rubber tired or crawler type over 50 H.P. flywheel; Self Propelled Compactor, with dozer blade; Jack, elevating barges; Stationary Drag Scraper; Trenching Machine, over 7 ft. depth; Percussion Drills (Quarry Master, Gardner Denver, Robbins, Drill Master, Joy & similar types); Bit Grinder; Concrete Cooling Plant; Cleaning & Doping, Banding, Wrapping & Boring Machine; Grizzly Op.

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
5.84	.35	.35			
5.92	.35	.35			
6.00	.35	.35			
6.08	.35	.35			

POWER EQUIPMENT OPERATORS (Cont'd)

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
GROUP X DIAMOND CORE, CABLE & ROTARY DRILL MACHINE, exploration and grout work	6.12	.35	.35		
GROUP XI MINIEMOBILE; Mucking Machine; Shovel, Drag- line, Crane, Scooper, or Backhoe, under 1 cu. yd.; Truck Crane 25 tons & under	6.16	.35	.35		
GROUP XII BLADE OP., self propelled (over 50 H.P.), flywheel; Combination Batch Plant & Mixer, multiple units of 3 mixers or more; Hoist, 2 or more active drums; Elevating Loader (Atty, & similar types); Pile Driver Engineer; Tractor, with scraper (over 50 H.P.) flywheel, D4 20, DW 21, TS 24, 641 or similar types; Blade Mounted Spreaders (Ulrich & similar types); Tunnel Shield Operator	6.20	.35	.35		
GROUP XIII CABLEWAY, up to 25 tons; Clamshell Dredge; Concrete Paving Road Mixer (incl. dual drum); Crane, Locomotive, Gantry, Hammer- head, Overhead Bridge & Tower Cranes (Pecora, Linden); Derrick, live boom; Elevating Grader (operated by tractor op., similar to Sierra, Euclid & Dumor); Shovel, Dragline, Crane, Scooper, or Backhoe (1 cu. yd. incl. 3 cu. yds.); Truck Cranes, over 25 tons & incl. 40 tons; Backfilling Machine	6.30	.35	.35		
GROUP XIV LD-9 CAT (Robot); Tractor, with rubber tire or crawler with tandem attachments	6.44	.35	.35		
GROUP XV BOKK BOUND, WAGNER, LETOURNEAU & similar; Overhead & Front End Loader, rubber tired type, 4 cu. yds. & incl. 7 cu. yds.	6.62	.35	.35		
GROUP XVI CABLEWAY, 25 tons & over; Crane, Whirley (Washington, American, Colby or similar types); Shovel, Dragline, Crane, Scooper, or Backhoe, over 3 cu. yds.; Truck Crane, over 40 tons; Concrete Slip Form Paving & Finishing Machine; Overhead & Front End Loader, rubber tired type over 7 yds.	6.78	.35	.35		

LINE CONSTRUCTION - OREGON - b

WOOD POLE TRANSMISSION &
DISTRIBUTION LINES

Cable Splicer; Leadmen Pole Sprayer
Heavy Line Equipment Man; Linemen;
Pole Sprayer
Tree Trimmer
Line Equipment Man
Head Groundman; Head Groundman
(Chipper); Jackhammer Man;
Powder Man
Groundman; Tree Trimmer Helper
Hole Digger

STEEL TOWER TRANSMISSION LINE &
STEEL SUBSTATIONS

Certified Welder; Heavy Line Equipment
Man; Lineman (Erection & Wire)
Line Equipment Man; Lineman (Assembly)
Head Groundman
Groundman

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
36.78	.15	1%		1%	
6.12	.15	1%		1%	
5.53	.15	1%		1%	
5.27	.15	1%		1%	
4.61	.15	1%		1%	
4.36	.15	1%		1%	
4.17	.15	1%		1%	
6.12	.15	1%		1%	
5.27	.15	1%		1%	
4.61	.15	1%		1%	
4.36	.15	1%		1%	

WLSA-3
(formerly SOL-145)
7/69

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

NOTICE OF MODIFICATION - DECISION OF THE SECRETARY

TO: AF-ARMY-BIA-BLM-BPA-BPR-CF-CG-EDA(OBL)-EDA(OPW)-FAA(AS)-FAA(LG)-FHA-FS-FWPCA-MD-NAVY-NPS-OE(CS)-POD(LOB)-POD(BL)-RAA-RECL-OREGON STATE HIGHWAY COMMISSION

DESCRIPTION OF WORK	DATE OF THIS MODIFICATION	MODIFICATION NO.
	April 2, 1970	ONE
HEAVY & HIGHWAY CONSTRUCTION & DREDGING.	DECISION NO.	EXPIRES
	AJ-6,628	June 17, 1970
	COUNTY	STATE
	STATEWIDE	OREGON

Upon review of current data, changes as noted below are hereby directed. The rates in the enumerated wage determination decision, as amended by previous modifications, and as modified herein, are to be considered prevailing (or, in the case of the Federal Airport Act, as the minimum) in accordance with applicable law.

CHANGE:

Basic Hourly Rates	Fringe Benefits Payments				
	H & W	Pensions	Vacation	App. TR.	Others

ELECTRICIANS:

Malheur Co.

Electricians	6.02	.18	1%
Cable Splicers	6.62	.18	1%

PLUMBERS; STEAMFITTERS:

N $\frac{1}{2}$ of Benton, Lincoln, & Linn Cos.;

Marion; Polk; S $\frac{1}{2}$ of Tillamook &

Yamhill Cos.

6.35	.30	.33	.50	.04
------	-----	-----	-----	-----

Clackamas; Columbia; Gilliam; Hood

River; Multnomah; Sherman; Wasco;

Wheeler; Washington; N $\frac{1}{2}$ of Yamhill

& Jefferson Cos.

6.74	.40	.30		.05
------	-----	-----	--	-----

Jackson; Josephine Cos.

6.85	.25	.15	.43	.02
------	-----	-----	-----	-----

OMIT:

LINE CONSTRUCTION - OREGON

ADD:

LINE CONSTRUCTION - OREGON

4/1/70
By direction of the Secretary of Labor

E. Irving Manger
E. Irving Manger, Associate Administrator -
Division of Wage Determinations
Wage and Labor Standards Administration

RECEIVED

MAY 7 1970

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

EWPCA

NOTICE OF MODIFICATION - DECISION OF THE SECRETARY

TO: AF-ARMY-BIA-BLM-BPA-BPR-CF-CG-EDA(OBL)-EDA(OPW)-FAA(AS)-FAA(LG)-FHA-FS-FWPCA-MD-NAVY-NPS-OE(CS)-POD(LOB)-POD(BL)-RAA-RECL-OREGON STATE HIGHWAY COMMISSION.

DESCRIPTION OF WORK	DATE OF THIS MODIFICATION	MODIFICATION NO.
	May 1, 1970	TWO
HEAVY & HIGHWAY CONSTRUCTION & DREDGING.	DECISION NO.	EXPIRES
	AJ-6,628	June 17, 1970
	COUNTY	STATE
	STATEWIDE	OREGON

Upon review of current data, changes as noted below are hereby directed. The rates in the enumerated wage determination decision, as amended by previous modifications, and as modified herein, are to be considered prevailing (or, in the case of the Federal Airport Act, as the minimum) in accordance with applicable law.

Basic Hourly Rates	Fringe Benefits Payments				
	H & W	Pensions	Vacation	App. TR.	Others

CHANGE:

CARPENTERS:					
Carpenters	6.03	.25	.25	.25	.03
Piledrivermen	6.13	.25	.25	.25	.03
PLUMBERS; STEAMFITTERS:					
Clatsop; N $\frac{1}{2}$ of Tillamook Cos.	6.26	.35	.35	.50	.03
Coos; Curry; Coast portion of Douglas Co; Lane (City of Florence)	6.71	.35	.40		.0175
Lane (except for City of Florence); Douglas (except coast portion); Crook; Deschutes; N.W. portion of Harney; Northern portions of Klamath and Lake Cos.; S $\frac{1}{2}$ of Lincoln, Linn, Benton and Jefferson Cos.; SW corner of Grant Cos.	7.20	.21	.30		.02
Remainder of Klamath & Lake Cos.	6.66	.25	.45	.50	

5/5/70

By direction of the Secretary of Labor

E. Irving Manger
E. Irving Manger, Associate Administrator -
Division of Wage Determinations
Wage and Labor Standards Administration

LINE CONSTRUCTION - OREGON - c

WOOD POLE TRANSMISSION & DISTRIBUTION
LINES

Cable Splicer; Leadmen Pole Sprayer
Heavy Line Equipment Man; Linemen;
Pole Sprayer
Tree Trimmer
Line Equipment Man
Head Groundman; Head Groundman (Chipper);
Jackhammer Man; Powder Man
Groundman; Tree Trimmer Helper
Hole Digger

STEEL TOWER TRANSMISSION LINE &
STEEL SUBSTATIONS

Certified Welder; Heavy Line Equipment
Man; Lineman (Erection & Wire)
Line Equipment Man; Lineman (Assembly)
Head Groundman
Groundman

BASIC HOURLY RATES	FRINGE BENEFITS PAYMENTS				
	H & W	PENSIONS	VACATION	APP. TR.	OTHERS
7.06	.15	1%		$\frac{1}{2}\%$	
6.37	.15	1%		$\frac{1}{2}\%$	
5.76	.15	1%		$\frac{1}{2}\%$	
5.49	.15	1%		$\frac{1}{2}\%$	
4.80	.15	1%		$\frac{1}{2}\%$	
4.54	.15	1%		$\frac{1}{2}\%$	
4.34	.15	1%		$\frac{1}{2}\%$	
6.37	.15	1%		$\frac{1}{2}\%$	
5.49	.15	1%		$\frac{1}{2}\%$	
4.80	.15	1%		$\frac{1}{2}\%$	
4.54	.15	1%		$\frac{1}{2}\%$	

PAYROLL CERTIFICATION FORMS

A. The payrolls of the Contractor and each subcontractor must be certified as follows:

"I certify that the payroll is correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the Wage Determination decision of the Secretary of Labor, and that the classifications set forth for each Laborer or Mechanic conform with the work he performs."

Signature

Title

B. The following certificate must be executed by each Principal Contractor employing Mechanics and Laborers at the site of work in which the Federal Government is to participate; the fully executed certificates shall be filed with the Owner.

Name of Project

Date

Contractor for
Contract Awarded

Location

Project No.

Date

"I hereby certify that all of the Contract requirements as specified under the Labor Standards have been complied with by _____ (name of Contractor) as Principal Contractor and by each Subcontractor employing Mechanics or Laborers at the site of the work, or there is an honest dispute with respect to the required provisions."

Signature

Title

REPORT FORM FOR COMPLIANCE WITH ANTI-KICKBACK PROVISIONS

WEEKLY STATEMENT OF COMPLIANCE

_____, 19____
 I, _____ (name
 of signatory party) _____ (title),
 do hereby state: That I pay or supervise the payment of the persons em-
 ployed by _____ (Contractor or subcontractor)
 on the _____ (building or work); that dur-
 ing the payroll period commencing on the _____ day of
 _____, 19____, and ending the _____ day of
 _____, 19____, all persons employed on said project
 have been paid the full weekly wages earned, that no rebates have been or
 will be made either directly or indirectly to or on behalf of said _____
 _____ (Contractor or subcontractor) from the full
 weekly wages earned by any person and that no deductions have been made
 either directly or indirectly from the full weekly wages earned by any person,
 other than permissible deductions, as defined in Regulations, Part 3 (29 CFR
 Part 3), issued by the Secretary of Labor under the Copeland Act, as amended
 (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 40 U.S.C. 276c), and described below:

Total Wages
 Amount Withheld:
 F.I.C.A.
 Federal Income Tax
 State Income Tax
 S.I.A.C.
 Med. and Hosp. Ins.
 Other

 (Signature and Title)

July 1, 1969
Revised 11/10/69
Revised 5/5/70

Prevailing Journeyman Wage Rates in Oregon
for Basic Building Trades

as determined by the Labor Commissioner
pursuant to ORS 279.348 to 279.356 and
ORS 369, 1969

The following prevailing journeyman wage rates, including fringe benefits, apply to the basic construction trades -- Carpenters, Pildrivers, Cement Masons, Ironworkers, Laborers, Operating Engineers, and Teamsters; applicable to all counties in the State of Oregon for the effective period indicated.

BUILDING AND CONSTRUCTION TRADES

Effective 5-1-70 to 5-1-71
Including Fringe Benefits

CARPENTERS

Group I

\$6.82

Carpenters (journeymen), including but not limited to Acoustical & Drywall applicators
Automatic Nailing Machine Operators (all types)
Form strippers (in accordance with Int. Agree.)
Manhold Builders (Concrete Form Construction.)
Riggers, Burners, Welders, Saw Fillers, Instrument Men, & Fiber Glass Specialists.

Group II

\$6.945

Caulkers (Boat construction)

Floor Layers, Finishers

(The laying of all hardwood flooring, nailed & mastic set, parquet and wood-type tiles, and block floors, the sanding and finishing of floors, the preparation of old and new floors where the materials mentioned above are to be installed.)

Insulators (Fiber glass and similar irritating materials)

Working on Charred Material (Building construction only)

Working on Swinging, Hanging Non-rigid Scaffolding, Bos'n

Chairs, or suspended from a rope or cable or from a safety belt.

(Men working on scaffolding attached to form panels or forms which are hanging or swinging are entitled to premium pay so long as the forms are hanging; after such panels are firmly attached to make them rigid, premium pay is no longer applicable)

Stationary Power Saw Operators

Foremen

\$7.32

Apprentice Rates

1st 6 month period	65%	of Journeyman rate	5th 6 mo period	85%	of Journeyman rate
2nd "	"	70%	6th "	"	90%
3rd "	"	75%	7th &	"	"
4th "	"	80%	8th "	"	95%

Building and Construction Trades (cont'd)

Overtime - All work performed before and/or after any scheduled shift hours, and all work performed on Saturdays, Sundays and holidays shall be paid at double the straight time hourly rate.

Effective 5-1-70 to 5-1-71

PILEDRIVERS

*Piledrivermen, Bridge, Dock, Wharf Builders, Riggers, Burnermen, Welders, & Instrument Men, & Stationary Power Saw Operators	\$6.92
Boom Man & Diver Tenders	7.02
Foreman - A foreman can supervise a crew on one rig, only, while such crew is engaged in driving piles.	7.42

Overtime - All work performed before and/or after any scheduled shift hours, and all work performed on Saturdays, Sundays and holidays shall be paid at double the straight time hourly rate.

*15¢ premium allowance working with Creosote material.

CEMENT MASONS

Effective 8-1-69 to 8-1-70

Journeyman Cement Mason	\$6.18
Journeyman Mastic Worker, Composition Worker, Guniting Man, Power Machinery Operator	6.305
Overtime - Double time for overtime shall be paid for all overtime after ten (10) hours per day Monday through Friday and double time for all Saturday work. Time & one-half if notified seven days in advance for Saturday work; double time for Sundays & holidays.	
Foremen - 25¢ above Journeyman rate	

IRON WORKERS

Effective 7-21-69 to 7-21-70

Structural Ironworkers	\$6.99
Ornamental Ironworkers	"
Machinery Mover, Machinery Erector	"
Riggers	"
Signal Men	"
Welders and Burners	"
Fence Erectors	"
Sheeters	"
Reinforcing Ironworkers	6.88
Foreman - 3 men or less - not less than 30¢ p/hr over Journeyman rate. 4 men or more - not less than 55¢ p/hr over Journeyman rate.	
Overtime - Double time.	
Apprentice - 1st year 80% of Journeyman Ironworker rate 2nd year 90% of Journeyman Ironworker rate 3rd year 95% of Journeyman Ironworker rate	

HOISTING AND PORTABLE ENGINEERS

Group I

Effective 6-1-69 to 6-1-70

Brakeman and Deck Hand (if used) \$6.06
Crusher Feeder Operator, Power (when required)
Oilers, all equipment
Oilers & Cable tenders on Mucking Machines
Pumpman, under 4"
Grade Checker
Conveyor Operator

Group II

"A" Frame Truck Operator, single drum 6.18
Blade Operator, pull type
Fireman, Dredge, Floating Derrick, Retort & Shovel
H.D. Mechanic Helper
Road Roller Operator, Grading, Base & Surfacing
NOTE: Compactors-Rollers (towed) - takes rate
of power unit towing
Truck Crane Oiler-Driver
Drill Helper
Welding Machine Operator
Tar Pot Fireman (Power agitated)

Group III

Air Compressor Operator, portable or stationary 6.30
under 1000 cu. ft. capacity
Burnerman or Drier-Fireman
Cement Hog Operator
Concrete Saw Operator - Self-propelled unit
Fork Lift or Lumber Stacker Operator on construction job site
Lumber Carrier, on construction job site
Bucket Elevator Loader Operator-Barber Greene & Sim. types
Pugmill Operator
Pumpman, 4" and over
Tamping Machine Operator, mechanical self-propelled
Wire Mat Machine Operator or Brooming Machine Operator
on Concrete paving
Truck mounted Asphalt Spreaders
Hydraulic Pipe Press (sewer & water line)
Oiler on equipment spread

Group IV

Hydra Hammer or similar types 6.44
Compactor Operator, self-propelled
Concrete Mixer Operator, single drum,
under 5 bag capacity and Group Pump
Locomotive Operator, under 40 tons
Screed Operator (asphalt or rock spreader)

Group V

Air Compressor Operator, stationary over 6.48
1000 cu. ft. capacity
Batch Plant Material Control Operator
(Portland cement concrete multiple unit mixers)
Bell Boy (Cableway, Cranes & Hoists)

HOISTING AND PROTABLE ENGINEERS (CONT'D)

Group V (cont't)

Effective 6-1-69 to 6-1-70

Hoist Operator, single drum \$6.48
Chip Sprecker Operator, Flaherty and similar
Tractor Operator, rubber tired or crawler
type, 50 H.P. Flywheel and under
Trenching Machine Operator, 7 ft. depth
capacity and under -- mfgs. rating
Elevator Operator

Group VI

Asphalt Plant Operator-Engineer 6.54
Asphalt Paver Operator, Adnum, Yeager, Barber
Greene or similar types
Concrete Paving Finishing Machine Operator
Concrete Paving Spreader Operator
Overhead and Front End Loader Operator--
rubber tired type under 2½ cu. yds.
Rock Spreaders self-propelled--
Koehring, Blaw Knox and similar types

Group VII

Blade Operator, self-propelled (50 H.P. flywheel
and under) 6.62
Boom Truck Operator, single and double drums
and "A" Frame Operator, double drum (includes
Karry Crane)
Cement Pump Operator, Fuller, Kenyon and similar
Concrete Pump Operator
Concrete Mixer Operator, single drum, 5 bag
capacity and over
Churn Drill and Earth Boring
Machine Operator
Elevating Grader Operator (tractor towed
requiring operator on grader)
Locomotive Operator, 40 tons and larger
Pumpcrete Operator
Road Roller Operator, finishing high type pavement
Towermobile Operator
Tractor with Scraper, 2 and 4 wheel
(50 H.P. flywheel and under)
Wheel or Crawler Type Hoe Operator, 3/8 cu. yd.
and under and front end attachments, Ford,
Ferguson, Deere and similar types
Railroad Ballast Regulator Operator (self-propelled)
Railroad Power Tamper Operator (self-propelled)
Railroad Track Liner Operator (self-propelled)
Railroad Power Tamper Jack Operator (self-propelled)

Group VIII

General Plant Operator (Diesel-Electric when required
by employer) 6.70
Batch Plant and/or Wet Mix Operator (one and two drums)
Kolman and Co-Cal Loaders

HOISTING AND PORTABLE ENGINEERS (CONT'T)

Group IX

Effective 6-1-69 to 6-1-70

Bolt Threading Machine Operator	\$6.78
Crushing Plant Operator	
H.D. Mechanic or Welder	
Overhead and Front End Loader	
Operator--rubber tired 2½ cu. yd. & under 4 cu. yds.	
Surface Heater and Planer Operator	
Tractor Operator, rubber tired or crawler type over 50 H.P. Flywheel	
Self-Propelled Compactor Operator (with dozer blade)	
Jack Operator, elevating barges	
Stationary Drag Scraper Operator	
Trenching Machine Operator over 7 ft. capacity-- mfgs. rating	
Percussion Drills--Quarry Master, Gardner Denver, Robbins, Drill Master, Job and similar types	
Bit Grinder	
Concrete Cooling Plant Operator	
Cleaning & Doping, Bending Wrapping & Boring Machine Operator	
Grizzly Operator	

Group X

Diamond Core, Cable and Rotary Drill	6.82
Machine Operator, exploration and grout work	

Group XI

Mixermobile Operator	
Mucking Machine Operator	6.86
Shovel, Dragline, Crane, Skopper, or Backhoe Operator (under 1 cu. yd.)	
Truck Cranes 25-ton capacity and under--mfgs. rating	

Group XII

Blade Operator--self-propelled (over 50 H.P.) Flywheel	
Combination Batch Plant and Mixer Operator (multiple units or 3 mixers or more)	6.90
Hoist Operator, two or more active drums	
Elevating Loader Operator, Athey and similar types	
Pile Driver Engineer	
Tractor Operator with Scraper (over 50 H.P.) Flywheel DW 20, DW 21, TS 24, 641 or similar types	
Blade Mounted Spreaders--Ulrich and similar types	
Tunnel Shield Operator	

Group XIII

Cableway Operator (up to 25 tons)	
Clamshell Dredge Operator	7.00
Concrete Paving Road Mixer Operator (including dual drum)	

HOISTING AND PORTABLE ENGINEERS (CONT'D)

Group XIII (cont'd)

Effective 6-1-69 to 6-1-70

Crane Operator, Locomotive, Gantry,
Hammerhead, Overhead Bridge and
Tower Cranes (Pecco, Linden)

\$6.70

Derrick Operator (live boom)

Elevating Grader Operator (operated by
tractor operator, similar to Sierra,
Euclid & Dumor)

Shovel, Dragline, Crane, Skooper, or
Backhoe Operator (1 cu. yd. including
3 cu. yds)

Truck Cranes--Over 25-ton capacity & including
50-ton capacity--mfrs. rating.

Back Filling Machine Operator

Group XIV

DD-9 Cat (Robot)

7.14

Tractor Operator with Rubber Tire or Crawler
with Tandem Attachments

Group XV

Rock Hound, Wagner, Letourneau and Similar New line
Overhead and Front End Loader Operator--rubber
tired type (4 cu. yds. and including 7)

7.32

Group XVI

Cableway Operator (25 tons and over)

7.48

Crane Operator, Whirley (Washington, American,
Colby or similar types)

Shovel, Dragline, Crane, Skooper, or Backhoe
Operator (over 3 cu. yds.)

Truck Crane--over 40-ton capacity--mfrs. rating

Concrete Slip Form Paving & Finishing

Machine Operator

Overhead & Front End Loader Operator--rubber tired
type (over 7 yds.)

Foreman - 35¢ per hour above highest paid classification under his
supervision.

Overtime - All operating engineers working on Building Construc-
tion work shall receive double time (2) for all work
in excess of eight (8) hours per day Monday through
Friday and for all work performed on Saturdays, Sundays
and Holidays, except that all operating engineers
directly involved in concrete pouring shall receive
time and one-half (1½) for all work in excess of eight
(8) hours per day Monday through Friday and double time
(2) for work performed on Saturdays, Sundays and Holi-
days.

LABORERS - Heavy, Highway, Utility and Building Construction Work

Group I

Effective 6-1-69 to 6-1-70

Includes General Laborers and the following:

\$5.23

Asphalt Plant Laborers

Asphalt Spreaders

Batch Weighmen

Broomers

Brush Burners and Cutters

Car and truck Loaders

Carpenter Tender

Change-House Man or Dry Shack Man

Choker Setters

Clean up Laborers

Concrete Laborers

Crusher Feeders

Culvert, Hand Labor

Curing, Concrete

Demolition, Wrecking, and Moving Laborers

Driller Helpers

Dumpers, Road oiling crew

Dumpmen (For Grading Crew)

Elevator Feeders

Fence Builder (Including Guard Rail, Median Rail,
Reference Post, Guide Post, Right-of-way Marker)

Fine Graders

Flagmen, Traffic

Form Strippers (Not Swinging Stages)

Landscaping or Planting Laborers

Leverman on Aggregate Spreader (Flaharty and
similar types)

Loading Spotters

Material Yard Man (including Electrical)

Powderman Helper

Pittsburgh Chipper Operator or similar types

Railroad Track Laborers

Ribbon Setters (including Steel Forms)

Rip Rap Man (Hand Placed)

Road Pump Tender

Sewer Labor

Signalman

Skipmen

Slopers

Spraymen

Stake Chaser-Stake Setter-Grade Checker

Stockpiler

Timber Faller and Bucker (Hand Labor)

Toolroom Man (At Job Site)

Tunnel Bull Gang (Above Ground)

Weigh Man-Crusher Aggregate (When Used)

LABORERS - Heavy, Highway, Utility and Building Construction Work
(cont'd)

Group II

Effective 6-1-69 to 6-1-70

Applicator (Including Pot Tender for Same),
applying protective material by hand or
nozzle on utility lines or storage tanks
on project \$5.38

Burners

Choker Splicer

Clary Power Spreader and similar types

Clean-Up Nozzlemen-Greencutter (Concrete
Rock, etc.)

Concrete Power Buggyman

Demolition and Wrecking Charred Materials

Guniting Nozzleman Tender

Guniting or Sand Blasting Pot Tender

Handlers or Mixers of all insulating

Material of an irritating nature (including
Cement and Lime)

Power Tool Operators, includes but not
limited to:

Jackhammer;

Chipping Guns;

Paving Breakers;

Vibrators (less than 4" in diameter)

Post Hole Digger, Air, Gas or Electric;

Vibrating Screed;

Tampers

Ribbon Setter, Head

Rip Rap Man (Head, Hand Placed)

Sand Blasting (Wet)

Sewer Timberman

Timber Buckers and Fallers, Brush Cutters
(Power Saw)

Tunnel-Muckers, Brakemen, Concrete Crew,
Bull Gang (Underground)

Group III

Effective 6-1-69 to 6-1-70

Asphalt Rakers

Bit Grinder

\$5.53

Drill Doctor

Drill Operators, Air Tracks, Cat Drills,
Wagon Drills, Rubber-Mounted Drills,
and other similar types

Concrete Saw Operator

Guniting Nozzleman

High Scalers, Strippers and Drillers (Cover
Work in Swinging Stages, Chairs or Belts
under extreme conditions unusual to normal
drilling, blasting, barring-down, or
sloping and stripping)

Powdermen

Power Saw Operators (Bucking and Falling
merchantable logs)

LABORERS - Heavy, Highway, Utility and Building Construction Work
(cont'd)

Group III (cont'd)

Effective 6-1-69 to 6-1-70

Pumpcrete Nozzleman

Sand Blasting (Dry)

\$5.53

Sewer Pipe Layers

Track Liners, Anchor Machines, Ballast

Regulators, Multiple Tampers, Power Jacks

Tugger Operator

Tunnel--Chuck Tenders, Nippers, and Timbermen

Vibrators (4" and larger)

Water Blaster

Welder

Tunnel Miners

Tunnel Powdermen

Any Laborers working in live sewers shall receive \$5.00 per day in addition to his regular pay.

Group IV

Effective 6-1-69 to 6-1-70

Tunnel Miners

Tunnel Powderman

\$5.68

Rev: Nov.'69

TEAMSTERS - Building and Highway and Heavy Construction Work

Effective 6-1-69 to 6-1-70

A-Frame or Hydra-lift Truck w/load bearing surface	\$5.79
Battery Rebuilder	5.74
Bus or Man-haul driver	5.74
Concrete Buggies (power operated)	5.74
Drivers & helpers handling sacked cement add .15¢ per hour	
Dump truck, side, end and bottom dumps, incl. Semi-trucks & trains or combinations thereof: 6 cu. yds & under	5.74
Over 6 cu. yds & inc. 10 cu. yds.	5.84
Over 10 cu. yds & inc. 20 cu. yds.	6.04
Over 20 cu. yds & inc. 30 cu. yds.	6.14
Over 30 cu. yds & inc. 40 cu. yds.	6.24
Over 40 cu. yds & inc. 50 cu. yds.	6.34
Over 50 cu. yds & inc. 60 cu. yds.	6.51
Over 60 cu. yds & inc. 70 cu. yds.	6.61
Dumpsters or similar equipment - all sizes	5.94
Flaherty spreader driver or leverman	5.89
Lift Jitneys, Fork Lifts - all sizes - used in loading, unloading & transporting material on job site	5.74
Loader and/or leverman on concrete dry batch plant, manually operated	5.74
*Low Bed equipment, flat bed semi-trailer, truck & trailer or doubles transporting equipment or wet or dry materials	5.89
Lubrication man, fuel truck driver, tiremen, wash rack, steam cleaner combination	5.79
Lumber carrier driver-straddle carrier-- used in loading, unloading & transporting of materials on job site	5.89
Oil distributor driver or leverman	5.89
Pilor car	5.74
Slurry truck driver or leverman	5.84
Solo flat bed & misc. body trucks 0-10 tons	5.74
Transit Mix & wet or dry mix trucks:	
5 cu. yds and under	5.84
Over 5 cu. yds & inc. 7 cu. yds.	5.94
Over 7 cu. yds. & inc. 9 cu. yds.	6.04
Over 9 cu. yds. & inc. 11 cu. yds.	6.14
Over 11 cu. yds & inc. 13 cu. yds.	6.24
Team drivers	5.79
Tireman, full-time basis	5.84
Truck helper	5.74
Truck Mechanic-welder-body repairman	6.04
Truck Mechanic helper	5.74

TEAMSTERS - Building & Highway & Heavy Construction Work - (cont'd)

Two or four wheeled tractor with trailer

such as turnrocker or similar type equipment
top-loaded:

9 cu. yds and under	\$6.04
Over 9 cu. yds and inc. 20 cu. yds	6.14
Over 20 cu.yds and inc. 30 cu. yds	6.24
Over 30 cu.yds and inc. 40 cu. yds	6.34
Over 40 cu.yds and inc. 50 cu. yds	6.44
Over 50 cu.yds and inc. 60 cu. yds	6.54
Warehouseman (warehouse parts, tool men & parts chaser, checkers & receivers)	5.74
Water Wagons (rated capacity)	
Up to 1600 gallons	5.74
1600 to 3000 gallons	5.84
3000 to 5000 gallons	5.89
5000 to 7000 gallons	6.04
Over 7000 gallons	6.14
Winch Truck--Takes classification of truck on which winch is mounted.	

ORS 279.316 Condition concerning hours of labor.

Every public contract shall also contain a condition that 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 187.010, except Veterans Day. However, when specifically agreed to under a written labor-management negotiated labor agreement, a laborer may be paid at least time and a half pay for work performed on Veterans Day or on any legal holiday specified in ORS 187.020.

(Amended by 1967 c.167 §1)

ORS 279.334 Maximum hours of labor on public contracts.

In all cases where labor is employed by the state, county, school district, municipality, municipal corporation, or subdivision, through a contractor, no person shall be required or permitted to labor 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, in which event, the person or persons so employed for excessive hours shall receive 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 187.010, except Veterans Day. However, when specifically agreed to under a written labor-management negotiated labor agreement, a laborer may be paid at least time and a half pay for work performed on Veterans Day or on any legal holiday specified in ORS 187.020. This section shall not apply to labor performed in the prevention or suppression of fire under contracts and agreements made pursuant to the authority of the State Forester or State Board of Forestry, under ORS 477.406.

(Amended by 1963 c.241 §1; 1967 c.167 §2)

ORS 187.010 Legal holidays; acts deferred to next business day.

(1) The following days are legal holidays in this state:

- (a) Each Sunday.
- (b) New Year's Day on January 1.
- (c) Memorial Day on May 30.
- (d) Independence Day on July 4.
- (e) Labor Day on the first Monday in September
- (f) Veterans Day on November 11.
- (g) Thanksgiving Day on the fourth Thursday in November.
- (h) Christmas Day on December 25.

If any of such holidays, other than Sunday, at any time fall on Sunday, the succeeding Monday shall be a holiday in that year.

(2) Any act authorized, required or permitted to be performed on a holiday as designated in this section may be performed on the next succeeding business day; and no liability or loss of rights of any kind shall result from such delay.

(Amended by 1955 c.4 §1)

ORS 187.020 Additional legal holidays.

In addition to those specified in ORS 187.010, the following days are legal holidays in this state:

- (1) Lincoln's Birthday on February 12.
- (2) Washington's Birthday on February 22.
- (3) Every day on which an election is held throughout the state.
- (4) Every day appointed by the President of the United States or

by the Governor as a holiday.

If any of such holidays at any time fall on Sunday, the succeeding Monday shall be a holiday in that year.

Prevailing Journeyman Wage Rates in Oregon
for Specialty Building Trades

as determined by the Commissioner of Labor
pursuant to ORS 279.348 thru 279.356, and
ORS 369, 1969

The following prevailing journeyman wage rates, including fringe benefits, apply to the specialty construction trades in Newberg, Oregon, and vicinity, as of 1 May 1970, and for the effective period designated by the Commissioner of Labor:

<u>Craft Classification</u>	<u>Minimum Rate Per Hour Including Fringe Benefits</u>
Painters	
Journeyman Brush	\$ 6.025
High	6.525
Plumbers	
Journeyman	6.45 4-1-69 to 4-1-70 New rates not available
Electrical Workers	
Journeyman	7.23

In the event it is necessary to employ workmen in a classification not listed, the Contractor shall make application to the Commissioner of Labor for the determination of the prevailing wage rate for such workmen. If a dispute arises as to what is the prevailing wage rate for any class of workmen, and, if the dispute cannot be settled by the parties involved, it may be referred to the Commissioner of Labor, State of Oregon, for final determination.

In a few cases the minimum wage rates for certain crafts are not available at this time. The Contractor, in making a bid, hereby agrees to pay not less than the minimum wage rates established by the governmental agency having jurisdiction over the wage rates for these crafts.

The Owner does not guarantee that labor can be procured for the wages set forth in the above Prevailing Journeyman Wage Rates. The rates of wages listed are minimum only, below which the Contractor cannot pay, and they do not constitute a representation that labor can be procured for the minimum listed.

[illegible]

[illegible]

GENERAL CONDITIONS

A. DEFINITIONS

A-1. Contract Documents. The "Contract Documents" consist of the Advertisement for Bids, the Proposal, the Contract, the Performance Bond, the Information for Bidders, the Special Provisions, the General Conditions, the Specifications, and the Plans, including all modifications thereof incorporated into the Documents before their execution. These form the Contract.

A-2. Owner, Contractor, Bidder. The "Owner," "Contractor," and "Bidder" are those named as such in the Contract Documents.

A-3. Engineer. Wherever the word "Engineer" occurs in these Contract Documents, the word shall signify the firm of Cornell, Howland, Hayes & Merryfield, which has been designated by the Owner to be the Engineer for the work.

A-4. Written Notice. The term "Written Notice" shall signify a written communication delivered in person or by certified or registered mail to the individual, or to a member of the firm, or to an officer of the corporation for whom it is intended. Certified or registered mail shall be addressed to the last business address known to him who gives the notice.

A-5. Work. The word "Work" within these Contract Documents shall include all material, labor, tools, 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.

B. CONTRACT DOCUMENTS

B-1. Intent of Contract Documents. The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intent of the Documents is to include all work (except specific items to be furnished by the Owner), necessary for completion of the Contract. Materials or work described in words which so applied have a well-known technical and trade meaning shall be held to refer to such recognized standards.

B-2. Discrepancies and Omissions. Any discrepancies or omissions found in the Contract Documents shall be reported to the Engineer immediately. The Engineer will clarify discrepancies or omissions, in writing, within a reasonable time.

In resolving inconsistencies among two (2) or more sections of the Contract Documents, precedence shall be given in the following order:

Contract
Special Provisions
General Conditions
Special Specifications
Plans
Standard Specifications

Figure dimensions on Plans shall take precedence over scale dimensions; detailed Plans shall take precedence over general Plans.

B-3. Alterations. The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to, or deducting from the work, the Contract being adjusted accordingly. All such work shall be executed under the conditions of the original Contract, except as specifically adjusted at the time of ordering such change.

In giving instructions, the Engineer may order minor changes in the work not involving extra cost and not inconsistent with the purposes of the structure; but otherwise, except in an emergency endangering life or property, extra work or deductions from the work shall be performed only in pursuance of a written order from the Owner, signed or countersigned by the Engineer, or a written order from the Engineer stating that the Owner has authorized the deduction, extra work, or change; and no claim for additional payment shall be valid unless so ordered.

If the work is reduced by alterations, such action shall not constitute a claim for damages based on loss of anticipated profits.

B-4. Verification and Warranty. The Contractor shall determine the nature and location of the work, the general and local conditions, and all other matters which can in any way affect the work under this Contract. Failure to make an examination necessary for this determination shall not release the Contractor from the obligations of this Contract. The Contractor warrants that no verbal agreement or conversation with any officer, agent, or employee of the Owner, either before or after the execution of this Contract, has affected or modified any of the terms or obligations herein contained.

B-5. Copies to be Kept on the Work. The Contractor shall keep one (1) copy of the Contract Documents on the work, in good order, available to the Engineer and to his representatives.

B-6. Copies to be Furnished. The Engineer will furnish to the Contractor, on request and free of charge, six (6) copies of the Contract Documents and six (6) sets of full-size Plans or a sepia of the tracings. Additional copies of Contract Documents or Plans may be obtained on request by paying the actual cost of reproducing the Contract Documents or Plans.

B-7. Ownership of Drawings. All Plans, Drawings, Specifications, and copies thereof furnished by the Engineer are his property. They are not to be used on other work and, with the exception of the signed Contract set, are to be returned to him on request at the completion of the work. All models are the property of the Owner.

C. THE ENGINEER

C-1. Authority of the Engineer. The Engineer shall be the Owner's representative during the construction period. His authority and responsibility shall be limited to the provisions set forth in these Contract Documents. The Engineer shall have the authority to reject all work and materials and to stop the work whenever such rejection and/or stoppage may be necessary to insure execution of the Contract in accordance with the intent of the Contract Documents.

C-2. Duties and Responsibilities of the Engineer. The Engineer shall make periodic visits to the site of the project to observe the progress and quality of the work and to determine, in general, if the work is proceeding in accordance with the intent of the Contract Documents. He shall not be required to make comprehensive or continuous inspections to check quality or quantity of the work, and he shall not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work. Visits and observations made by the Engineer shall not relieve the Contractor of his obligation to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.

The Engineer shall make decisions, in writing, on all claims of the Owner or the Contractor arising from interpretation or execution of the Contract Documents. Such decision shall be necessary before the Contractor can receive additional money under terms of the Contract. Changes in work or extra work ordered by the Engineer shall be made in compliance with Article B-3 of the General Conditions.

One or more inspectors may be assigned to observe the work and to act in matters of construction under this Contract. It is understood that such inspectors shall have the power to issue instructions and make decisions within the limitations of the authority of the Engineer. Such inspection shall not relieve the Contractor of his obligations to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.

C-3. Rejected Material. Any material condemned or rejected by the Engineer or his authorized Inspector because of nonconformity with the Contract Documents shall be removed at once from the vicinity of the work by the Contractor at his own expense, and the same shall not be used on the work.

C-4. Unnoticed Defects. Any defective work or material that may be discovered by the Engineer before the final acceptance of work, or before final payment has been made, or during the guarantee period, shall be removed and replaced by work and materials which shall conform to the provisions of the Contract Documents. Failure on the part of the Engineer to condemn or reject bad or inferior work or materials shall not be construed to imply acceptance of such work or materials.

C-5. Right to Retain Imperfect Work. If any part or portion of the work done or material furnished under this Contract shall prove defective and not in accordance with the Plans and Specifications, and if the imperfection in the same shall not be of sufficient magnitude or importance as to make the work dangerous or undesirable, or if the removal of such work will create conditions which are dangerous or undesirable, the Owner shall have the right and authority to retain such work but shall make such deductions in the final payment therefor as may be just and reasonable.

C-6. Lines and Grades. Lines and grades shall be established as provided in the Special Provisions. The Contractor shall make every effort to notify the Engineer at least three (3) days in advance of the time when the line and grade will be needed. The Contractor will not be allowed extensions of time because of delays caused by insufficient line and grade. All stakes, marks, and other information shall be carefully preserved by the Contractor; and in cases of their careless or unnecessary destruction or removal by him or his employees, such stakes, marks, and other information shall be replaced by the Engineer at the Contractor's expense. The Contractor shall be responsible for the transfer to the structure of the lines and grades as set by the Engineer.

C-7. Shop Drawings. The Contractor shall submit, in quadruplicate, to the Engineer for his review, such shop drawings and/or catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment) required for the construction. Drawings shall be submitted in sufficient time to allow the Engineer not less than ten (10) regular working days for examining the drawings.

These 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.

Unless otherwise approved by the Engineer, shop drawings shall be submitted only by the Contractor, who shall indicate by a signed stamp on the drawings, or other approved means, that he (the Contractor) has checked 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.

When the shop drawings have been reviewed by the Engineer, two (2) sets of submittals will be returned to the Contractor appropriately stamped. If major changes or corrections are necessary, the drawing may be rejected and one (1) set will be returned to the Contractor with such changes or corrections indicated, and the Contractor shall correct and resubmit the drawings, in quadruplicate, unless otherwise directed by the Engineer. No changes shall be made by the Contractor to resubmitted shop drawings other than those changes indicated by the Engineer.

The review of such drawings and catalog cuts by the 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 drawings and the Engineer approves the change or deviations in writing at the time of submission; nor shall review by the Engineer relieve the Contractor from the responsibility for errors in the shop drawings. When the Contractor does call such deviations to the attention of the Engineer, the Contractor shall state in his letter whether or not such deviations involve any deduction or extra cost adjustment.

C-8. Detail Drawings and Instructions. The Engineer will furnish, with reasonable promptness, additional instructions by means of drawings or otherwise, if, in the Engineer's opinion, such are required for the proper execution of the work. All such drawings and instructions will be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom.

D. THE CONTRACTOR AND HIS EMPLOYEES

D-1. Subcontracting. The Contractor shall, as soon as practicable after the execution of the Contract, notify the Engineer, in writing, of the names of the subcontractors proposed for the principal parts of the work and for such others as the Engineer may direct, and shall not employ any that the Engineer may within a reasonable time object to as lacking the capability to properly perform work of the type and scope specified.

The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the Owner.

D-2. Performance Bond. The Contractor shall furnish a surety bond of the form included herewith, in an amount at least equal to the total amount of the Proposal, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work, and to cover all guarantees against defective workmanship or materials, or both, for a period of one (1) year after the date of final acceptance of the work by the Owner. Said bond shall be issued by a surety company authorized to issue such bonds in the State of Oregon and must, in all respects, be satisfactory and acceptable to the Owner.

D-3. Insurance. The Contractor shall provide the insurance coverage designated hereinafter and pay all costs.

a. Contractor's and Subcontractor's Insurance. The Contractor shall not commence work under this Contract until he has obtained all the insurance required hereunder and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Approval of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder.

b. Compensation and Employer's Liability Insurance. The Contractor shall take out and maintain during the life of this Contract the statutory Workmen's Compensation and Employer's Liability Insurance for all of his employees to be engaged in work on the project under this Contract and, in case any such work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation and Employer's Liability Insurance for all of the latter's employees to be engaged in such work.

c. Public Liability and Property Damage Liability Insurance. The Contractor shall take out and maintain during the life of this Contract such Public Liability and Property Damage Liability Insurance and Automobile Public Liability and Property Damage Liability Insurance as shall protect him, the Owner, the Engineer, and any subcontractor performing work covered by this Contract from claims for damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall be not less than:

- (1) Public Liability Insurance in an amount not less than One Hundred Thousand Dollars (\$100,000.00) for injuries, including wrongful death to any one person, and subject to the same limit for each person in an amount not less than Three Hundred Thousand Dollars (\$300,000.00) for each occurrence.
- (2) Property Damage Liability Insurance in an amount not less than One Hundred Thousand Dollars (\$100,000.00) for damages for each occurrence.

The Contractor's Public Liability Insurance and Property Damage Liability Insurance shall provide the primary coverage on all claims arising out of the performance of the Contract, and shall name the Owner, its officers, agents, and employees, and the Engineer as additional named insureds therein.

d. State Highway Department Insurance Coverage. When the construction is to be accomplished within the right-of-way of the Oregon State Highway Department or on lands over which they have direct or indirect control, the Contractor's Liability Insurance Policy shall contain the following endorsement:

"The State of Oregon, the State Highway Commission and members thereof, its officers, agents, and employees are hereby included as named insureds in the herein numbered policy, except as to claims against the primary named insured for injury to their persons or damage to any of its or their property.

"Cancellation of this endorsement or of the policy to which it is attached may be effected by agreement of the parties hereto, or by the company or the primary named insured giving not less than thirty (30) days' notice in writing and by certified mail to the Director of Permits, Room 121, State Highway Building, Salem, Oregon; said notice to commence to run from the date notice is actually received at said office.

"The limits of liability of the company for the operations of the insured in construction operations on the right-of-way of State Highways shall be as follows:

Bodily Injury Liability ---- Each Person ----- \$100,000
Each Accident ---- \$300,000
Property Damage Liability -- Each Occurrence -- \$100,000

"Limits provided herein are the minimum limits required by the Oregon State Highway Commission and shall in no way be considered a reduction in limits as originally provided in this policy."

e. Fire Insurance. Fire insurance coverage shall be provided as set forth in the Special Provisions.

f. Certificates of Insurance. Before commencing work under this Contract, Contractor shall furnish the Owner with certificates of insurance specified herein showing the type, amount, class of operations covered, effective dates, and date of expiration of policies, and containing substantially the following statement:

"The insurance covered by this certificate will not be cancelled or materially altered, except after ten (10) days' written notice has been received by the Owner."

D-4. Permits and Licenses. The Contractor shall keep himself fully informed of all local ordinances, State and Federal laws in any manner affecting the work herein specified. He shall at all times comply with said ordinances, laws, and regulations, and protect and indemnify the Owner and its officers and agents against any claim or liability arising from or based on the violation of any such laws, ordinances, or regulations. All permits, licenses, and inspection fees necessary for prosecution and completion of the work shall be secured and paid for by the Contractor, unless otherwise specified.

D-5. Superintendence. The Contractor shall keep on the work, during its progress, competent supervisory personnel. The Contractor shall give efficient supervision to the work, using his best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, and procedures, and for providing adequate safety precautions and coordinating all portions of the work under the Contract.

D-6. Reception of Engineer's Directions. The superintendent, or other duly authorized representative of the Contractor, shall represent the Contractor and all directions given to him by the Engineer shall be binding. Such directions of major importance will be confirmed in writing. Any direction will be so confirmed in each case on written request from the Contractor.

D-7. Sanitation. Sanitary conveniences shall be erected and maintained by the Contractor at all times while men are employed on the work; and the use of such sanitary conveniences shall be strictly enforced. The location of such conveniences shall be approved by the Engineer.

D-8. Employees. The Contractor shall employ only competent, skillful men to do the work; and whenever any person shall appear to be incompetent or to act in a disorderly or improper manner, such person shall be removed from the work.

D-9. Requirements of Oregon Law for Public Contracts. When the Contract Documents concern public works of the State or any County, municipality, or political subdivision created by its laws, the applicable statutes of the State of Oregon shall apply. For this reason Sections 279.310 through 279.356 of the Oregon Revised Statutes, as amended or superseded, including the latest additions and revisions, are incorporated by reference as parts of these Contract Documents.

These sections define the requirements of Oregon law for public contracts:

a. Concerning payment of laborers and materialmen, contributions to Industrial Accident Fund, preventions of liens, payment of withholding taxes.

b. Concerning the maximum hours of labor, payment of not less than the prevailing rate of wages, payment of medical care and attention to employees, certification of wages by contractors and subcontractors, liability to workmen for violation of minimum wage rate requirements.

c. Concerning payment of claims by public officers, termination of Contract because of a national emergency, conditions concerning the forfeiture of Contract.

It is understood and agreed that all parties to this Contract shall determine the contents of these applicable statutes and comply with their provisions throughout the performance of the Contract.

D-10. Safety Precautions. The Contractor shall take all necessary precautions for the safety of employees on the work and shall comply with all applicable provisions of Federal, State, and municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the work is being performed. The Contractor shall, without further order, provide and maintain at all times during the progress or temporary suspension of the work, suitable barricades, fences, signs, signal lights, and flagmen as are necessary or required to insure the safety of the public and those engaged in the work. The operations of the Contractor, for the protection of persons, and the guarding against hazards from machinery and equipment, shall meet the requirements of the applicable State laws and the current safety regulations as set forth in the Oregon Safety Codes adopted and published by the Workmen's Compensation Board, Salem, Oregon.

The Contractor shall be solely and completely responsible for condition of the premises on which the work is performed and for safety of all persons and property on the site during performance of the Contract. This requirement shall not be limited to normal working hours, but shall apply continuously. The Contractor shall conform with all governing safety regulations.

D-11. Protection of Property.

a. Protection of Work and Property. The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Contract. He shall at all times safely guard and protect his own work, and that of adjacent property (as provided by law and the Contract Documents) from damage. All passageways, guard fences, lights, and other facilities required for protection by State or municipal laws and regulations and local conditions, must be provided and maintained.

b. Responsibility of Contractor to Act in Emergency. In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor shall act, without previous instructions from the Owner or Engineer, as the situation may warrant. He shall notify the Engineer thereof immediately thereafter. Any compensation claimed by the Contractor, together with substantiating documents in regard to expense, shall be submitted to the Owner through the Engineer and the amount of compensation shall be determined by agreement or arbitration.

D-12. Materials and Appliances. Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

D-13. Access for Inspection. The Contractor shall furnish, without extra charge, the necessary test pieces and samples, including facilities and labor for obtaining the same, as requested by the Engineer. When required, the Contractor shall furnish certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory.

The Engineer and his representatives shall at all times have access to the work wherever it is in preparation or progress, and the Contractor shall provide facilities for such access and for inspection, including maintenance of temporary and permanent access.

If the Specifications, the Engineer's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give timely notice of its readiness for inspection. Inspections to be conducted by the Engineer will be promptly made, and where practicable, at the source of supply. If any work should be covered up without approval or consent of the Engineer, it shall, if required by the Engineer, be uncovered for examination at the Contractor's expense.

Re-examination of questioned work may be ordered by the Engineer; and, if so ordered, the work shall be uncovered by the Contractor. If such work be found in accordance with the Contract Documents, the Owner will pay the cost of re-examination and replacement. If such work be found not in accordance with the Contract Documents, the Contractor shall correct the defective work at no additional cost to the Owner.

D-14. Royalties and Patents. The Contractor shall pay all royalty and license fees, unless otherwise specified. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner and the Engineer harmless from loss on account thereof.

D-15. Indemnity. The Contractor shall indemnify, save harmless, and defend the Owner and the Engineer from and against all costs, expenses, and losses and all claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description made, brought, or recovered against the Owner by reason of any act or omission of the Contractor, his agents or employees, in the execution of the work or in guarding the same.

D-16. Taxes and Charges. The Contractor shall withhold and pay any and all withholding taxes, whether State or Federal; and pay all Social Security charges and also all State Unemployment Compensation charges; and pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws.

D-17. Unforeseen Difficulties. The Contractor shall protect his work and materials from damage due to the nature of the work, the elements, carelessness of other contractors, or from any cause whatever until the completion and acceptance of the work. All loss or damages arising out of the nature of the work to be done under these Contract Documents, or from any unseen obstruction or defects which may be encountered in the prosecution of the work, or from the action of the elements shall be sustained by the Contractor.

D-18. Contractor's Right to Stop Work or Terminate Contract. If the work should be stopped under an order of any court or other public authority for a period of three (3) months, through no act or fault of the Contractor or of anyone employed by him; or if the Engineer should fail to issue any estimate for payment within fifteen (15) days after it is due; or if the Owner should fail to pay the Contractor within thirty (30) days after the time specified in Article F-1 of these General Conditions any sum certified by the Engineer, then the Contractor may, upon fifteen (15) days' written notice to the Owner and the Engineer, stop work or terminate this Contract and recover from the Owner payment for all work executed and any loss sustained upon any plant or material and reasonable profit, unless said default has been remedied within said time.

D-19. Correction of Defective Work After Final Acceptance. All work, including the design of mechanical and electrical components of equipment and/or design of packaged control systems which are furnished as a component of equipment, shall be guaranteed for a period of one (1) year against defects in materials and workmanship. The Contractor hereby agrees to make, at his own expense, all repairs or replacements necessitated by defects in materials or workmanship supplied by him that become evident within one (1) year after the date of final acceptance of the work. The Contractor also agrees to hold the Owner harmless from liability of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work, and the Contractor and his Surety shall be liable for the cost thereof. Any additional requirements for the project relative to correction of defective work after final acceptance are set forth in the Special Provisions.

E. PROGRESS OF THE WORK

E-1. Beginning of the Work. Before work shall be started and materials ordered, the Contractor shall meet and consult with the Engineer relative to materials, equipment, and all arrangements for prosecuting the work.

E-2. Schedules and Progress Reports. Prior to starting the construction, the Contractor shall furnish the Engineer for his approval, if requested, a schedule or schedules of expected progress of the work under the Contract

showing approximately the dates on which each part or division of the work is expected to be started and finished. The progress schedules shall be submitted regularly and shall cover a time period satisfactory to the Engineer. The Contractor shall also forward to the Engineer, if requested, as soon as practicable after the first day of each month, a summary report of the progress of the various parts of the work under the Contract in the shops and in the field, stating the existing status, rate of progress, estimated time of completion, and cause of delay, if any.

E-3. Prosecution of the Work. It is expressly understood and agreed that the time of beginning, rate of progress, and time of completion of the work are of the essence of this Contract. The work shall be prosecuted at such time, and in or on such part or parts of the project as may be required, to complete the project as contemplated in the Contract Documents and the approved construction schedule.

If the Contractor desires to carry on work at night or outside the regular hours, he shall give timely notice to the Engineer to allow satisfactory arrangements to be made for inspecting the work in progress.

E-4. Assignment. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other; nor shall the Contractor assign any monies due or to become due to him hereunder without the previous written consent of the Owner.

E-5. Owner's Right to Do Work. If the Contractor should, in the opinion of the Engineer, neglect to prosecute the work properly or should neglect or refuse at his own cost to take up and replace work as shall have been rejected by the Engineer, then the Owner shall notify the surety company of the condition, and after ten (10) days' written notice to the Contractor and the surety company, or without notice if an emergency or danger to the work or public exists, and without prejudice to any other right which the Owner may have under the Contract, take over that portion of the work which has been improperly executed and make good the deficiencies and deduct the cost thereof from the payments then or thereafter due the Contractor.

E-6. Owner's Right to Transfer Employment. If the Contractor should be adjudged a 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 his insolvency; or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials; or if he should fail to make prompt payment to subcontractors or for material or labor; or persistently disregard laws, ordinances, or the instructions of the Engineer; or otherwise be guilty of a substantial violation of any provision of the Contract or any laws or ordinance; then the Owner, if sufficient cause exists to justify such action, may without prejudice to any other right or remedy, and after giving the Contractor and Surety seven (7) days' written notice, transfer the employment for said work from the Contractor to the Surety. Upon receipt of such notice, such Surety shall enter upon the premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the work included under this Contract and employ, by

contract or otherwise, any person or persons to finish the work and provide the materials therefor without termination of the continuing full force and effect of this Contract. In case of such transfer of employment to such Surety, the Surety shall be paid in its own name on estimates according to the terms hereof without any right of the Contractor to make any claim for the same or any part thereof. In lieu of the foregoing, if the Owner so elects, he may terminate the employment of the Contractor and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of completing the Contract, including compensation for additional managerial and administrative services, shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner.

E-7. Delays and Extension of Time. If the Contractor be delayed at any time in the progress of the work by any act or neglect of the Owner or the Engineer, or of any employee of either; or by any separate contractor employed by the Owner; or by changes ordered in the work; or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties, or any causes beyond the Contractor's control which justifies the delay, then the date for completion of the work shall be extended. Within a reasonable period after the Contractor submits to the Engineer a written request for an extension of time, the Engineer will present his written opinion to the Owner as to whether an extension of time is justified; and, if so, the number of days extension due the Contractor. The Owner will make the final decision on all requests for extension of time.

No such extension shall be made for delay occurring more than seven (7) days before claim therefor is made in writing to the Engineer. In the case of a continuing cause of delay, only one claim is necessary.

E-8. Liquidated Damages. Should the Contractor fail to complete the work, or any part thereof, in the time agreed upon in the Contract or within such extra time as may have been allowed for delays by extensions granted as provided in the Contract, the Contractor shall reimburse the Owner for the additional expense and damage for each calendar day, Sundays and holidays excluded, that the Contract remains uncompleted after the Contract completion date. It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work is the per diem rate stipulated in the Contract. The said amounts are hereby agreed upon as liquidated damages for the loss to the Owner on account of expense due to the employment of engineers, inspectors, and other employees after the expiration of the time of completion, and on account of the value of the operation of the works dependent thereon. It is expressly understood and agreed that this amount is not to be considered in the nature of a penalty, but as liquidated damages which have accrued against the Contractor; and the Owner is authorized to deduct the amount of such damages from any monies due the Contractor for work performed or material furnished under this Contract; and the Contractor and his Sureties shall be liable for any excess.

E-9. Other Contracts. The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their

materials and the execution of their work and shall properly connect and coordinate his work with theirs.

If any part of the Contractor's work depends, for proper execution or results, upon the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer any defects in such work that render it unsuitable for such proper execution and results. His failure to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after execution of his work.

E-10. Use of Premises. The Contractor shall confine his equipment, the storage of materials, and the operation of his workmen to limits shown on the Plans or indicated by law, ordinances, permits, or directions of the Engineer, and shall not unreasonably encumber the premises with his materials. The Contractor shall provide, at his own expense, the necessary rights-of-way and access to the work which may be required outside the limits of the Owner's property.

The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

E-11. Use of Completed Portions. The Owner shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents. If such prior use increases the cost of the work, or delays the completion of the work, the Contractor shall be entitled to extra compensation or an extension of time, or both. The Contractor's attention is directed to Articles E-7 and F-2.

E-12. Cutting and Patching. The Contractor shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon or reasonably implied by the Plans. Any defective work or material, performed or furnished by the Contractor, that may be discovered by the Engineer before the final acceptance of the work or before final payment has been made shall be removed and replaced or patched, in a manner as approved by the Engineer, at the expense of the Contractor.

E-13. Cleaning Up. The Contractor shall, at all times, at his own expense, keep property on which work is in progress and the adjacent property free from accumulations of waste material or rubbish caused by employees or by the work. Upon completion of the construction, the Contractor shall, at his own expense, remove all temporary structures, rubbish, and waste materials resulting from his operations.

F. PAYMENT

F-1. Partial Payment. On or about the last two (2) days of each calendar month, the Engineer will make an estimate of the value of the work satisfactorily completed, including acceptable material delivered. The amount of said

estimate, after deducting ten percent (10%) as provided hereinafter and all previous payments, shall be due and payable to the Contractor not more than ten (10) days after the last day of said month, except where the Owner is a municipality whose laws require the approval of each payment by a council or similar body; in which case, the amount of said estimate shall become due and payable ten (10) days after the first meeting in the following month scheduled for approval of such payments.

When the Contract price for public work exceeds Twenty-Five Thousand Dollars (\$25,000.00), the Owner will deduct ten percent (10%) of all progress payments for the work completed until five percent (5%) of the total Contract price has been retained. No additional retainage will be withheld unless otherwise provided in the Special Provisions. The amount retained as provided above will be withheld by the Owner until completion of the Contract to insure faithful completion of the work under the terms of the Contract Documents.

To receive partial payment for materials delivered, but not incorporated in the work, it shall be necessary for the Contractor to submit to the Engineer at least seven (7) days prior to the end of said month a list of such materials, with costs supported by invoices of suppliers. Proper storage and protection shall be provided by the Contractor. Final payment shall be made only for materials actually incorporated in the work and, upon acceptance of the work, all materials remaining for which advance payments had been made shall revert to the Contractor, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the work.

Monthly partial payments shall be conditional upon prosecution of the work in accordance with the provisions of the Contract and, on contracts for any public work in the State of Oregon except Federal projects, upon filing with the Owner by the Contractor the Wage Certification Form required by ORS Chapter 279, 1963, as amended.

Nothing contained in this article shall be construed to affect the right, hereby reserved, to reject the whole or any part of the aforesaid work should such work be later found not to comply with the provisions of the Contract Documents. All estimated quantities of work for which progress payments have been made are subject to review and correction on the final estimate. Payment by the Owner and acceptance by the Contractor of progress payments based on periodic estimates of quantities of work performed shall not, in any way, constitute acceptance of the estimated quantities used as the basis for computing the amounts of the progress payments.

F-2. Extra Work. Any work necessary or required to carry out the intent of these Contract Documents by changes clearly not indicated in the Contract Documents or which cannot reasonably be implied from the intent and meaning of the Contract Documents shall be considered as extra work. Payment for any ordered extra work or changes shall be determined by:

a. Unit prices used in the Contract Documents or agreed upon for the extra work or changes; or

b. Lump sum agreement, in writing, between the Contractor and the Owner; or

c. Force Account Work. If the method of payment cannot be agreed upon prior to the beginning of the work, and the Owner or the Engineer directs that the work be done on a force account basis, then the Contractor shall furnish labor, equipment, and materials at costs and rates in effect at the time the work is accomplished plus percentage allowances as designated hereinafter:

<u>Items of Cost on Which Payments Will Be Allowed</u>	<u>Percentage Allowance**</u>
(1) Payroll, for jobsite personnel*	15%
(2) Delivered costs of materials and supplies actually used on the designated work.	10%
(3) Rental on each piece of equipment, not owned by the Contractor, having a value in excess of \$100 actually used on the work.	15%
Rental on each piece of equipment, owned by the Contractor, having a value in excess of \$100 actually used on the work.	15%
(Rental rates shall not exceed those of the State Highway Department for comparable equipment.)	
(4) Subcontractors' bills (if any).	10%

For equipment rented on a day or hour basis, rental will be allowed for only those days or hours during which the equipment is in actual use. The rentals allowed for equipment will in all cases be understood to cover all fuel, supplies, repairs, and renewals, and no further allowances will be made for those items unless specific agreement to that effect is made.

If the latter method of payment is used, a breakdown of the Contractor's costs involved in any approved extra work shall be submitted to the Engineer within thirty (30) days after said extra work has been performed.

No payment will be made for extra work billed and submitted to the Engineer after the thirty (30) day period has expired. No extra work shall be performed by the Contractor, except in an emergency endangering life or property, unless in pursuance of a written order, as provided in Article B-3 of these General Conditions.

* Including documented actual wages and fringe benefits, labor insurance, taxes, and any other labor burdens.

**Includes all other overhead and profit.

F-3. Release of Liens or Claims. The Contractor shall submit, by a means acceptable to the Owner, evidence that provisions have been made to satisfy all liens or claims growing out of lawful demands for materials, labor, and incidentals in connection with the work before the final payment or any part of the retained percentage shall become due. Such means may include, but are not limited to, one or more of the following:

- a. Receipts in full for all items out of which a lien or claim could arise.
- b. Complete release of all liens and claims.
- c. Affidavit by Contractor that receipts or releases account for all labor, materials, or incidentals used in the work.
- d. A bond to indemnify Owner against any lien or claim.

If any lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien or claim, including all costs and a reasonable attorney's fee.

F-4. Final Payment. Upon completion of the work, the Contractor shall notify the Engineer, in writing, that he has completed his part of the Contract and shall request final payment. If the work has been completed to the intent of the Contract Documents, the Engineer shall recommend acceptance of the completed work and submit a final estimate of the amount due the Contractor under this Contract. Upon approval of this final estimate by the Owner and compliance with provisions in Article F-3 of these General Conditions, and other provisions as may be applicable, the Owner shall pay to the Contractor all monies due him under the provisions of these Contract Documents.

On contracts for public works, final payment of the retained percentage will not be made until the Contractor has also furnished the Wage Certification required by ORS Chapter 279, 1963, as amended.

SPECIAL SPECIFICATIONS

Foreword: The Contractor shall furnish all labor, materials, and equipment necessary or required to complete the work, in all respects, as shown on the Plans or as hereinafter specified, or both. The numbering system employed in these Special Specifications is used throughout the Contract Documents. Each section is divided, where applicable, into A, Scope; B, Materials; C, Workmanship; and D, Payment. This method is employed to facilitate the work of the Contractor in preparing his Proposal, and in following the Special Specifications during the construction.

When references to the following capitalized abbreviations are made, they refer to Specifications, Standards, or Methods of the respective national association. Abbreviations listed herein but not mentioned in the Special Specifications shall be disregarded.

AASHO	American Association of State Highway Officials
ACI	American Concrete Institute
AFBMA	Anti-Friction Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturer's Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
(USAS)	References to USA and ASA Standards shall be deemed to
(ASA)	refer to Standards of the American National Standards Institute. There is no change in the index identification on previously printed <u>current</u> ASA or USA Standards or their technical content, and they shall be considered to be ANSI Standards regardless of the designation.
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
AWS	American Welding Society
AWPA	American Wood Preservers' Association
CBMA	Certified Ballast Manufacturers Association
DFPA	Division for Product Approval of the American Plywood Association
Fed.	
Spec.	Federal Specifications
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IPCEA	Insulated Power Cable Engineers Association
JIC	Joint Industry Conferences of Hydraulic Manufacturers
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NESC	National Electric Safety Code
NFPA	National Fire Protection Association
NLMA	National Lumber Manufacturers Association

OEI	Overhead Electrical Crane Institute
RLM	RLM Standards Institute, Inc.
SSPC	Steel Structures Painting Council
TEMA	Tubular Exchanger Manufacturer's Association
UBC	Uniform Building Code
UL	Underwriters' Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau

The numbers and letters following the abbreviations denote the Association's serial designation for the Specification or Standard to which reference is made. Unless a particular issue is designated, all references to the above Specifications, Standards, or Methods shall, in each instance, be understood to refer to the issue in effect (including all amendments) on the date of the Advertisement for Bids or the Invitation for Bids.

Standard Specifications, when referred to herein, except the above, are found at the end of the Special Specifications.

Sp. Specs. -2-

-2-

IA. GENERAL REQUIREMENTS (ALL SCHEDULES)

The Contractor's attention is directed to the SPECIAL PROVISIONS, which contain other special requirements that are pertinent to this project.

SITE INVESTIGATION AND REPRESENTATION. The Contractor acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, 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.

The Contractor further acknowledges that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site, all exploratory work done by the Owner, as well as from information presented by the Drawings and Specifications made a part of this Contract.

Any failure by the Contractor to acquaint himself with all the available information will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.

The Contractor warrants that as a result of his examination and investigation of all the aforesaid data that he 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. Representations for which liability is not expressly assumed by the Owner in the Contract shall be deemed only for the information of the Contractor.

SUBSURFACE AND SITE INFORMATION. Test pits or test holes have been excavated to indicate subsurface materials at particular locations. The Engineer and Owner will make available to all prospective bidders, upon request, prior to the receipt of Proposals, all information that they may have as to subsurface conditions and surface topography at the work site. Investigations conducted by the Engineer of subsurface conditions are for the purpose of study and design, and neither the Owner nor the Engineer assumes any responsibility whatever in respect to the sufficiency or accuracy of the borings thus made, or of the log of test borings, or of other investigations, or of the interpretations made thereof, and there is no warranty or guarantee, either expressed or implied, that the conditions indicated by such investigations are representative of those existing throughout such area, or any part thereof, or that unforeseen developments may not occur.

A log of test borings showing a record of the data obtained by the Engineer's investigations of subsurface conditions is included as a part of the Contract Documents, said log represents only the opinion of the

Engineer as to the character of the materials encountered by him in his test borings and is included only for the convenience of the bidders.

Topographic maps were used in the design of the project; bidders may inspect such maps at the office of the Owner, and if available, they may obtain copies for their use upon payment of the cost of reproduction thereof.

Information derived from inspection of logs of test borings, of topographic maps, or from Plans showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the site and making such additional investigations as he may elect, or from properly fulfilling all the terms of the Contract Documents.

The submission of a Proposal shall be conclusive evidence that the Bidder has investigated and is satisfied as to the 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 Documents.

UNDERGROUND UTILITIES. Known utilities and structures expected to be adjacent to or encountered in the work are shown on the Plans. 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.

TRENCHING FOR UTILITY COMPANY. The Contractor shall provide suitable equipment to the utility company for pulling the device used to "plow-in" the primary power conductors to the pump station. It shall be the responsibility of the Contractor for Schedule P to coordinate this work so that it will not interfere with the installation of the pressure main. There shall be a minimum of 5 feet (horizontal) clearance between the pipeline and the power conductors. Cable installation shall be by the power company; trenching and backfill shall be by the power company utilizing the equipment supplied by the Contractor.

TEMPORARY WATER. Water is available from hydrants; however, the Contractor shall make his own arrangements and pay all costs for obtaining and transporting the water from the hydrants of the water system to the area of usage for the construction and testing of the facilities. Upon completion of the work, the Contractor shall remove all temporary piping and facilities used during the construction.

Secure permission from the representative of the Water Department or other administering agency, as well as the Fire Department before obtaining water from any fire hydrant. The Engineer shall also be notified of this request. Use only special hydrant operating wrenches to open hydrants and also make certain that the hydrant valve is open "full," since "cracking" the valve causes damage to the hydrant. If any hydrants are damaged, the Contractor will be held responsible and shall notify the appropriate water agency so that all damage can be repaired as quickly as possible. Maintain all fire hydrants within this work area in a completely accessible condition for the Fire Department at all times during the Contract.

TEMPORARY ELECTRIC POWER. No electric power is available at the site. Make arrangements for electrical power for use during the construction period until final acceptance by the Owner, and pay all costs for same.

SANITARY FACILITIES. The Contractor shall provide and maintain such sanitary accommodations for the use of his employees and those of his sub-contractors as may be necessary to comply with the requirements and regulations of the local and State departments of health and as directed by the Engineer.

LAND MONUMENTS. The Contractor shall preserve or replace all existing Federal, State, City, County, and private land monuments, unless they are within 5 feet of the trench center line. When these monuments are within the distance specified, the Contractor shall notify the Engineer at least 2 weeks in advance of the proposed construction in order that the Engineer will have ample opportunity to reference these monuments for later replacement by the Contractor.

Replaced or reset monuments shall be of acceptable type and quality, placed in a manner consistent with recognized engineering and surveying practices.

ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS. Authorized representatives of the Federal Water Pollution Control Administration, Oregon State Department of Environmental Quality, or other health agency and local government officials shall at all times have access to the work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and for inspection.

GENERAL CONSTRUCTION RESPONSIBILITIES AND PROCEDURES.

PUBLIC SAFETY AND CONVENIENCE. Comply with all rules and regulations of the City, State, and County authorities regarding the closing of public streets or highways to use of public traffic. No road shall be closed to the public except by express permission of the Engineer. Conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by approved signs, barricades, and lights where necessary or ordered by the Engineer for the safety of the public. The convenience of the general public and residents along the pipeline, and the protection of persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.

The Contractor shall use every reasonable precaution to safeguard the persons and property of the traveling public. It shall be the sole responsibility of the Contractor to furnish, place, and maintain those barricades, barriers, lights, flares, danger signals, and watchmen as are necessary to protect the persons and property of the traveling public. All barricades and obstructions shall be protected at night by signal lights which shall be suitably distributed and kept burning from sunset to sunrise.

Whenever the Contractor's operations create a hazardous condition, he shall furnish flagmen and guards as necessary or as ordered by the Owner to give adequate warning to the public of any dangerous conditions to be

encountered. Equip flagmen and guards, while on duty and assigned to give warning to the public, with approved red wearing apparel and a red flag which shall be kept clean and in good repair.

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

Provide for access at all times for livestock through farm areas; and, no portion of farmlands in which livestock are pastured shall be cut off from ready access by the farm animals.

ACCESS FOR POLICE, FIRE, AND POSTAL SERVICE. Notify the Fire Department and Police Department before closing any street or portion thereof and 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 any area, such as consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, unless the Contractor obtains special written permission from the Chief of the Fire Department. Conduct operations so as to cause the least interference with the fire station access and at no time prevent such access.

The Contractor shall leave his night emergency telephone number or numbers with the Chief of Police, so that the contact may be made easily at all times in case of barricade and flare trouble or other emergencies.

Maintain postal service facilities in accordance with the requirements of the U.S. Post Office Department. Move mailboxes to temporary locations designated by the Post Office Department, 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. Post Office Department.

PROGRESS OF CONSTRUCTION. It is the intent of these Contract Documents that the work shall proceed in a systematic manner so that a minimum of inconvenience will result to the public in the course of construction. It is, therefore, necessary to confine operations to as small a length of work area per crew as is feasible. Except under permission of the Engineer, at no time shall the trenching equipment be farther than 200 feet ahead of each pipe-laying crew. Backfill the trench so no section of approved pipe is left open longer than 24 hours, except by permission of the Engineer. Completely backfill and clean up after each section of pipe has been inspected and approved.

The Engineer reserves the right to withhold line and grade on any pipelines when, in his opinion, excessive trench is being opened ahead of the pipe laying; when backfilling behind the pipe laying is not proceeding satisfactorily; when manhole construction is lagging more than 5 calendar days behind the backfilling; when pipe testing, as outlined herein, is not

satisfactory; and when cleanup and restoration of all physical properties are lagging.

Cleanup of all construction debris, excess excavation, excess materials, and complete restoration of all fences, mailboxes, ditches, culverts, signposts, and similar items shall be completed immediately following the final backfilling of the pipeline.

EASEMENTS. Where portions of the work will be located on private property, easements and permits are being obtained by the Owner. Easements shall provide for the use of property for construction purposes to the extent indicated on the easements. Copies of these easements or proposed easements and permits are available from the Owner for inspection by the Contractor. It shall be the Contractor's responsibility to determine the adequacy of the easement obtained in every case. The Contractor shall confine his construction operations to within the easement limits or street right-of-way limits or make special arrangements with the property owners for the additional area required. Any damage to private property, either inside or outside the limits of the easements provided by the Owner, shall be the responsibility of the Contractor as specified herein. Before final payment will be authorized by the Engineer, the Contractor will be required to furnish the Owner with written releases from property owners where side agreements or special easements have been made by the Contractor or where the Contractor's operations, for any reason, have not been kept within the construction right-of-way obtained by the Owner.

It is anticipated that all the required easements and permits will be obtained before construction is started. However, should the procurement of any easement or permit be delayed, the Contractor shall schedule his work in such a way that his operations are confined to areas where easements or permits have been obtained or are not required, until such a time as the easement or permit has been secured.

INTERFERING STRUCTURES. Take necessary precautions to prevent damage to existing structures whether aboveground or underground. An attempt has been made to show major structures on the Plans. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed, and it is presented simply as a guide to possible difficulties.

Protect all 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 no additional cost to the Owner. Notify the Engineer of any damaged underground structure, and make repairs or replacements before backfilling takes place.

Remove and replace such small miscellaneous structures as fences, mailboxes, and signposts without additional compensation from the Owner. Replace these structures in a condition as good or better than their original condition.

If existing structures are encountered which will prevent the construction of the pipeline and which are not properly shown on the Plans, notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures. The cost of waiting or "down-time" during such field revisions shall be borne by the Contractor without additional cost to the Owner. If the Contractor shall fail to so notify the Engineer when an existing structure is encountered, but shall proceed with the construction despite this interference, he shall do so at his own risk.

CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE.

At points where the Contractor's operations could cause damage which might result in considerable expense, loss, and inconvenience when his operations are adjacent to or near railway, telegraph, telephone, television, power, oil, gas, water, sewer, irrigation, or other private or municipal systems, the operations shall be suspended until all arrangements necessary for the protection thereof have been made by the Contractor.

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 requesting permission and being granted to do so from the affected agency. Once permission has been granted, locate, if necessary, and expose all existing underground utilities in advance of the trenching operation.

Power poles less than 5 feet from the trench center line will be removed or protected at no cost to the Contractor. Protect all other poles from damage. If interfering power poles, telephone poles, guy wires, or anchors are encountered, notify the Engineer at least 48 hours in advance of construction operations to permit the necessary arrangements with the affected utility company for protection or relocation of the interfering structure.

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 carrying out of the work to be done under the Contract.

In the event of interruption to domestic water, sewer, storm drain, or to other utility services as a result of accidental breakage, or as a result of being exposed or unsupported, 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 received.

Neither the Owner nor its officers or agents shall be responsible to the Contractor for damages as a result of the location of the underground utilities being other than that shown on the Plans or for the existence of underground utilities not shown on the Plans.

In the event the Contractor encounters water service lines that interfere with trenching, he may, by obtaining prior approval of the Engineer, cut the service, dig through, and restore the service with similar and equal materials at the Contractor's expense.

Drainage culverts which are at or near right angles to the pipeline and are removed by the Contractor shall be replaced in kind at the expense of the Contractor; however, where the center line of the pipeline is within 4 feet of the center line of an existing parallel culvert, the Owner will pay the Contractor in accordance with the Special Specifications.

The Contractor shall replace, at his own expense, any and all other existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents or ordered by the Engineer.

FIELD RELOCATION. During the progress of construction, it is expected that minor relocations of the line will be necessary. Such relocations shall be made only by direction of the Engineer. Unforeseen obstructions encountered as a result of such relocations will not be subjects for claims for additional compensation by the Contractor to any greater extent than would have been the case had the obstructions been encountered along the original location.

SITE RESTORATION AND CLEANUP. At all times during the work, keep the premises clean and orderly, and upon completion of the work, leave the project free of rubbish or excess materials of any kind.

During construction, stockpile the excavated trench materials so as to do the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of whether these are on private property, City, State, or County rights-of-way. Remove all excavated materials from grassed and planted areas; and leave these surfaces in a condition equivalent to their original condition and free from all rocks, gravel, boulders, or other foreign material. Replace topsoiled areas as specified in Section TRENCH EXCAVATION AND BACKFILL, raked and graded to conform to their original contours. All existing drainage ditches and culverts shall be reopened and graded and natural drainage restored. Restore culverts broken or damaged to their original condition and location.

Upon completion of pipe laying and backfilling operations in any section, hand-rake and drag all former grassed and/or planted areas leaving all disturbed areas free from rocks, gravel, clay, or any other foreign material and ready, in all respects, for seeding by others. The finished surface shall conform to the original surface, and shall be free-draining, free from holes, rough spots, or other surface features detrimental to a seeded area.

The Owner will be responsible for all reseeding and fertilizing of all grassed areas and for replanting all areas where shrubs and ground cover which are on dedicated rights-of-way or within construction easement limits and which have been damaged during the normal construction operation. Any damage to grassed or planted areas outside of the dedicated rights-of-way or construction easements shall be the responsibility of the Contractor.

Originally seeded areas outside dedicated rights-of-way or easements shall be reseeded with first-quality seed approved by the property owner. All ground preparation and reseeding shall be done in accordance with the

best accepted practices for lawn planting. The Contractor shall be responsible for obtaining a satisfactory grass turf acceptable to the property owner.

Upon completion of the project, all areas used by the Contractor in connection with the work shall be finished as follows: Project site, borrow, and storage areas properly cleared of all temporary structures, rubbish, and waste materials and properly graded to drain and blend in with the abutting property; any waste area obtained by the Contractor for deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

STREET CLEANUP DURING CONSTRUCTION. 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.

DUST PREVENTION. Give all streets, roads, or detours used for hauling material to or from the construction area an oil dust preventive treatment or continually water to prevent dust.

Dust prevention measures shall be continuous until final acceptance by the Owner.

STREET CLEANING. Within 5 days after completion of all paving and gravel shoulder resurfacing on any block or 500-foot section of bituminous or concrete surfaced streets or roads, remove all dirt, mud, rock, gravel, and other foreign material from the paved surface.

After any section of street or road has been cleaned and accepted by the Engineer, all subsequent cleaning will be the responsibility of the Owner.

REMOVAL OF ROCK FROM FINISHED SURFACES. All loose rock and boulders larger than 2-inch diameter occurring on the surface of road or street shoulders as a result of the Contractor's operations shall be removed and disposed of by the Contractor.

Removal shall be by mechanical means and supplemented by hand labor where necessary.

All loose material larger than 2-inch diameter shall be removed prior to application of any required rock surfacing.

IRRIGATION AND DRAINAGE DITCHES. Following the backfill of the trenches, restore all irrigation and storm drain ditches destroyed, damaged, or otherwise modified during construction to a condition equivalent, in the opinion of the Engineer, to the condition of the ditch before construction. Ditches so reconstructed shall be built in their original locations.

OPERATION OF VALVES IN WATER SYSTEM PROHIBITED. 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 water system, except as specifically required by the Plans and Specifications and after approval is granted by

the Owner. Request approval well in advance of the time that the interruption of the existing service is required.

RESPONSIBILITY FOR DAMAGE TO EXISTING STRUCTURES. Where any existing structures or facilities which are intended to remain are damaged by the Contractor during demolition or construction, the Contractor shall promptly repair or replace the damaged portion or facility at no additional cost to the Owner.

EQUIPMENT MAINTENANCE. All equipment installed and appurtenances shall be provided with proper oil and lubricants by the Contractor before being placed in operation. All new equipment shall be maintained and operated by the Contractor until the work is accepted by the Owner.

EQUIPMENT OPERATING MANUALS. Provide 2 copies of the manufacturer's operating and maintenance instructions for each piece of equipment. Information shall be complete and in suitable form for ready use by the plant operator. Catalog cuts and information regarding spare parts shall be included. The operating manuals and instructions shall be assembled in ring binders or other form as directed by the Engineer.

PROJECT SIGNS. Provide as shown or where directed, two 8-foot wide by 4-foot high weatherproof signs constructed of 3/4-inch exterior type plywood. Signs shall bear the name of the project, Owner, Contractor, and Engineer, participating Federal and State agencies, and shall be painted and lettered by an experienced sign painter. Signs shall be painted with exterior type paint and shall have a white background with royal blue lettering. Details of the project signs and their location will be furnished by the Engineer after award of the Contract.

PAYMENT. The work specified in this section shall be considered incidental to the project cost, and the expense shall be included in the lump sum bid or unit price bids, as applicable.

SCHEDULE S
GRAVITY SEWERS

SCHEDULE S
GRAVITY SEWERS

S2A. TRENCH EXCAVATION AND BACKFILL

A. SCOPE. 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 pipe.

TYPE OF BACKFILL. Trench excavation and backfill will be divided into the following classifications for the purpose of payment:

CLASS C BACKFILL. Class C backfill will, generally, be limited to locations where trenches are located in unsurfaced areas and on street and road shoulders where prevention of subsequent trench settlement is not considered critical.

CLASS D BACKFILL. Class D backfill will, generally, be limited to traveled roadways and crossings where surfacing replacement will be made shortly after backfilling and subsequent trench settlement must be held to a minimum.

CLASS E BACKFILL. Class E backfill will, generally, be limited to streets and roadways on which gravel surfacing and oil mat surfacing are to be replaced.

GENERAL. For bidding purposes, the class of backfill to be used is indicated. 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. No claims for extra payment will be allowed for any deviation from the original, unless specifically outlined in other portions of these Specifications. During construction, the Engineer will designate the type of backfill to be used in each location throughout the project.

EXCAVATION AND BACKFILL FOR HIGHWAY CROSSINGS, CREEK CROSSINGS, AND SERVICE CONNECTIONS. Will be included for payment under the applicable section. Additional excavation for manholes will be included under section MANHOLE CONSTRUCTION.

B. MATERIALS.

TRENCH EXCAVATION. Excavation is unclassified. Complete all excavation regardless of the type of materials encountered. The Contractor shall make his own estimate of the kind and extent of the various materials which will be encountered in the excavation.

TRENCH BACKFILL.

CLASS D TRENCH BACKFILL. Gravel for Class D trench backfill shall be clean, bank- or pit-run gravel or crushed rock, having reasonably even gradation from coarse to fine. The maximum size shall be 4 inches.

FOUNDATION STABILIZATION. 2-1/2-inch minus crushed rock, with reasonably even gradation from coarse to fine and free from excessive dirt or other foreign material.

SURFACING ROCK FOR CLASS E TRENCH BACKFILL AND TRENCH MAINTENANCE. Crushed gravel or rock meeting applicable State Highway Department Specifications for base course materials. Submit samples to the Engineer for approval, if requested. Provide 3/4-inch and 1-1/2-inch minus as directed for trench maintenance. Provide 1-1/2-inch minus for Class E trench backfill.

WATER FOR TRENCH BACKFILL. It will be the Contractor's responsibility to make all the necessary arrangements for a source of water and bear all costs for the delivery of the water to the trench side.

The Owner has indicated that water may be obtained from fire hydrants located throughout the project at cost.

MANUALLY GUIDED VIBRATORY COMPACTOR. Self-propelled machine that compacts granular material by a combination of weight, vibration, and impact, similar to the Jackson Manually Guided Vibratory Compactor, as manufactured by Jackson Vibrators, Inc., of Ludington, Michigan. Operate the compactor at a speed not exceeding 60 linear feet per minute or at the speed recommended by the manufacturer if slower. A pass of the machine shall consist of one trip over each lift of backfill material with a 2-inch overlap on previously compacted area.

C. WORKMANSHIP.

CLEARING THE RIGHT-OF-WAY. Where 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 and pile for disposal. Stumps within 4 feet of the trench center line shall be removed. All trees, brush, and other flammable debris from the clearing shall be burned or otherwise disposed of off the construction site in an approved location at the Contractor's expense. Observe all Federal and State laws relating to fire permits and local regulations relating to burning such materials. Do not permit excavated materials to cover brush or trees prior to clearing and burning.

Do not remove existing trees or tree limbs over 2 inches in diameter, whether on public or private property, unless they are within 4 feet of the trench center line, without permission from the Engineer.

OBSTRUCTIONS. This item refers to obstructions which may be removed and do not require replacement. Obstructions to the construction of the trench such as tree roots, stumps, abandoned piling, buildings and concrete structures, logs, rubbish, and debris of all types shall be removed without additional compensation from the Owner. The Engineer will, if requested, make changes in the trench alignment to avoid major obstructions, if such alignment changes can be made within the perpetual easement and right-of-way and 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.

REMOVAL OF TOPSOIL. Attention is directed to Section GENERAL REQUIREMENTS for additional trench surfacing and/or seeding requirements. In all cases, where trenches cross lawns, garden areas, pasturelands, cultivated fields, or other areas on which reasonable topsoil conditions exist, first 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. In lieu of stockpiling the top 12 inches of soil, approved loam topsoil from borrow pits may be substituted in the top 10 inches. Maintain the finished grade of the topsoil over the center line of the trench level with the immediate area bordering the trench until final acceptance by the Engineer. Correct all damage to adjacent topsoil caused by trenching or pipe-laying operations by regrading, removal of all rock, gravel, clay, and any other foreign materials from the surface, and by the addition of topsoil when required.

PAVEMENT, CURB, AND SIDEWALK REMOVAL. Cut all bituminous and concrete pavements, regardless of the thickness, and all curbs and sidewalks prior to excavation of the trenches with an approved pavement saw, hydrohammer, or other approved breaker. Width of the pavement cut shall be at least equal to the required width of the trench at ground surface.

Pavement and concrete materials removed shall be classified under common excavation and shall be taken from the site and not used for trench backfill. Payment for pavement and concrete materials removed shall be included in the unit prices for trench excavation and backfill as common excavation. Payment for replacement of pavement and concrete materials shall be included under Section SURFACE RESTORATION.

TRENCH WIDTH. Minimum width of unsheeted trenches in which pipe is to be laid shall be 18 inches greater than the inside diameter of the pipe, except by permission of the Engineer. Sheet piling requirements shall be independent of trench widths.

The maximum clear width at the top of the pipe will not be limited, except in cases where excess width of excavation would cause damage to adjacent structures.

The Contractor shall conduct his trenching operation so that the top edge of the constructed trench between Stations 56+80 and 83+65 on Interceptor A shall not be nearer than 2 feet to the edge of the existing bituminous surfacing. In any area specified for Class E backfill, where the top edge of the trench is cut closer than 2 feet to the edge of the existing bituminous surfacing, the Contractor shall backfill the entire trench with Class D backfill material compacted as specified herein, at no additional cost to the Owner.

In all cases, confine trench widths to dedicated rights-of-way for public thoroughfares or within areas for which construction easements have been obtained, unless special arrangements have been made with the affected property owners.

GRADE. Carry the bottom of the trench to the lines and grades shown or as established by the Engineer with proper allowance for pipe thickness and for gravel base or special bedding when required. 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 under pipe by placing the gravel over the full width of trench in thoroughly compacted layers not exceeding 6 inches to the established grade.

SHORING, SHEETING, AND BRACING OF TRENCHES. Whenever necessary to prevent caving during excavation in sand, gravel, sandy soil, or other unstable material, or to protect adjacent structures or property, adequately sheet and brace the trench. Where sheeting and bracing are used, increase trench widths accordingly. Keep trench sheeting in place until the pipe has been placed, backfilled at the pipe zone, tested for defects, and repaired, if necessary. All sheeting, shoring, and bracing of trenches shall conform to the requirements of the public agency having jurisdiction.

LOCATION OF EXCAVATED MATERIALS. During trench excavation, locate the excavated material within the construction easement or right-of-way so that the excavated material will not obstruct any private- or public-traveled roadways or streets. Pile and maintain material from trenches so that the toe of the slope of the material excavated is at least 2 feet from the edge of the trench. It shall be the Contractor's responsibility, however, to determine the safe loading of all trenches with excavated material.

REMOVAL OF WATER. Provide and maintain ample means and devices with which 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.

Dispose of the water in an approved manner without damage to adjacent property. Drainage of trench water through the pipeline under construction is prohibited.

FOUNDATION STABILIZATION. 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, and backfill the trench to subgrade of pipe base.

PIPE BASE AND BACKFILL IN PIPE ZONE. Base and pipe zone backfill are included in specification for pipe.

TRENCH BACKFILL ABOVE PIPE ZONE. Push all earth, gravel, or other material used in backfilling first onto the slope of the backfill previously placed and allow to roll down into the trench. Do not push the backfill material into the trench in such a way as to permit free fall of the material into the open trench until at least 2 feet of cover is provided over 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 one foot in size.

CLASS C BACKFILL. After the completion of the backfilling of the pipe zone, the excavated trench material may be pushed back into the trench by mechanical means. The requirements for topsoil shall apply in all trenches not in improved roads or streets.

Where Class C backfill is used 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 full width of the trench. When Class C backfill is used under paved or graveled streets and lawn or garden areas, the trench shall be level with the existing grade. In all other locations where Class C backfill is used, the Contractor shall make his own estimate of the amount of backfill material required at the trench so that after normal settlement has occurred, 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 guarantee period shall be corrected by regrading, disposal of excess material, and adding additional material where required.

CLASS D BACKFILL. Backfill the entire trench above the pipe zone with Class D backfill material. Compact the entire trench depth by water settling or compact in suitable lifts with vibratory compactors, pneumatic or gasoline powered tampers, or hydraulic hammers. Determine the type of equipment and method to use and amount of compaction required to prevent subsequent settlement.

Maintain the surface of the backfilled trench level with the existing grade with 3/4-inch minus gravel or crushed rock until pavement replacement is completed or the entire project is accepted by the Owner.

Any subsequent settlement of the finished surfacing during the warranty period shall be promptly repaired by the Contractor at no cost to the Owner.

CLASS E BACKFILL. Backfill the trench above the pipe zone with excavated material to a depth of 9 inches below the ground surface. Place a minimum of 9 inches of 1-1/2-inch crushed gravel or rock as specified over the entire trench surface and compact by at least 5 passes with the wheels of a loaded 10-yard dump truck or other approved equipment. The final back-filled surface shall be at the same level as the original surface.

When water settlement of Class E backfill is required, saturate the trench prior to placing the 9 inches of gravel as specified hereinbefore. Stockpile sufficient material along the trench to provide the make-up material required to backfill up to 9 inches below the ground surface after water settling is completed. Then place surfacing rock as specified.

Where water settlement is specified, provide temporary crossings of the trench as required for the normal access and flow of traffic until the water settlement has been completed and the 9 inches of gravel have been placed. Remove any nongranular material used for this purpose in the 9-inch deep gravel zone below the ground surface before crushed rock is placed. Should crushed rock be used for the temporary crossings, removal will not be required.

No payment will be made for Class E excavation and backfill in trenches specified for water settling until the saturation of the trench and water settlement have been completed and the required gravel placed.

MAINTENANCE OF TRENCH BACKFILL. Maintain the backfilled trench surfacing between any 2 successive manholes until the following operations have been completed to the satisfaction of the Engineer:

Service connections installed and backfilled, including water settling when required;

Construction of manholes and appurtenances;

Hydrostatic or air testing;

Cleanup and restoration of all physical features;

Utilities restored to their original condition or better;

and in general, all work required between the 2 manholes accomplished with the exception of repaving.

This maintenance shall include, but not be limited to, the addition of surfacing rock to keep the surface of Class E and D backfilled trenches reasonably smooth and free from excessive ruts and potholes and suitable for normal traffic flow.

No additional payment will be made for the maintenance of the trench backfill or initial Class E gravel surfacing prior to completion of the work outlined above.

No pavement replacement shall be undertaken until all items outlined above have been completed to the satisfaction of the Engineer.

Once a trench section has been completed and accepted by the Engineer, all subsequent maintenance gravel ordered by the Engineer over Class E backfilled trenches will be paid for under the surfacing replacement specifications.

Maintenance of Class D 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 D backfill.

EXCESS EXCAVATED MATERIAL. Dispose of all excess excavated materials. Make arrangements for the disposal and bear all costs or retain any profit incidental to such disposal.

DRAINAGE CULVERTS. Replace in kind drainage culverts which are removed and are at or near right angles to the trench center line. If the pipe is damaged during removal, dispose of it and furnish and install new pipe. Dispose of culvert pipe that is in too poor condition to replace because of age, physical conditions, or other reasons beyond the Contractor's control, and install new pipe furnished by the Owner.

Where the center line of the proposed pipeline is within 4 feet of the center line of an existing parallel culvert, the Owner will pay for removal and replacement of the culvert under Section SURFACE RESTORATION.

All culverts with center lines over 4 feet from the trench center line shall be protected from damage or restored to equivalent condition, if damaged, at no additional cost to the Owner.

Replace all culvert pipe to the lines and grades established by the Engineer. Do not replace culverts until the proposed pipeline is installed and the proper backfilling of the trench has been completed to the subgrade of the culvert.

WATER SETTLING OF TRENCH BACKFILL. Backfill the trench as specified hereinbefore, to a point level with or slightly above the required grade to allow for settlement. After all structures are completed and all sub-surface utilities have been restored to their original condition, place water in the trench section in such quantities and in such a manner that all portions of the backfill for the entire trench depth become saturated.

Water settle by jetting water at a minimum pressure of 35 psi through a minimum 1-inch pipe and supply hose. Extend the jetting pipe into the backfill to within 2 feet above the pipeline and operate until the trench is thoroughly saturated. Start the jetting at the lower end of the trench. Insert the pipe on both sides of the trench and at maximum 6-foot intervals.

Determine the correct procedures and provide the quantity of water required in every case to effect complete water settlement of the backfilled material. Any subsequent settlement of the trench or ditch during the guarantee period shall be considered to be the result of improper water settlement and shall be corrected at no expense to the Owner.

Water settling, if used in Class D backfilled trenches, is at the Contractor's option and is included as part of the backfilling procedure for that class.

IRRIGATION AND DRAINAGE DITCH RESTORATION. Undercrossings of minor irrigation ditches not covered in a special section shall be backfilled so that the upper one foot of material in the ditch between ditch banks is topsoil, loam, or clay. Compact this material for the full ditch width to maximum density with gasoline or pneumatic powered tampers.

D. PAYMENT. Payment for the work specified in this section will be made at the unit prices stated in the Contractor's Proposal and shall be included under the following items. Computation of quantities will be as indicated for each item and will be based upon measurements made by the Engineer.

Payment for trench excavation and backfill for service connection pipe will be included under that section.

TRENCH EXCAVATION AND BACKFILL. 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 set forth in the Contractor's Proposal. The depth figures indicated in the Proposal 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. 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 center line 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 will be considered as including payment for all work specified herein, or not specifically paid for in other sections, except foundation stabilization and water settling other than for Class D. Pipe base and pipe zone backfill will be paid for under Section GRAVITY SEWER PIPE.

No extra payment will be made for providing additional cover over the pipe when required.

Consider the price bid per linear foot to include any extra excavation required to provide space for gravel base.

FOUNDATION STABILIZATION. Payment for this item will be based on the unit price per cubic yard as set forth in the Contractor's Proposal. 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 his 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 be considered full payment for all materials, labor, equipment, and incidentals necessary to furnish materials at trench side and for placing it in the trench and for the extra depth of trench excavation required below flow line 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.

WATER SETTLEMENT OF TRENCH BACKFILL. The work required under this item shall be paid for on a linear foot basis. The payment per linear foot will be the amount set forth in the Contractor's Proposal and shall be considered as full payment for all equipment, labor, materials, and incidentals necessary to furnish water at trench side and placing the water in the trench in such quantities as to effect complete water settlement of the backfill.

Payment for water settlement of Class D backfill is included hereinbefore under trench excavation and backfill for gravity sewer pipe.

S2B. MANHOLE CONSTRUCTION

A. SCOPE. This section covers the work necessary for the construction of manholes, complete. Standard Manhole Details are bound herewith.

B. MATERIALS.

BASE ROCK. Clean 3/4-inch minus gravel or crushed rock uniformly graded from coarse to fine.

CONCRETE. Ready-mixed, conforming to ASTM C 94, Alternate 2. Compressive field strength for manhole bases shall be not less than 2,500 psi at 28 days. Maximum size of aggregate shall be 1-1/2-inch. Slump shall be between 2 and 4 inches.

FORMS. Exterior exposed surfaces shall be plywood; others shall be matched boards, plywood, or other approved material. Form all vertical surfaces. Trench walls, large rock, or earth will not be approved form material.

PRECAST MANHOLE SECTIONS. Precast manhole sections shall be minimum 42 inches in diameter, conforming to ASTM C 478. Minimum wall thickness shall be 4 inches. Provide eccentric cones for all manholes. Cones shall have same wall thickness and reinforcement as manhole section. Top and bottom of cone shall be parallel. Either tongue-and-groove or Keylock joints will be acceptable. The Contractor's attention is directed to specification for MORTAR hereinafter.

Prior to the delivery of any size of precast manhole section on the jobsite, yard tests will be conducted at the point of manufacture. The precast sections to be tested will be selected at random from the stockpiled material which is to be supplied for the job. All test specimens will be mat tested, and shall meet the permeability test requirements of ASTM C 14.

No manhole steps are required.

MANHOLE EXTENSIONS. Concrete risers for extensions shall be a maximum of 6 inches high and of approved construction. Risers shall be approved by Engineer before installation.

In general, manhole extensions will be used on all manholes in roads or streets or in other locations where a subsequent change in existing grade may be likely. Extensions will be limited to a maximum height of 12 inches. Finish grade for manhole covers shall be level with finished ground or street surface unless otherwise directed by the Engineer.

MORTAR. Proportion 1 part portland cement to 2 parts clean, well-graded sand which will pass a 1/8-inch screen. Admixtures may be used not exceeding the following percentages of weight of cement: hydrated lime, 10 percent; diatomaceous earth or other inert materials, 5 percent. Consistency of mortar shall be such that it will readily adhere to the pipe if using the standard tongue-and-groove type joint. If the Keylock type joint is used, the consistency shall be such that excess mortar will be forced

out of the groove and support is not provided for the next precast manhole section to be placed. Mortar mixed for longer than 30 minutes shall not be used.

Standard premixed mortar conforming to ASTM C 387 may be used in lieu of the above.

PREFORMED PLASTIC GASKETS. Preformed plastic gaskets may be used in lieu of mortar type joints and shall be Ram-Nek, manufactured by K. T. Snyder Company, Inc., Central National Bank Bldg., Houston, Texas, or as approved, meeting all requirements of Federal Specification SS-S-00210.

PIPE AND FITTINGS. Tees and ells for drop manholes shall be extra-strength concrete or clay conforming to ASTM C 14 or ASTM C 200, respectively. Type of joint optional.

PIPE STUBOUTS FOR SERVICE CONNECTIONS. Conform to requirements for service connection pipe specified hereinafter.

PIPE STUBOUTS FOR FUTURE MAIN AND LATERAL CONNECTIONS. Pipe stubouts shall be the same type as approved for use in lateral, main, or trunk sewer construction. Strength classifications shall be same class as in adjacent trenches. Where there are 2 different classes of pipe at a manhole, the higher strength pipe will govern strength classification. Rubber-gasketed watertight plugs shall be furnished with each stubout adequately braced against all hydrostatic or air test pressures.

MANHOLE FRAMES AND COVERS. Cast iron of size and shape detailed on Standard Manhole Details, bound herewith. Covers shall have the word SEWER in 2-inch raised letters. Castings shall be tough, close-grained gray iron, sound, smooth, clean, free from blisters, blowholes, shrinkage, cold shuts, and all defects, and shall conform to ASTM A 48, Class 30. Plane or grind bearing surfaces to insure flat, true surfaces. Covers shall be true and seat within ring at all points.

WATERTIGHT MANHOLES. Prevent watertight manhole frames and covers from blowing off during sewer surcharging by installation of watertight manhole ring fasteners as shown.

C. WORKMANSHIP.

EXCAVATION AND BACKFILL. Conform to applicable portions of Section TRENCH EXCAVATION AND BACKFILL. Backfill of manholes shall conform to highest trench class immediately adjacent.

CONCRETE BASE. Remove water from excavation. Provide 6-inch minimum layer compacted base rock of type specified hereinbefore under BASE ROCK. Construct concrete base so that first section of precast manhole has uniform bearing throughout full circumference.

Deposit sufficient mortar on base to assure watertight seal between base and manhole wall or place the first precast section of manhole in concrete base before concrete has set, if preferred. First section shall be properly located and plumb.

If material in bottom of trench is unsuitable for supporting manhole, excavate below the flow line as directed by Engineer, and backfill to required grade with 2-1/2-inch minus, crushed rock. Payment to be made as foundation stabilization material in Section TRENCH EXCAVATION AND BACKFILL.

PLACING PRECAST MANHOLE SECTIONS. Clean ends of sections of foreign materials. Thoroughly wet joint with water prior to placing mortar. Place mortar on groove of lower section. Set next section in place. Fill joint completely with mortar of the proper consistency. Trowel interior and exterior surfaces smooth on standard tongue-and-groove joints. Wipe or otherwise clean the excess mortar from the inside of the Keylock joint.

When the Keylock joint is used, it is the intent that the void between the tongue-and-groove be completely filled with mortar and that the interior and exterior end faces of the section to be placed seats fully on the previously placed section.

Prevent mortar from drying out and cure by applying an approved curing compound or comparable approved method. Chip out and replace all cracked or defective mortar. Completed manholes shall be rigid and watertight.

PREFORMED PLASTIC GASKETS. Preformed plastic gaskets shall be installed in strict conformance with the manufacturer's recommendations. Only pipe primer furnished by the gasket manufacturer will be approved.

MANHOLE INVERT. Construct manhole inverts in conformance with Standard Manhole Details, bound herewith, and with smooth transitions to insure an unobstructed flow through manhole. Remove all sharp edges or rough sections which tend to obstruct flow. Where a full section of pipe is laid through a manhole, break out the top section as indicated and cover exposed edge of pipe completely with mortar. Trowel all mortar surfaces smooth.

SPECIAL DROP MANHOLES (ADDITIVE ALTERNATE NO. 1). Construct special drop manhole at Station 28+36 on Interceptor B, as shown on the Plans. In lieu of the drop construction as shown, the Contractor may substitute Class 150 mechanical joint cast iron pipe. The cast iron pipe shall extend to undisturbed earth and be connected to the sewer pipe with an approved adapter. The drop pipe shall be installed so that no portion is protruding into the 15-inch stubout. The entire drop assembly shall be encased in concrete as shown. All details of construction shall be approved by the Engineer.

FLEXIBLE JOINTS. Provide joints in nonreinforced concrete, asbestos-cement, and clay pipe sewers not more than 1.5 feet from manhole walls. Lay pipes entering manholes on firmly compacted base rock to undisturbed earth. Base rock shall be as specified hereinbefore.

SERVICE CONNECTION STUBOUTS. Install 4- and 6-inch service connection stubouts in manholes only when directed by the Engineer. Place the service connection stubouts in the manhole base or through the wall of the precast manhole sections. Maximum length shall be 1.5 feet. Use mortar as specified hereinbefore to grout in service connection pipe in a watertight manner. Furnish all stubouts with a watertight gasketed pipe plug suitably braced against blowoff. Provide compacted base rock as specified hereinbefore to undisturbed earth under each stubout.

Place the invert of either 4- or 6-inch service connection pipe 1.0 foot above the flow line of the manhole, unless otherwise directed by the Engineer.

SEWER STUBOUTS. Install stubouts from manholes for sewer extensions as shown or required by the Engineer. Maximum length shall be 1.5 feet outside the manhole wall. Grout pipes in precast walls or manhole base to provide watertight seal around pipes. Construct invert channels in accordance with Standard Manhole Details, bound herewith. Provide compacted base rock as specified hereinbefore to undisturbed earth under all stubouts.

SEMI-PERMANENT PLUGS. Install semipermanent plugs of concrete, clay, or asbestos-cement with gasket joints similar to sewer pipe joints on all sewer stubout pipes at the locations shown. Plugs shall be capable of withstanding all internal or external pressures without leakage. All plugs to be braced to prevent blowoffs.

MANHOLE EXTENSIONS. Install extensions as shown on Standard Manhole Details, bound herewith, and to height determined by Engineer. Lay rings in mortar with sides plumb and tops level. Seal joints with mortar as specified for manhole sections. Extensions shall be watertight.

MANHOLE RINGS AND COVERS. Install rings and covers on top of manholes to positively prevent all infiltration of surface or groundwater into manholes. Rings shall be set in a bed of mortar with the mortar carried over the flange of the ring as shown on the Standard Manhole Details, bound herewith. Set rings so tops of covers are flush with surface of adjoining pavement or ground surface, unless otherwise shown or directed.

CONNECTION TO EXISTING MANHOLE. Connect Interceptor A to existing manhole at the location indicated. Provide all diversion facilities and perform all work necessary to maintain sewage flow in existing sewers during connection to the manhole. Break out existing manhole bases or grouting as necessary and regROUT to provide smooth flow into and through existing manhole.

CONNECTION TO EXISTING SEWER (ADDITIVE ALTERNATE NO. 1). Connect the existing Wynooskie Pump Station bypass to the special drop manhole at Station 28+36, Interceptor B, with a concrete closure collar. Furnish and install new 12-inch concrete, clay, or asbestos-cement sewer pipe from the special drop manhole to undisturbed earth prior to making the connection.

HYDROSTATIC TESTING. When, in the Engineer's opinion, the groundwater table is too low to permit visual detection of leaks, up to 10 percent but in no case less than 5 percent of the total project manholes shall be hydrostatically tested. The test shall consist of plugging all inlets and outlets and filling the manhole with water to a height determined by the Engineer. Leakage in each manhole shall not exceed 0.2 gallon per hour per foot of head above the invert. 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.

If more than 50 percent of the manholes tested fail the hydrostatic test, the Contractor will be required to test all or as many manholes as the Engineer may deem necessary. Repair all manholes that do not meet the leakage test, or are unsatisfactory from visual inspection, to conform to the requirements herein.

D. PAYMENT.

STANDARD MANHOLES. Payment for standard manholes will include payment for all work necessary to construct the manholes of the type specified by the Engineer. Differentiation for payment will be made for manholes with watertight covers. Payment for standard manholes will be based on the price stated in the Contractor's Proposal for manholes 6 feet deep, plus the unit price per foot stated in the Contractor's Proposal for extra depth of standard manholes over 6 feet, including extensions if required. No deduction will be made from the manhole price for depths less than 6 feet. Manhole depths will be measured from the top of the manhole ring and cover to the manhole invert at the center of the manhole. The depth will be to the nearest foot, as measured by the Engineer. Payment shall include compensation for overexcavating and placing the compacted 6-inch layer of base rock under the concrete base.

SPECIAL DROP MANHOLE. Payment for special drop manhole at Station 28+36, Interceptor B, Additive Alternate No. 1, will be based on price as stated in the Contractor's Proposal. Payment shall constitute full compensation for constructing the manhole, complete with all accessories as shown.

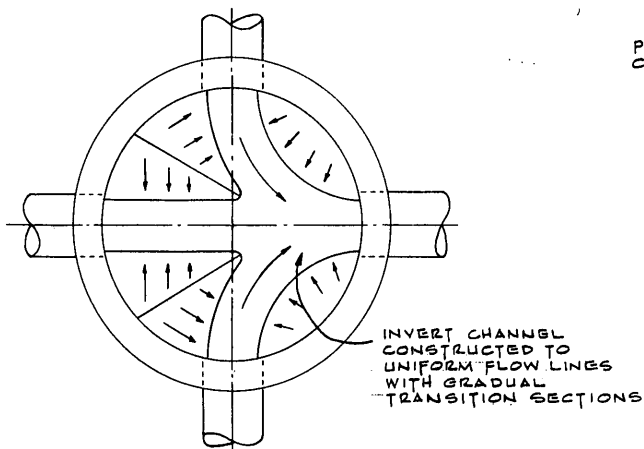
SERVICE CONNECTION PIPE STUBOUTS. Payment for pipe stubouts for service connections will be based on the unit price for each as stated in the Contractor's Proposal. Payment shall constitute full compensation for the work related to furnishing and installing the service connection pipe stubouts, complete, as specified.

PIPE AND PIPE PLUGS FOR FUTURE SEWER CONNECTIONS. Payment for pipe stubouts for future lateral connections will be based on the unit price for each size set forth in the Contractor's Proposal. Payment shall constitute full compensation for the work related to furnishing and installing the pipe and pipe plugs for future sewer connections, complete, as specified.

CONNECTION TO EXISTING MANHOLE. Payment for connection to existing manhole will be based on the lump sum price for each connection as set forth in the Contractor's Proposal. Payment shall constitute full compensation for all work required to make each connection, complete, as specified.

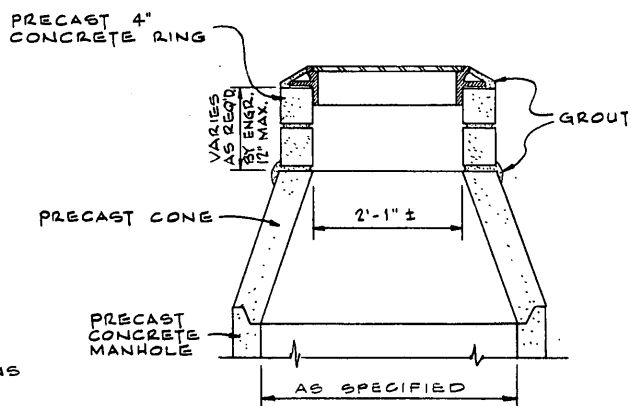
CONNECTION TO EXISTING SEWER (ADDITIVE ALTERNATE NO. 1). Payment for the connection of Interceptor B to the existing bypass line from the Wynooskie Pump Station will be based on the lump sum price for the connection as stated in the Contractor's Proposal. Payment shall constitute full compensation for all work required to make the connection, complete, as specified.

STANDARD MANHOLE DETAILS



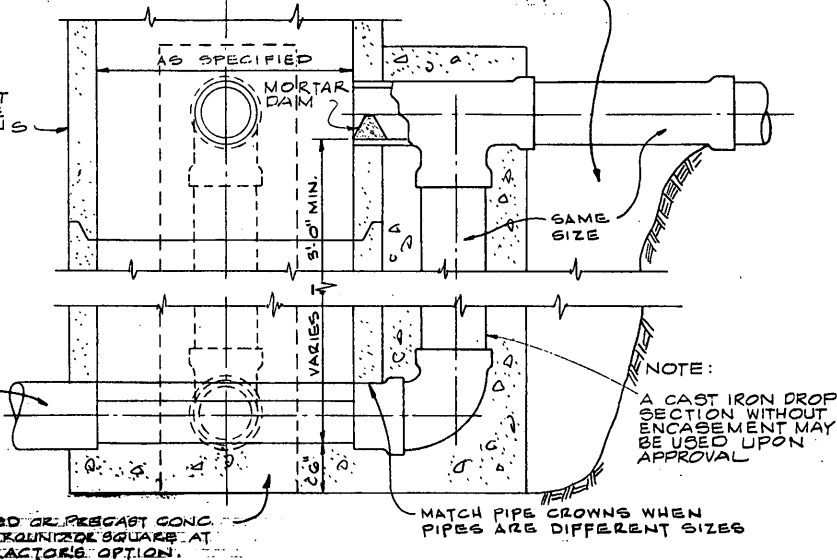
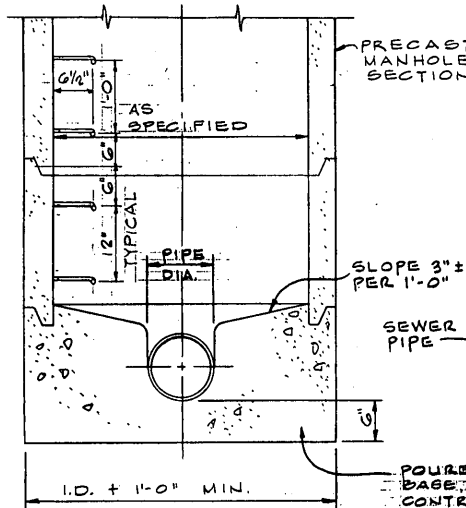
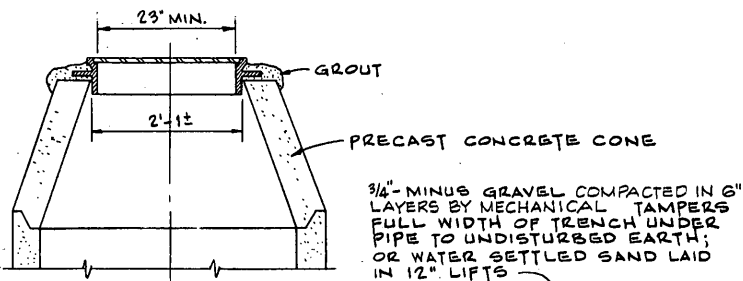
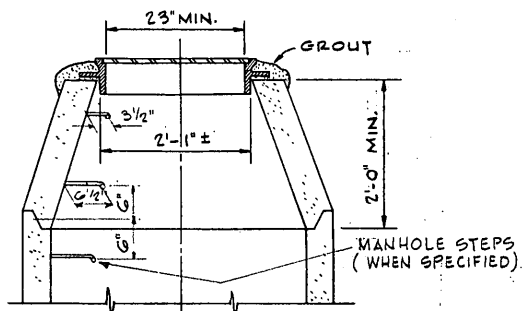
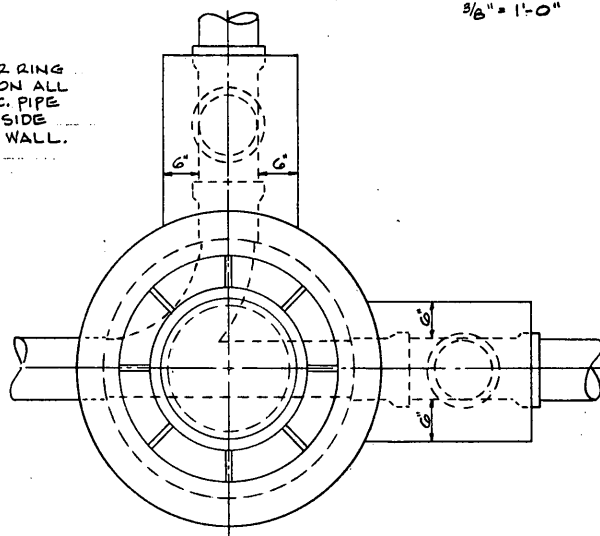
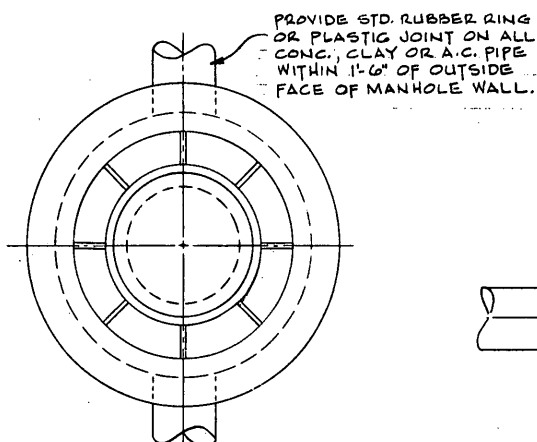
GENERAL PLAN OF CHANNEL INTERSECTION

$\frac{3}{8}" = 1'-0"$



PRECAST RING EXTENSION FOR TYPICAL MANHOLE

$\frac{3}{8}" = 1'-0"$

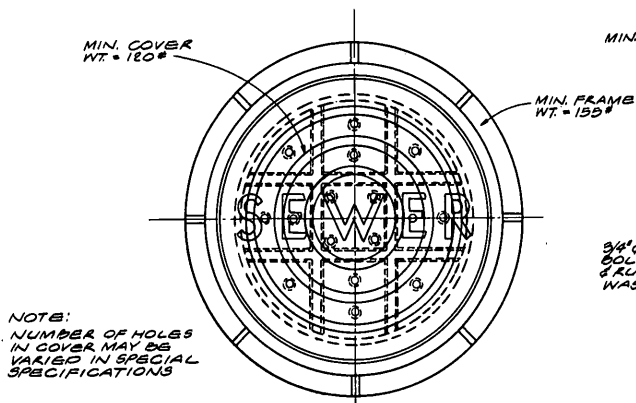


TYPICAL MANHOLE - 6" TO 21" PIPE

$\frac{3}{8}" = 1'-0"$

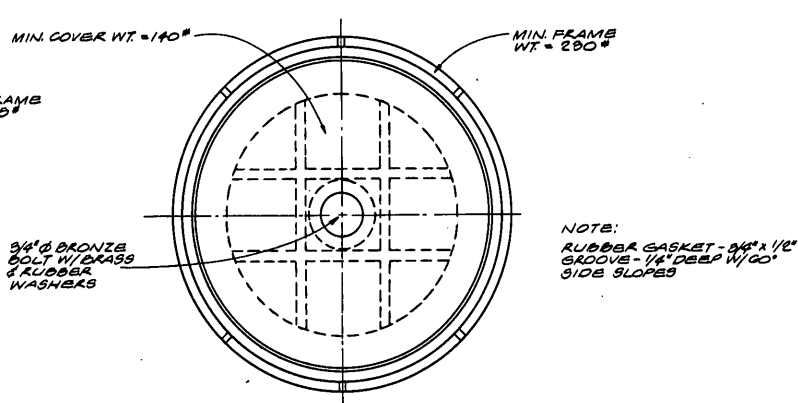
TYPICAL DROP MANHOLE

$\frac{3}{8}" = 1'-0"$



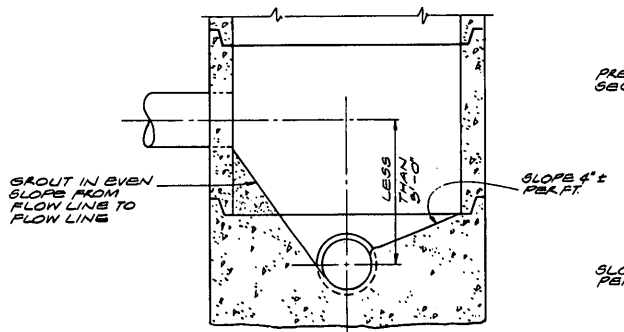
STANDARD MANHOLE RING & COVER

N.T.S.



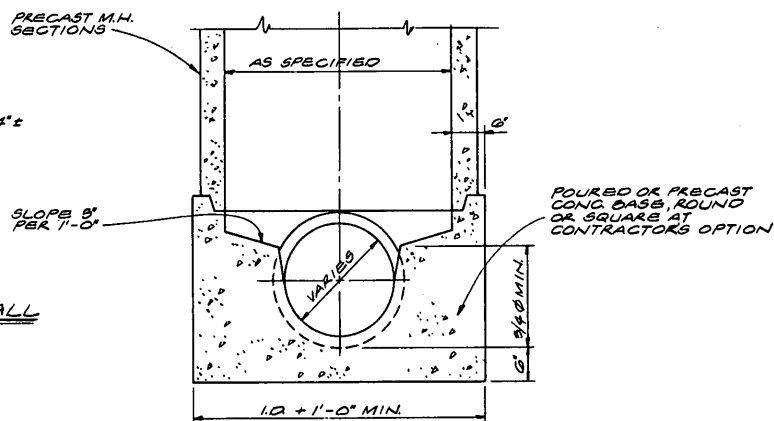
WATERTIGHT MANHOLE RING & COVER

N.T.S.



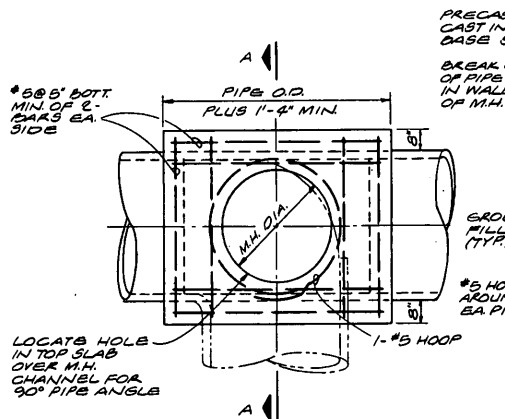
TYPICAL MANHOLE HAVING FALL
LESS THAN 3'-0"

N.T.S.

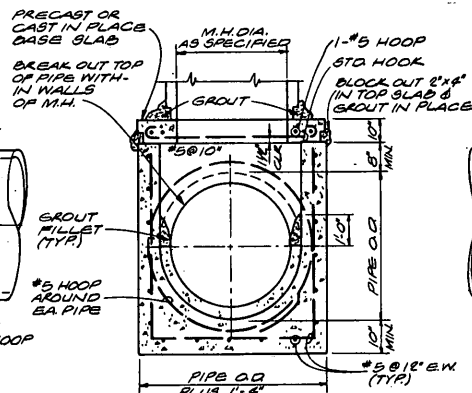


TYPICAL MANHOLE - 24" TO 36" PIPE

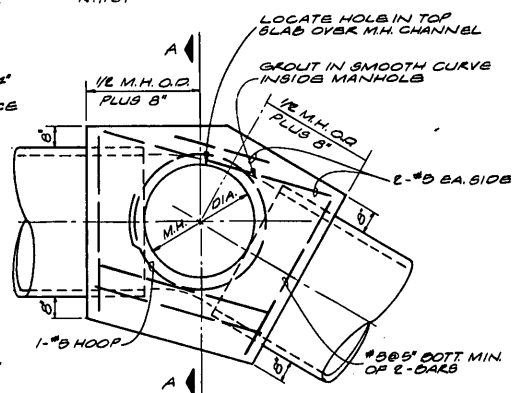
N.T.S.



STRAIGHT PIPE & 90° PIPE ANGLE
OR 3-PIPE 90° JUNCTION



SECTION 'A-A'



0° TO 90° PIPE ANGLE

STANDARD MANHOLE FOR 42" TO 54" PIPE

N.T.S.

S2C. SURFACE RESTORATION

A. SCOPE. This section covers the work necessary for all required replacement of pavement, rock surfacing, and drainage facilities, complete.

This section also covers the work necessary to replace, when directed, all pavement and other street features damaged either directly or indirectly by the operations incidental to the construction of the sewer system, including service connections.

B. MATERIALS.

ROCK FOR SURFACE REPLACEMENT AND BASE. Rock shall be crushed gravel or rock meeting the following quality standards:

Abrasion (AASHO T 96)	maximum wear	35%
Liquid Limit (AASHO T 89)	not greater than	30%
Plasticity Index (AASHO T 91)	not greater than	6%
Sand Equivalent (AASHO T 176)	not less than	35%
Fractured Face	min. of particles	50%

The aggregate shall consist of uniform quality, clean, tough, durable fragments of rock or gravel, free from flat, elongated, soft or disintegrated pieces, and other objectionable matter occurring either free or as a coating on the stone.

The sizes of the aggregates to be furnished shall be as indicated below and shall be furnished mixed to the proportions shown therein:

GRADATION

<u>Sieve Size</u>	<u>Designated Size</u>	
	<u>Base Course</u> <u>1-1/2" Minus</u>	<u>Leveling Course</u> <u>3/4" Minus</u>
2" to 1-1/2" size	0-5%	
1-1/2" to 3/4" size	20-40%	
Passing 1/4" sieve	35-50%	
Passing 200 sieve	0-5%	
1" to 3/4" size		0-10%
3/4" to 3/8" size		20-40%
Passing 1/4" sieve		40-60%
Passing 200 sieve		0-5%

Submit proof in the form of test results from an approved commercial testing laboratory or other evidence satisfactory to the Engineer to show that the materials meet the quality and gradation requirements.

ASPHALT CONCRETE. Hot plant-mix with maximum 3/4-inch aggregate, conforming to the Standard Specifications for Highway Construction of the Oregon State Highway Department. On 2-course pavements, maximum size aggregate shall be 1/2 inch in top course.

ASPHALT PRIME. Liquid asphalt for use as a prime coat under asphalt concrete shall be RC-70 or MC-70 liquid asphalt conforming to AASHO M 81 or M 82.

PIPE FOR STORM SEWER AND CULVERT REPLACEMENT. Extra-strength pipe, conforming to ASTM C 14 for pipe 15 inches and under. Pipe 18 inches and over shall conform to ASTM C 76, Class III.

C. WORKMANSHIP.

CONSTRUCTION PROCEDURE. The Engineer reserves the right to vary the classes of backfill and the type of resurfacing as best serves the interest of the Owner. Trench backfill shall be as specified in Section TRENCH EXCAVATION AND BACKFILL.

Replace all pavement damaged under this Contract with asphalt concrete regardless of original type.

In addition to the requirements set forth herein, the work shall conform to the applicable workmanship requirements of the State Highway Department.

REMOVAL OF PAVEMENT. Removal of all pavement shall conform to Section TRENCH EXCAVATION AND BACKFILL, and payment for removal shall be included in that section.

STREET MAINTENANCE. Maintain all trenches as specified under Section TRENCH EXCAVATION AND BACKFILL.

ASPHALT CONCRETE PAVEMENT REPLACEMENT.

SUBGRADE. Bring the trench to a smooth, even grade at the correct distance below the top of the existing pavement surface so as to provide adequate space for the base and/or 2-inch leveling course. Trim existing pavement to a straight line to remove any pavement which has been damaged or which is broken and unsound to provide a smooth, sound edge for joining the new pavement.

LEVELING COURSE. Place, without segregating, enough leveling course material to obtain a thickness of 2 inches after compaction. Compact to the required depth of finished pavement and for proper matching with the adjacent existing pavement. Place the leveling course for the full width of the trench where pavement was disturbed, including bituminous surfaced shoulders.

Compact the leveling course to 100 percent of maximum density, AASHO T 99, Method A. Compact the leveling course with power rollers capable of providing compression of 350 pounds per linear inch, or other approved equipment.

PRIME COAT. After the leveling course has been compacted, apply an asphalt prime coat, specified above, at 0.25 to 0.40 gallons per square yard to the surface of the leveling course and to the edges of the existing pavement. Also, tack coat cast iron manhole covers and cleanout covers below grade.

ASPHALT CONCRETE. After the prime coat has set, but before it loses its adhering properties, place the hot plant-mix asphalt concrete on the prepared subgrade over the trench to a depth of not less than 2 inches or the depth of the adjacent pavement, whichever is greater, but not for more than 4 inches. If the thickness is greater than 2-1/2 inches, place the surfacing in 2 lifts. Spread and level the asphalt concrete with hand tools or by use of a mechanical spreader, depending upon the area to be paved. Bring the asphalt concrete to the proper grade and compact by rolling or the use of hand tampers where rolling is impossible.

Roll with power rollers capable of providing compression of 350 pounds per linear inch. Begin the rolling at the edges of the patch overlapping the existing surface at least 1/2 the width of the roller and progress toward the center of the resurfaced area. Overlap each preceding track by at least 1/2 the width of the roller and make sufficient passes over the entire area to produce the desired result, as determined by the Engineer.

The finished surface of the new paving shall be flush with the existing surface and shall conform to the grade and crown of the adjacent pavement.

SURFACE SMOOTHNESS. The surface smoothness of the replaced pavement shall be such that when a straightedge is laid across the patched area between the edges of the old surfacing and the surface of the new pavement, the new pavement shall not deviate from the straightedge more than 1/4 inch.

WEATHER CONDITIONS. Resurfacing will be permitted only during favorable weather and while the trench conditions are satisfactory for pavement replacement. Exceptions will be permitted only in special cases and only with prior written approval of the Engineer.

PROTECTION OF STRUCTURES. Provide whatever protective coverings may be necessary to protect the exposed portions of bridges, culverts, curbs, gutters, posts, guard fences, road signs, and any other structures from splashing oil and asphalt from the paving operations. Remove any oil, asphalt, dirt, or any other undesirable matter that may come upon these structures by reason of the paving operations.

Where water valve boxes, manholes, catch basins, or other underground utility appurtenances are within the area to be surfaced, the resurfacing shall be level with the top of the existing finished elevation of these facilities. If it is evident that these facilities are not in accordance with the proposed finished surface, notify the Engineer to have the proper authority contacted in order to have the facility altered before proceeding with the resurfacing around the obstruction. Consider any delays experienced from such obstructions as incidental to the paving operation; no additional payment will be made.

EXCESS MATERIALS. Dispose of excess materials as specified under Section TRENCH EXCAVATION AND BACKFILL.

CONTRACTOR'S RESPONSIBILITY. Repair all settlement of pavement over Class D backfilled trenches within the warranty period at no additional cost to the Owner.

ROCK SURFACING. Where so directed by the Engineer, place crushed rock surfacing material, as specified herein, for the full width of all streets, driveways, parking areas, street shoulders, and other areas disturbed by the construction. The areas covered, size of rock, and depth of application shall be as directed by the Engineer. Spread the rock by "tailgating" and supplement by hand labor where necessary. Level and grade the rock to conform to existing grades and surfaces.

ASPHALT DRIVEWAYS AND WALKS. Replace asphalt driveways and walks in accordance with ASPHALT CONCRETE PAVEMENT REPLACEMENT.

STORM SEWERS, CULVERTS, AND CATCH BASINS. In all instances where the trench center line is within 4 feet of the center line of existing parallel storm sewers and culverts, or the near end of existing catch basins, the Owner will pay for their removal and replacement, if required for the construction.

All storm sewers, catch basins, or culverts that are removed because of interference with the new construction shall be removed so as to do the least possible damage to the pipe or basin. Dispose of culvert pipe that is in too poor condition for replacement because of age, physical condition, or other reasons and install, as approved by the Engineer, suitable pipe furnished by the Owner.

Replace all pipe on a 4-inch gravel base to the lines and grades established by the Engineer. Also, replace culvert headwalls of all types to a condition at least equivalent to their original shape or form.

Reinstall catch basins in their original locations and reconnect to the drainage system in a manner equal to the original. If the existing catch basins are damaged beyond repair by the operations, construct new basins of similar size, cross section, and design as the original at no expense to the Owner.

D. PAYMENT. Payment for the work under this section shall be based on the appropriate unit prices stated in the Contractor's Proposal. Payment shall be considered full compensation for furnishing all labor, materials, and equipment to complete the work as specified under this section.

ROCK SURFACING. Payment for replacement of rock surfacing shall be based on the unit price per cubic yard for 3/4-inch and 1-1/2-inch rock as stated in the Contractor's Proposal. The quantity of rock replaced shall be the actual number of cubic yards used as directed by the Engineer, and shall be based on truck measure and trip tickets signed by the Engineer on the date of use. No payment will be allowed on trip tickets not so validated by the Engineer. The unit price for the rock shall include payment for excavating to provide space for the rock if necessary and disposal of all excess excavated material.

ASPHALT CONCRETE PAVEMENT REPLACEMENT. When the trench center line crosses driveways or is under or at the edge of existing pavement, payment for asphalt concrete surfacing will be based on the unit price bid per linear foot for the full width of the disturbed or damaged surface as stated in the Contractor's Proposal for each.

When the trench center line is 4 feet or less from the edge of the existing pavement, but not under or at the edge of the pavement, payment for resurfacing will be based on the unit price per square yard for each stated in the Contractor's Proposal for the actual area replaced. Payment, however, will be limited to pavement replaced within 4 feet of the trench center line. All pavement damaged outside these limits shall be replaced at the expense of the Contractor.

The unit prices shall include payment for excavation required to provide space for the surfacing, preparation of the trench, disposal of all excess excavated materials, and all other work required to complete the resurfacing. The 2-inch crushed rock leveling course will also be considered as included in the bid price per linear foot and in the bid price per square yard for pavement replacement as stated in the Contractor's Proposal.

Should the Contractor elect to tunnel under certain sections of pavement, payment will be made as though removal and replacement had been accomplished.

REMOVAL AND REPLACEMENT OF DRAINAGE CULVERTS, STORM SEWERS, OR CATCH BASINS. Payment for the removal and replacement of existing culverts or storm sewers will be based on the unit price per linear foot, irrespective of size, as stated in the Contractor's Proposal. Payment shall be considered to include full compensation for all work and material required to remove and replace the pipe and restore the culvert or storm sewer to at least its original condition and function. Replacement of existing culvert headwalls will also be included in this payment.

Payment for removal and replacement of catch basins will be based on the unit price for each, regardless of size or shape, as stated in the Contractor's Proposal. Payment shall be considered to include full compensation for all work required to remove and replace the catch basins and restore the basins to their original condition and intended function.

S2D. HIGHWAY UNDERCROSSINGS

A. SCOPE. This section covers the work necessary for the construction of the highway undercrossings, complete, within the limits shown.

All necessary permits for the undercrossings will be obtained by the Owner.

The operation across the highway right-of-way must conform to the requirements of the Highway Department. Execute all necessary agreements and/or permits before entering upon or commencing any work on the highway right-of-way. Comply, also, with the applicable requirements of the General Conditions and the Special Provisions.

Prior to starting construction, all required labor, materials, and equipment shall be on the site. Notify all permitters at least 48 hours in advance of working within their rights-of-way. The term "permitter" as used herein shall be understood to mean the party, agency, or governmental authority issuing the permit or permits for the construction within the said right-of-way.

Tentative limits for undercrossings have been indicated. The length of undercrossings may be increased or decreased when final approval is obtained.

LOCATION. The following undercrossings will require boring and jacking:

<u>Crossing No.</u>	<u>Sewer Line</u>	<u>Station</u>	<u>Permitter</u>
1	Interceptor "A"	23+77 to 24+30	Oregon State Highway Dept.
2	Interceptor "A"	83+70 to 84+85	Oregon State Highway Dept.

Undercrossings will require casing.

B. MATERIALS.

SEWER PIPE. Conform to Section GRAVITY SEWER PIPE. Strength classification and type as indicated on Plans.

EXCAVATION. Excavation shall conform to Section TRENCH EXCAVATION AND BACKFILL. Excavation shall be unclassified and shall include whatever materials are encountered to the depths as shown or as directed by the Engineer. The Contractor shall make his own estimate of the kind and extent of the various materials which will be encountered in the excavation.

CASING. Provide 30-inch minimum diameter, smooth steel pipe casing, with 5/16 wall thickness conforming to ASTM A 53. Casing shall be fabricated in sections for welded field joints.

PIPE SUPPORTS. Western red cedar, Construction Grade Joists and Planks. Grading in accordance with the Standard Grading and Dressing Rules, Book No. 15, of the West Coast Lumber Inspection Bureau.

STAINLESS STEEL BANDS. 1/2" wide x 0.002" thick 304 stainless steel bands.

LEAN GROUT. One part cement, 5 parts sand, 7 parts pea gravel, or as approved.

PAVEMENT REPLACEMENT. Conform to requirements of Section SURFACE RESTORATION.

C. WORKMANSHIP.

GENERAL. Prior to the start of the work, submit satisfactory evidence to the Engineer that all insurance coverage requirements called for by the permitter have been complied with. All proposed construction methods and materials for the undercrossing shall be approved by the Engineer and permitter prior to the crossing operation, and no construction shall be started until written approval to proceed from the permitter has been submitted to the Engineer.

EXCAVATION. Conform to applicable portions of Section TRENCH EXCAVATION AND BACKFILL.

Dispose of excess excavated material as approved by the Engineer.

BORING AND CASING. The casing shall be set to the proper line and grade and jacked into place. The interior shall be bored as the jacking proceeds. Care shall be taken to maintain the proper line and grade as established by the Engineer. If joints are required in the casing, they shall be welded continuously to provide a rigid, watertight encasement.

Where timber cradles are shown, provide strapped timber cradle under barrel of pipe, join pipe, and slide into casing. Pipe barrel shall bear continuously on cradles.

Pipe installation to conform to applicable portions of Section GRAVITY SEWER PIPE, including hydrostatic testing and allowable deviation in line and grade.

Fill the annular space between the casing, tunnel liner, or tunnel wall and the pipe completely with lean grout or sand to prevent pipe flotation during high water. Accomplish grout filling by pouring or pumping the grout from the 2 ends and such intermediate points as may be necessary. Grouting, once commenced at any one point, shall be completed without stopping. Suitable low pressure grouting equipment having capacity to deliver grout under pressure of up to 5 pounds per square inch, will be approved by the Engineer. Accomplish sand filling by similar methods using a gunite machine for blowing, or other approved equipment.

D. PAYMENT. Payment for the undercrossings will be based upon the lump sum price stated in the Contractor's Proposal for each crossing. Payment on the lump sum basis shall constitute full compensation to the Contractor for all labor and materials and all equipment required to complete the installation, within the limits shown including connection to the sewer system. No additional payment for trench excavation and backfill, for furnishing and placing sewer pipe, or for any other items will be made within the limits of the crossings as shown on the Plans. Payment by the Contractor for any services provided by the permitter shall also be included in this item.

Should the limits of any undercrossing be increased or decreased for any reason during construction, the lump sum payment for the crossing shall be adjusted accordingly on the basis of the cost per linear foot obtained by dividing the lump sum bid by the bid length.

S2E. CREEK CROSSINGS (ADDITIVE ALTERNATE NO. 1)

A. SCOPE. This section covers all work necessary to construct the gravity sewer lines across Hess Creek, complete, within the limits indicated.

LOCATION. The following crossings of Hess Creek will be required:

<u>Crossing No.</u>	<u>Sewer Line</u>	<u>Station to Station</u>	
1	Interceptor B	0+73	1+10
2	Interceptor B	4+36	4+71
3	Interceptor B	8+46	8+79
4	Interceptor B	16+08	16+43
5	Interceptor B	26+50	26+72

B. MATERIALS.

EXCAVATION AND BACKFILL. Conform to Section TRENCH EXCAVATION AND BACKFILL.

CLAY LOAM. Selected clay loam or topsoil as approved by the Engineer. It is anticipated that topsoil material excavated from the trench adjacent to the crossing will be satisfactory.

ROCK FOR EROSION PROTECTION. Use 6-inch minus pit-run gravel or crushed rock, reasonably evenly graded from coarse to fine. Submit samples to the Engineer for approval.

CONCRETE FOR PIPE ENCASEMENT. Conform to Section MANHOLE CONSTRUCTION, except strength shall be 2,000 psi at 28 days, with minimum 4-1/2 sacks of cement per cubic yard.

GRAVITY SEWER PIPE. Conform to Section GRAVITY SEWER PIPE.

IMPORTED PIPE BASE AND PIPE ZONE MATERIAL. Conform to Section GRAVITY SEWER PIPE.

C. WORKMANSHIP.

CREEK DIVERSION. Water in the creek may be diverted; however, flow shall not be interrupted. Engineer's approval of plan for diversion will not relieve Contractor from responsibility for maintaining flow at all times and for adequate protection of all work and existing structures.

PROTECTION OF EXISTING STRUCTURES. Restore all existing miscellaneous structures and fences damaged during construction to a condition equivalent to their original.

EXCAVATION AND BACKFILL. Conform to Section TRENCH EXCAVATION AND BACKFILL.

PIPE BASE. Conform to Section GRAVITY SEWER PIPE. Provide base for the full length of the crossing.

GRAVITY SEWER PIPE. Conform to Section GRAVITY SEWER PIPE.

PIPE ZONE BACKFILL. Conform to Section GRAVITY SEWER PIPE.

CONCRETE BACKFILL OR ENCASEMENT. Place within the limits shown on the Plans. Provide sufficient time to set before placing additional backfill material.

CLAY LOAM. Place a layer of clay loam 18 inches thick for full trench width within limits shown in lifts not to exceed 8 inches. Compact each lift with pneumatic or gasoline-powered tampers to 95 percent of maximum density as determined by AASHTO T 99, Method A.

ROCK FOR EROSION PROTECTION. Provide erosion rock from bank to bank for a minimum depth of 12 inches and a width of one foot beyond the disturbed channel on each side. Rock may be machine placed, but hand placing of the upper exposed surfaces may be required, as directed by the Engineer, to insure a "keyed" rock surface to adequately resist erosion effects of water. Finished surface shall conform to original cross section.

CLEANUP. After completion of each crossing, reshape all existing channels and ditches, remove all excess materials and construction debris, and restore area to equivalent of its original condition or better.

D. PAYMENT. Payment for creek crossings will be based on the lump sum price set forth in the Contractor's Proposal and shall include all work and materials necessary to construct the crossing between the limits shown.

Should the limits of the crossings be increased or decreased for any reason during construction, the lump sum payment for the crossing shall be adjusted accordingly on the basis of the cost per linear foot obtained by dividing the lump sum bid by the length.

S15A. GRAVITY SEWER PIPE

A. SCOPE. This section covers all work necessary for the installation of gravity sewer pipe of the sizes and classes indicated. Service connection pipe is specified in Section SEWER SERVICE CONNECTIONS.

B. MATERIALS.

GENERAL. Sizes and strength classifications of gravity sewer pipe to be used in all locations are indicated. In all cases, the strength designation is based on concrete pipe standards.

The Contractor may, at his option, base his Proposal on concrete, clay, or asbestos-cement gravity sewer pipe of equal strength classification as hereinafter specified. The type of pipe listed in the Proposal shall be used for the construction of Schedule S, complete.

Concrete pipe shall not be coated internally or externally with any substance of any type in an attempt to improve its performance when air or hydrostatically tested. The use of a coating will be cause for rejection of all pipe delivered to the jobsite.

The Owner will choose either concrete, clay, or asbestos-cement gravity sewer pipe based on the Contractor's Proposal.

The designation for sewer pipe strength used on the Plans is as follows:

Symbol Between Manholes

No symbol

Equivalent Concrete Pipe Strength

ASTM C 14 - Extra Strength

PIPE.

CLAY SEWER PIPE AND FITTINGS. Conform to ASTM C 200 and Clay Pipe Institute West Coast Standards.

NONREINFORCED CONCRETE PIPE AND FITTINGS. Conform to ASTM C 14 extra strength with ASTM C 150, Type II cement. Strength, permeability hydrostatic tests, and pipe joints will be used as the basis of acceptance. Procedures are described under WORKMANSHIP.

ASBESTOS-CEMENT SEWER PIPE. Conform to ASTM C 428, Type II. The class of pipe to be furnished, in lieu of nonreinforced concrete or clay pipe, for various trench depths shall conform to the following table:

<u>Pipe Size</u>	<u>Depth to Flow Line</u>	<u>Class Required</u>
15"	10.5 feet or less	2400
15"	10.6 feet or greater	3300

PIPE JOINTS.

CLAY JOINTS. Joints shall be either the Speed-Seal, manufactured by Gladding, McBean and Company, or the Wedge-Lock, manufactured by Pacific Clay Products, or as approved. Joints shall comply with ASTM C 425 and the additional requirements of yard testing specified for CONCRETE PIPE JOINTS. The pipe manufacturer shall submit results of the yard tests made, certified by a testing agency approved by the Owner. Lubricants for jointing as approved by pipe manufacturer.

CONCRETE PIPE JOINTS. Joints shall be rubber-gasketed type. Joints to conform to ASTM C 443, including Performance Requirements For Joints. Free movement of water through the pipe joint or pipe wall will be grounds for rejection of the pipe.

In addition to the joint alignment and deflection tests specified in ASTM C 443, the pipe section shall be supported on blocks or otherwise so that one of the pipes is suspended freely between adjacent pipe, bearing only on the joints. The suspended pipe shall then be loaded, in addition to the weight of the pipe, with a test load in an amount as given in the following table:

TEST LOADS FOR PIPES UNDER DIFFERENTIAL LOAD

<u>Size</u>	<u>Load Per Foot Laying Length up to 4 Feet</u>	<u>Total Load for Pipes 4 Feet and Over</u>
4"	650	2,600
6"	1,000	4,000
15"	1,850	7,400

While under this load, the stressed joints shall show no leakage under 5 psi internal hydrostatic pressure during a 10-minute period. As an acceptable alternate, 1/2 the load may be applied on the bell of the suspended pipe. Blocking under the supporting pipe or pipes shall be arranged so as to distribute the load transferred to these pipes in an adequate manner.

Furnish in duplicate a certified statement from the manufacturer of the gaskets, setting forth the basic polymer used in the gaskets and results of the tests of the physical properties of the compound. Gaskets shall be shipped in containers with identification of the batch from which the gaskets were fabricated. Lubricant for jointing as approved by gasket manufacturer.

ASBESTOS-CEMENT SEWER PIPE JOINTS. An approved coupling type with rubber gasket, conforming to ASTM D 1869. Furnish complete information on basic gasket polymer and results of tests of physical properties of the compound.

Couplings shall consist of an asbestos-cement sleeve, machined or otherwise arranged for use with rubber sealing gaskets. Sleeves shall be arranged so the rubber rings are self-positioning. Couplings shall be Ring-Tite, Fluid-Tite, or other approved pattern standard with the pipe manufacturer. Lubricant for jointing as approved by pipe manufacturer.

Joints shall meet the requirements of yard testing specified for CONCRETE PIPE JOINTS. The pipe manufacturer shall submit results of the yard tests made, certified by a testing agency approved by the Owner.

TEE FITTINGS. Joints on all tee fittings shall be the same as the joints used on the sewer pipe. Caps or plugs shall be furnished with each tee outlet or stub with the same type gasket and joint as furnished with the service connection pipe specified. The plug or cap shall be banded or otherwise secured to withstand all test pressures involved without leakage.

Furnish all tee outlets with gasketed type joint or approved adapter to join service connection pipe used.

Tee fittings on 18-inch and smaller concrete pipe shall be shop fabricated.

HYDROSTATIC TESTING. Make all arrangements for furnishing water from the nearest hydrant or other suitable source for testing purposes. Perform the tests and provide all hoses, tank trucks, plugs, and other necessary equipment to complete the tests.

IMPORTED PIPE BASE AND PIPE ZONE MATERIAL. Granular material for gravity pipe base and pipe zone backfill shall be clean pea gravel or crushed rock with a maximum size of 3/4 inch, uniformly graded from coarse to fine. Clean pit-run or reject crusher-run sand may be substituted for gravel in trenches with no groundwater in the pipe zone. Submit samples to the Engineer for approval.

C. WORKMANSHIP.

PREPARATION OF TRENCH.

IMPORTED PIPE BASE MATERIAL. Provide IMPORTED PIPE BASE MATERIAL under all gravity sewer pipe for full width of trench. Minimum depth of base shall be 4 inches.

Hand-grade base to proper grade ahead of pipe laying. Base shall provide a firm, unyielding support along entire pipe length.

BELL HOLES. Excavate bell holes at each joint to permit proper assembly and inspection of entire joint.

DEWATERING. Provide and maintain ample means and devices to remove and dispose of water entering the trench during the laying operation to the extent required to properly grade the bottom of the trench and allow for proper compaction of the backfill in the pipe zone. Pipe shall not be laid in water.

PIPE DISTRIBUTION. Distribute material on the job no faster than it can be used to good advantage. Unload pipe which cannot be physically lifted by workmen from the trucks, by a forklift or other approved means. Do not drop pipe of any size from the bed of the truck to the ground. Do not distribute more than 1 week's supply of material in advance of laying, unless otherwise approved by the Engineer.

PIPE PREPARATION AND HANDLING. Inspect all pipe and fittings prior to lowering into trench to insure no cracked, broken, or otherwise defective materials are being used. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.

Use proper implements, tools, and facilities for the safe and proper protection of the work. Lower pipe into the trench in such a manner as to avoid any physical damage to the pipe. Remove all damaged pipe from the jobsite. Do not drop or dump pipe into trenches under any circumstances.

LINE AND GRADE. Do not deviate from line or grade, as established by the Engineer, more than 1/2 inch for line and 1/4 inch for grade, provided that such variation does not result in a level or reverse sloping invert.

Measure for grade at the pipe invert -- NOT AT THE TOP OF THE PIPE -- because of permissible variation in pipe wall thickness.

Establish grade for pipe by transferring the cut from the offset stakes established by the Engineer to batter boards set in the trench at maximum intervals of 25 feet. Maintain a minimum of 3 sets of batter boards with string line ahead of the pipe laying at all times. If batter boards in the trench prove impractical because of trench conditions, submit other methods of grade and alignment control to the Engineer for approval.

LAYING AND JOINTING PIPE AND FITTINGS.

CONCRETE CLAY, AND ASBESTOS-CEMENT PIPE. Pipe laying shall proceed upgrade with spigot ends pointing in direction of flow. After a section of pipe has been lowered into the prepared trench, clean the end of the pipe to be joined, the inside of the joint, and the rubber ring immediately before joining the pipe. Make assembly of the joint in accordance with the recommendations of the manufacturer of the type of joint used. Provide all special tools and appliances required for the jointing assembly.

After the joint has been made, check pipe for alignment and grade. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between joints. Apply sufficient pressure in making the joint to assure that the joint is "home," as defined in the standard installation instructions provided by the pipe manufacturer. To assure proper pipe alignment and joint make-up, place sufficient pipe zone material to secure the pipe from movement before the next joint is installed. Pipe 21 inches and smaller shall be laid so the inside joint space does not exceed 3/8 inch in width.

Take the necessary precautions required to prevent excavated or other foreign material from entering the pipe during the laying operation. At all times, when laying operations are not in progress, at the close of the day's work, or whenever the workmen are absent from the job, close and block the open end of the last laid section of pipe to prevent entry of foreign material or creep of the gasketed joints.

Plug or close off pipes which are stubbed off for manhole construction or for connection by others, with temporary plugs as specified in the manhole specifications.

Take all precautions necessary to prevent the "uplift" or floating of the line prior to the completion of the backfilling operation.

Where nonreinforced pipe is connected to manholes or concrete structures, make connection so that the standard pipe joint is located not more than 1.5 feet from the outside edge of the structure.

When cutting and/or machining the pipe is necessary, use only tools and methods recommended by the pipe manufacturer and approved by the Engineer.

INSTALLATION OF SERVICE CONNECTION TEES. Install tee fittings as shown on the Sewer Service Connection Details, bound herewith. Provide all tees with caps or plugs, as specified. Provide a gravel base under tees.

BACKFILL AT THE PIPE ZONE. The pipe zone shall be considered to include the full width of the excavated trench from the bottom of the pipe to a point 10 inches above the top outside surface of the barrel of the pipe.

Particular attention must be given to the area of the pipe zone from the flow line to the center line of the pipe to insure that firm support is obtained to prevent any lateral movement of the pipe during the final backfilling of the pipe zone.

IMPORTED PIPE ZONE MATERIAL shall be used for the full depth of the pipe zone. This material shall be placed simultaneously on both sides of pipe in lifts not to exceed 6 inches, in a manner approved by the Engineer. Each lift shall be "walked in" and supplemented by slicing with a shovel to insure that all voids around the pipe have been completely filled.

MATERIALS, TESTS, AND INSPECTIONS.

ASBESTOS-CEMENT PIPE. Asbestos-cement pipe shall be inspected at the point of manufacture in accordance with the manufacturer's standard methods. Unless otherwise directed by the Engineer, provide a certificate of tests in lieu of witnessing the inspection and test procedures.

Pipe and accessories that are chipped, cracked, or contain other imperfections, or do not satisfactorily meet the manufacturer's standard test requirements, shall be rejected.

CONCRETE AND CLAY PIPE.

BASIC TESTS. Test specimens in the amounts set forth in the applicable ASTM Specifications shall be furnished and tested at no charge to the Owner.

TEST METHODS. Specimens for tests will be selected by the Engineer in accordance with the applicable ASTM Specifications from pipe in the pipe manufacturer's yard or at the point of delivery to the job. The provisions of the applicable ASTM Standards shall apply, except as modified herein. The tests for joints performed under ASTM C 443 shall also be used as a basis for rejection of pipe.

INDIVIDUAL FIELD PERMEABILITY TESTS. In addition to the tests specified in the applicable ASTM Specifications, the Owner will require field permeability tests on a maximum of 5 percent of each lot, class, or size of pipe, in accordance with ASTM C 497 on pipe 24-inch diameter and smaller.

The Contractor shall provide all the necessary labor, equipment, water, and materials at the trench side where the pipe is to be unloaded for performing individual field permeability tests. Damp spots on the outside of the wall which appear during these tests shall not be cause of rejection unless actual movement of water through the pipe wall can be detected. Acceptance or rejection shall be in accordance with Item 3.4 of ASTM C 14, except that if over 20 percent of the group represented by the samples tested fails to pass, then the entire size, class, and lot represented by the samples tested shall be rejected.

At the option of the pipe supplier, the individual field permeability tests as specified herein may be performed at the point of manufacture if the testing equipment, scheduling of tests, and method of recording and documenting the test results are approved by the Engineer.

PLANT AIR TESTING. Each length of concrete pipe 12-inch diameter and smaller may be given an individual air test at the point of manufacture. Test equipment shall be approved by the Engineer and the test pressure shall be a minimum of 10 psi. Each length shall show no appreciable loss of air after 5 seconds.

When individual air testing is performed, no field or shop permeability tests will be required.

HYDROSTATIC AND AIR TESTS FOR GRAVITY SEWERS. All gravity sewers and appurtenances shall successfully pass a hydrostatic or air test prior to acceptance and shall be free of visible leakage. Use either method of testing. Information regarding air testing may be obtained from the Engineer. Manholes shall be tested as specified in Section MANHOLE CONSTRUCTION.

GENERAL.

PLUGGING OF TEES, STUBS, AND SERVICE CONNECTIONS. Plug all wyes, tees, stubs, and service connections with gasketed caps or plugs securely fastened or blocked to withstand the internal test pressure. Such plugs or caps shall be removable, and their removal shall provide a socket suitable for making a flexible-jointed lateral connection or extension.

TESTING EQUIPMENT AND PROCEDURE. Furnish all necessary testing equipment and perform the tests in a manner satisfactory to the Engineer. Any arrangement of testing equipment which will provide observable and accurate measurements of either air or water leakage under the specified conditions will be permitted. Gauges for air testing shall be calibrated with a standardized test gauge provided by the Engineer at the start of each testing day. The calibration shall be witnessed by the Engineer.

TIME OF TESTING. Testing of sections of the constructed sanitary sewer for acceptance will not be performed until all service connections, manholes, and backfilling are completed between the stations to be tested. Attention is directed to time of payment for pipe under PAYMENT.

SUBSEQUENT FAILURE. Infiltration of groundwater in an amount greater than herein specified, following a successful hydrostatic or air test as specified, shall be considered as evidence that the original test was in error or that subsequent failure of the pipeline has occurred. The Contractor will be required to correct such failures should they occur within the warranty period.

The Contractor, in contracting to do this work, agrees that the leakage allowances as indicated herein are fair and practical.

HYDROSTATIC TESTING. Pipe and joint leakage shall be less than 0.5 gallon per hour per inch diameter per 100 feet when field tested by exfiltration methods. The hydrostatic head for test purposes shall exceed the maximum estimated groundwater level in the section being tested by at least 12 inches and in no case shall be less than 24 inches above the inside top of the highest section of pipe in the test section, including service connections. In every case, the height of the water table at the time of the test shall be determined by the Contractor by exploratory holes or such other methods approved by the Engineer. The Engineer shall make the final decisions regarding test height for the water in the pipe section being tested. The length of pipe tested by exfiltration shall be limited so that the pressure on the invert of the lower end of the section shall not exceed 16 feet of water column.

The pipe test section may be filled 24 hours prior to time of exfiltration testing, if desired, to permit normal absorption into the pipe walls to take place.

All service connection footage, included in the test section and subjected to the minimum head specified, shall be taken into account in computing allowable leakage.

AIR TESTING.

PROCEDURE. After all plugs are in place and securely blocked, introduce air slowly into the pipe section to be tested until the internal air pressure reaches 4.0 pounds per square inch greater than the average back pressure of any groundwater that may submerge the pipe. Allow a minimum of 2 minutes for the air temperature to stabilize. Determine the height of the groundwater table, at the time of the test, as specified for hydrostatic testing.

BASIS OF ACCEPTANCE. Pipe and joints being air tested shall be considered acceptable when tested at an average pressure of 3.0 pounds per square inch greater than the average back pressure of any groundwater that may submerge the pipe, when (a) the total rate of air loss from the section being tested does not exceed 2.0 cubic feet per minute; or (b) the section of line does not lose air at a rate greater than 0.0030 cubic foot per minute per square foot of internal pipe surface.

The pipe and joints shall also be considered as acceptable when the time required in seconds for the pressure to decrease from 3.5 to 2.5 pounds per square inch greater than the average back pressure of any groundwater that may submerge the pipe is not less than that computed in accordance with the "Recommended Procedure for Conducting Acceptance Test" appended at the end of this Specification.

FINAL SEWER CLEANING. Prior to final acceptance and final manhole-to-manhole inspection of the sewer system by the Engineer, flush and clean all parts of the system. Remove all accumulated construction debris, rocks, gravel, sand, silt, and other foreign material from the sewer system at or near the closest downstream manhole. If necessary, use mechanical rodding or bucketing equipment.

Upon the Engineer's final manhole-to-manhole inspection of the sewer system, if any foreign matter is still present in the system, reflush and clean the sections and portions of the lines as required.

D. PAYMENT.

PIPE. Payment for pipe will be based upon the unit price per linear foot as set forth in the Contractor's Proposal for the various classes, types, and sizes of pipe installed as shown or as directed by the Engineer. Payment for pipe will be based on the actual number of feet installed, as measured by the Engineer. The pipe will be measured horizontally from center-to-center of manholes or to the end of the pipe, whichever is applicable.

The unit price per linear foot shall constitute full payment for the pipe in place, pipe base, backfill in the pipe zone, leakage testing, and all other work specified.

NO PAYMENT FOR PIPE IN PLACE WILL BE MADE UNTIL THE PIPE HAS SUCCESSFULLY PASSED THE AIR OR HYDROSTATIC TEST.

The Engineer will withhold full payment on any section of pipe deemed unsatisfactory due to excessive leakage, or any other cause until such defects have been corrected in accordance with the intent of these Contract Documents.

If, within the year covered by the Performance Bond, any section of the sewer system, although originally accepted, is actually not acceptable due to subsequent excessive leakage, the Contractor shall repair or replace the affected portion. It is understood that if the Contractor fails to do such work as required, the surety shall be liable for said costs of repair or replacement.

TEE FITTINGS. Service connection tees installed in the sewer lines will be paid for at the unit price stated in the Contractor's Proposal for the various sizes. Payment for service connection pipe plugs, stoppers, or caps will also be included under this item.

Since no deduction will be made under PIPE for the length of the tee, the unit price for tee fittings should include only the additional cost of furnishing and installing the tee fitting, over the cost of furnishing and installing an equivalent straight run of pipe.

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RECOMMENDED PROCEDURE FOR CONDUCTING ACCEPTANCE TEST

1. Clean pipe to be tested by propelling snug fitting inflated rubber ball through the pipe with water.
2. Plug all pipe outlets with suitable test plugs. Brace each plug securely.
3. If the pipe to be tested is submerged in ground water, insert a pipe probe, by boring or jetting, into the backfill material adjacent to the center of the pipe, and determine the pressure in the probe when air passes slowly through it. This is the back pressure due to ground water submergence over the end of the probe. All gauge pressures in the test should be increased by this amount.
4. Add air slowly to the portion of the pipe installation under test until the internal air pressure is raised to 4.0 psig.
5. Check exposed pipe and plugs for abnormal leakage by coating with a soap solution. If any failures are observed, bleed off air and make necessary repairs.
6. After an internal pressure of 4.0 psig is obtained, allow at least two minutes for air temperature to stabilize, adding only the amount of air required to maintain pressure.
7. After the two minute period, disconnect air supply.
8. When pressure decreases to 3.5 psig, start stopwatch. Determine the time in seconds that is required for the internal air pressure to reach 2.5 psig. This time interval should then be compared with the time required by specification as computed below.
9. List size and length of all portions of pipe under test in table similar to one shown here.

Diameter inches	Length Feet	K = .011 d ² L	C = .0003882 dL
		Total K _____	Total C _____
Time required by specification _____			

10. By use of nomograph (Fig. 13), compute K and C. Use scales d and L, read K and C, and enter these values in the table above.
11. Add all values of K and all values of C for pipe under test.
12. If the total of all C values is less than one, enter the total of all K values into the space for "Time Required by Specification."
13. If the total of all C values is greater than one, divide the total of all K values, by the total of all C values, to get t_q . To make this division with the nomograph, use scales C and K, and read t_q .

AIR TEST

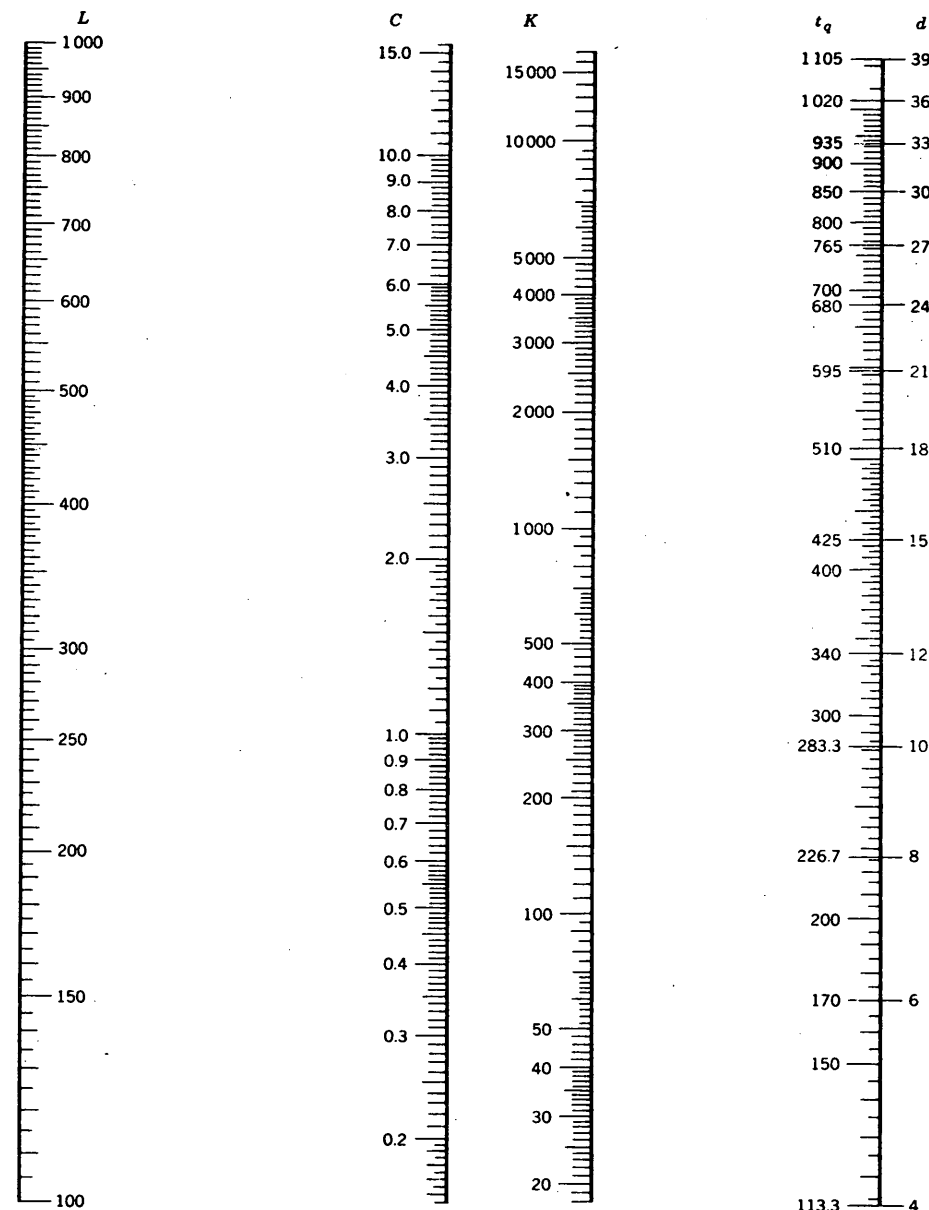


FIG. 13.—NOMOGRAPH FOR THE SOLUTION OF $K = .011d^2L$, $C = .0003882dL$, $t_q = K \div C$

S15B. SEWER SERVICE CONNECTIONS

A. SCOPE. This section covers the work necessary for installation of the sewer service connections, complete.

Replacement of street surfacing damaged by service connection construction is included in Section SURFACE RESTORATION.

In general, service connections will extend to the street or alley right-of-way line or as directed by the Engineer. Sewer Service Connection Details are bound at the end of this section.

B. MATERIALS.

EXCAVATION AND BACKFILL. Conform to Section TRENCH EXCAVATION AND BACKFILL. Minimum allowable depth of trench at the property line or on private property within the permanent sewer easement shall be 4 feet; however, the Engineer shall determine the required grade at the end of the line in each case.

PIPE AND FITTINGS FOR SERVICE CONNECTIONS. Manufactured with nominal inside diameters of 4 and 6 inches. Use long-radius bends at all changes in direction. Pipe shall be of one type of material throughout. No interchanging of pipe and fittings will be allowed on individual service connections.

Single or double residential services shall be 4 inches. Large commercial services, motel units, and certain multiple dwelling users shall be 6-inch services. The Engineer will determine the size of the service in every case, unless specifically shown.

ASBESTOS-CEMENT SERVICE CONNECTION SEWER PIPE AND FITTINGS. Conform to ASTM C 428, Type II. Furnish pipe in the manufacturer's standard length, but not exceeding 10 feet maximum, except provide half-lengths and random half-lengths as required. Provide all tools for field-cutting the pipe to the required lengths, and machine the ends as required by the manufacturer. Pipe shall have a crushing strength of not less than 1,500 pounds per linear foot when tested in accordance with ASTM 3 - Edge Bearing Method. The pipe shall also have a flexural strength of 550 pounds for 4-inch and 1,500 pounds for 6-inch when loaded at the third points on a 9-foot section.

VITRIFIED CLAY PIPE AND FITTINGS. Conform to ASTM C 200 and Clay Pipe Institute West Coast Standards.

CONCRETE PIPE AND FITTINGS. Conform to ASTM C 14, extra strength, except minimum barrel thickness shall be one inch, and each pipe shall be given an individual air test at a minimum pressure of 10 psi at the point of manufacture. Each length shall show no appreciable loss of pressure after 5 seconds.

PIPE JOINTS AND COUPLINGS. Conform to ASTM D 1869 for asbestos-cement, C 425 for clay, and C 443 for concrete. Pipe joint type is optional for cast iron pipe.

GRANULAR PIPE ZONE AND BASE MATERIAL. Granular pipe zone and base material shall be 3/4-inch minus pea gravel, crushed rock, or clean sand. Material to have an even gradation from coarse to fine.

SERVICE CONNECTION MARKING STAKES. New 2 x 4 Utility Grade or Better in one piece. No splicing will be permitted.

WATER FOR TRENCH BACKFILL. Conform to Section TRENCH EXCAVATION AND BACKFILL.

C. WORKMANSHIP. Conform to the applicable portions of Section TRENCH EXCAVATION AND BACKFILL and Section GRAVITY SEWER PIPE.

PROGRESS OF CONSTRUCTION. Install service connections not more than 5 calendar days after the backfilling of the sewer trench in any block or equivalent 400-foot section of sewer.

BACKFILL AT THE PIPE ZONE. The pipe zone shall be considered to extend 4 inches below the bottom of the pipe and 6 inches above the top of the pipe and for the full width of the trench. Place a 4-inch granular pipe base below the bottom of the pipe in all trenches for the full trench width. Place pipe base material in trenches on undisturbed earth or on thoroughly compacted gravel to undisturbed earth.

Backfill for the remainder of the pipe zone shall also consist of granular pipe zone material, hand-placed simultaneously on both sides of the pipe for the full trench width and hand-tamped with approved tamping sticks, supplemented by "walking in" the material.

BACKFILL ABOVE THE PIPE ZONE. Conform to applicable portions of Section TRENCH EXCAVATION AND BACKFILL. Do not backfill service connection pipe until inspected and approved by the Engineer.

EXCESS EXCAVATED MATERIAL. Dispose of as specified in Section TRENCH EXCAVATION AND BACKFILL.

CULVERTS. Removal and replacement shall conform to requirements in Section TRENCH EXCAVATION AND BACKFILL.

PREPARATION OF PIPE AND HANDLING. Conform to Section GRAVITY SEWER PIPE.

LAYING AND JOINTING OF PIPE AND FITTINGS. Workmanship shall conform to Section GRAVITY SEWER PIPE. Lay pipe upgrade from connection to the sanitary sewer with bell or coupling ends upgrade. Pipe shall be laid in a straight line at uniform grade between fittings, or on a uniform horizontal or vertical curvature achieved by deflecting the pipe joints within manufacturer's recommended limits.

Maximum deflection permissible at any one fitting shall not exceed 45 degrees and shall be accomplished with long-radius curves or bends. Short-radius elbows or curves will not be permitted.

Make service connections to the sewer system at manholes only when directed by the Engineer. Where service connection pipe is connected to manholes or concrete structures, make the connection so the standard pipe joint is located not more than 1.5 feet from the structure.

Provide ends of all service connection lines and fittings with standard watertight plugs, caps, and stopper, suitably braced to prevent blowoff during internal hydrostatic or air testing.

Make first joint of the service connection line from the lateral or main with an approved, watertight joint meeting all of the requirements of PIPE JOINTS, hereinbefore. The first length of pipe, out from the tee on the lateral or main, shall not be greater than 3 feet in length.

If foundation stabilization material is required, it shall be furnished, placed, and paid for as specified in Section TRENCH EXCAVATION AND BACKFILL.

LINE AND GRADE. The Engineer will establish line and grade to the tract of land to be serviced by the sewer system. At the preselected location of the service connections, a stake furnished by the Contractor will be driven into the ground showing the depth of excavation required.

Install the sewer tee so as to locate the connection pipe within a horizontal distance of one foot either side of the preselected location.

Batter boards will not be required, but lay the pipe uniformly between the tee and the stake. Where minimum slopes are used, lay the pipe by means of a builder's level of good quality and not less than 24 inches in length. Minimum slope shall be 1/4 inch per foot unless otherwise permitted by the Engineer, but in no case less than 1/8 inch per foot.

SERVICE CONNECTION MARKING STAKES. After the service connection pipe is installed, block the capped or plugged end and install marking stake. Paint the top portion of the stake immediately after its installation with first-quality white, quick-drying enamel.

Take precautions during the backfilling operation to insure the position and location of the stake. If the stake is broken or knocked out of vertical alignment during the backfilling operation, reopen the trench and place the stake in accordance with the Sewer Service Connection Details, bound at the end of this section.

D. PAYMENT.

TRENCH EXCAVATION AND BACKFILL. The work required under this item will be paid for on the basis of the unit prices per linear foot stated in the Contractor's Proposal for the type of backfill installed. No differentiation will be made for trench depth. Payment for this item shall constitute full compensation for all work connected with excavation and backfill, except backfill at the pipe zone, which is included in payment for the pipe. The length of trench will be measured horizontally to the nearest foot from the main or lateral center line to the end of the trench, as established by the Engineer.

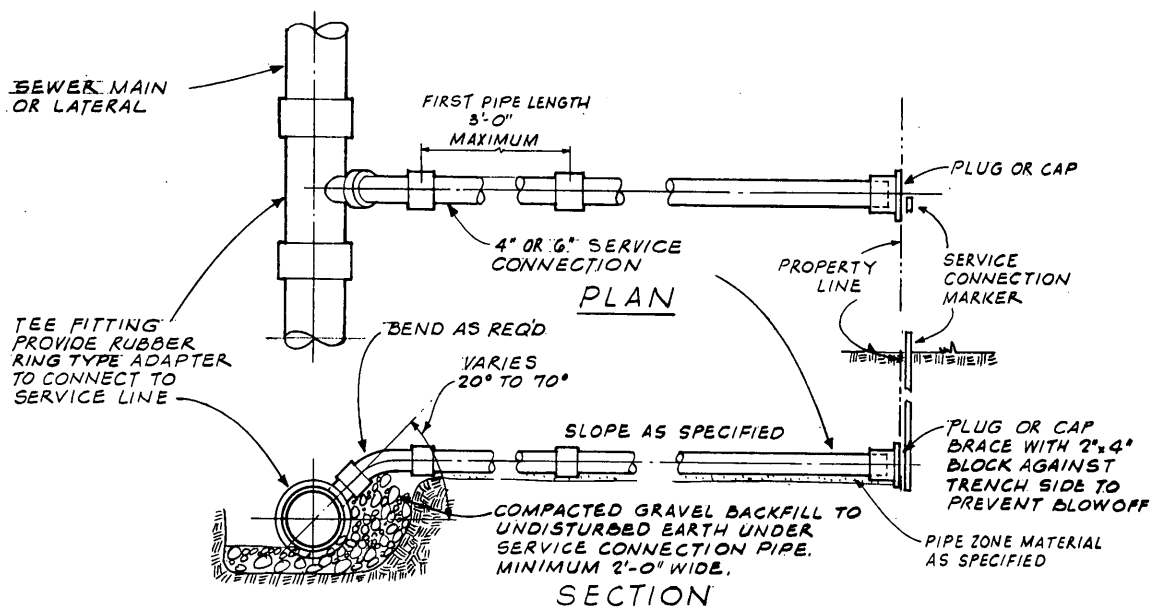
SERVICE CONNECTION PIPE. Payment for service connection pipe in-place will be based on the unit price per linear foot for the appropriate size of pipe stated in the Contractor's Proposal. Payment for this item shall constitute full compensation for all materials and work required to install the service connection pipe and backfill at the pipe zone, complete. The length of the service connection will be based on the total length of pipe installed, including all fittings, measured along the pipe center line.

No payment for service connection pipe will be made until the section of line in which the services are installed has successfully passed the leakage test, as specified in Section GRAVITY SEWER PIPE.

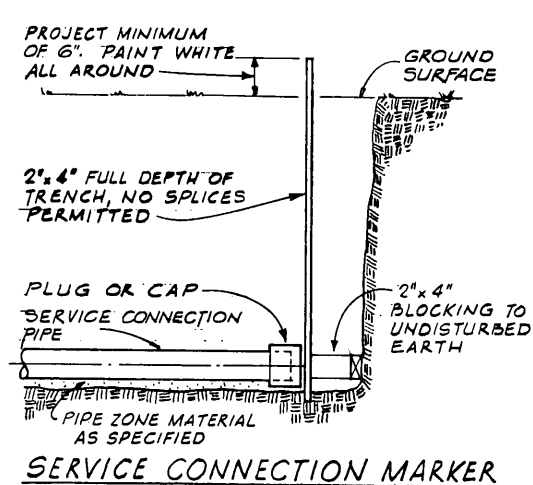
WATER SETTLEMENT OF TRENCH BACKFILL. Payment for water settlement will be made on a linear foot basis for all trench depths. The payment per linear foot will be the amount stated in the Contractor's Proposal and shall constitute full compensation for all materials and work necessary for water settlement of the backfill, complete.

SEWER SERVICE CONNECTION DETAILS

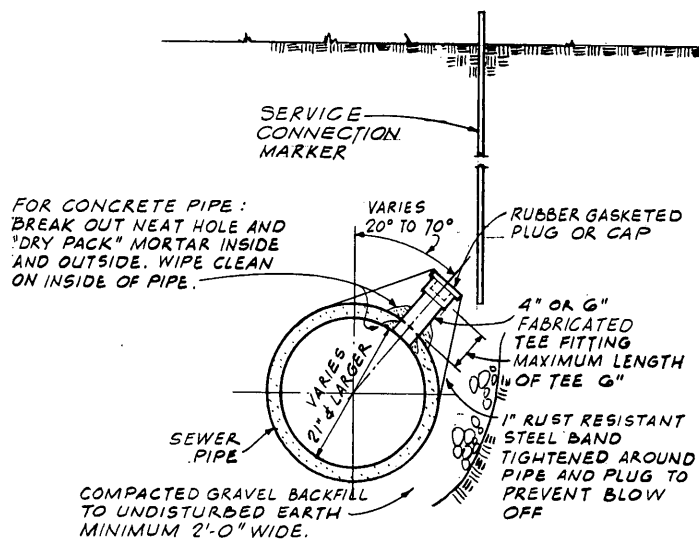
NOTE: ASBESTOS CEMENT PIPE IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. OTHER PIPE MATERIALS MAY BE USED IN ACCORDANCE WITH THE SPECIAL SPECIFICATIONS.



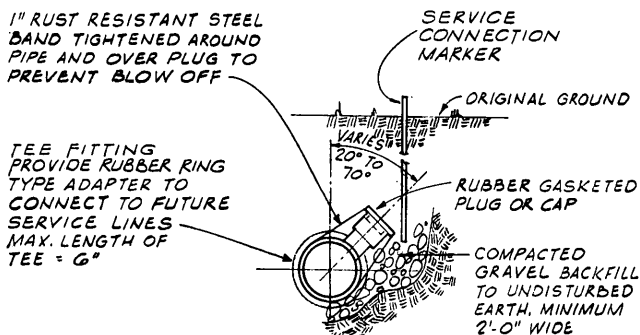
STANDARD SERVICE CONNECTION



SERVICE CONNECTION MARKER

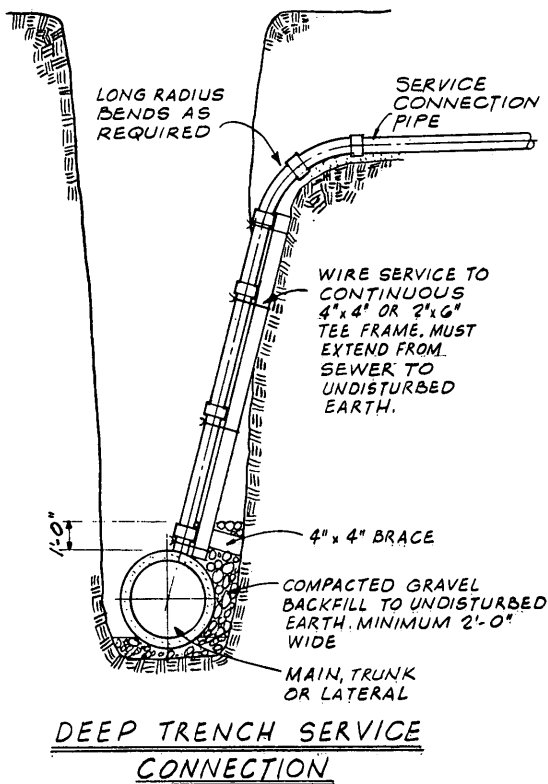


TYPICAL SERVICE CONNECTION TEE DETAIL - 21" AND LARGER

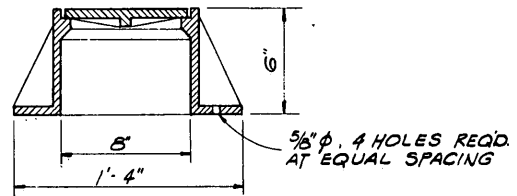


TYPICAL SERVICE CONNECTION TEE DETAIL - 18" AND UNDER

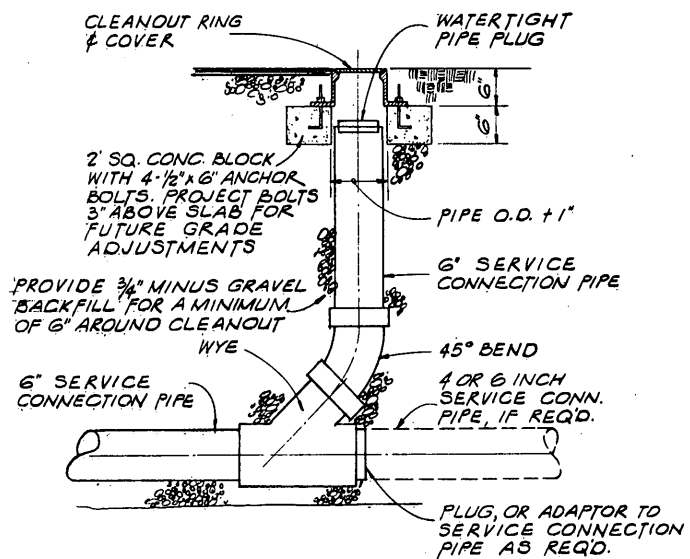
SEWER SERVICE CONNECTION DETAILS



NOTE:
WOOD SUPPORT TO BE USED IN ALL CASES WHERE SERVICE CONNECTION CAN NOT BE SUPPORTED FOR FULL LENGTH ON COMPACTED GRAVEL OR WHERE SEWER IS OVER 12 FT. DEEP TO FLOW LINE.



SERVICE CONNECTION CLEANOUT FRAME & COVER DETAIL



SERVICE CONNECTION CLEANOUT DETAIL

SCHEDULE P
PRESSURE MAIN

SCHEDULE P
PRESSURE MAIN

P2A. TRENCH EXCAVATION AND BACKFILL

A. SCOPE. This section covers the work necessary for the trench excavation and backfill for the pressure main, complete, and shall conform to the applicable portions of Section TRENCH EXCAVATION AND BACKFILL, Schedule S.

B. MATERIALS. Materials shall conform to the applicable portions of Section TRENCH EXCAVATION AND BACKFILL, Schedule S.

C. WORKMANSHIP. Workmanship shall conform to the applicable portions of Section TRENCH EXCAVATION AND BACKFILL, Schedule S, with the additional following requirement:

The Contractor shall conduct his trenching operation so that the top edge of the constructed trench between Stations 14+00 and 23+00 on the pressure main shall not be nearer than 2 feet to the edge of the existing bituminous surfacing. In any area specified for Class E backfill where the top edge of the trench is cut closer than 2 feet to the edge of existing bituminous surfacing, the Contractor shall backfill the entire trench with Class D backfill material compacted as specified herein at no additional cost to the Owner.

D. PAYMENT. Payment shall conform to the applicable portions of Section TRENCH EXCAVATION AND BACKFILL, Schedule S, except no differentiation in pipe depth will be made.

P2B. SURFACE RESTORATION

A. SCOPE. This section covers the work necessary for all required replacement of pavement, sidewalks, rock surfacing, and drainage facilities, complete, and shall conform to the applicable portions of Section SURFACE RESTORATION, Schedule S.

B. MATERIALS. Materials shall conform to applicable portions of Section SURFACE RESTORATION, Schedule S, with the following additional requirements.

CONCRETE. Concrete for sidewalks and miscellaneous construction shall conform to ASTM C 94, Alternate 2, and shall have a design mix proportioned for 3,000 pounds per square inch compressive strength at 28 days. Concrete mix shall contain no less than 5-1/2 sacks of cement per cubic yard.

CONCRETE FORMS. All forms for sidewalks shall be either 2-inch dimensioned lumber, plywood, or metal forms.

CURING COMPOUND. Approved commercial grade conforming to ASTM C 309, Type I.

C. WORKMANSHIP. Workmanship shall conform to applicable portions of Section SURFACE RESTORATION, Schedule S, with the following additional requirements.

SIDEWALKS. Replace sidewalks to the same section, width, depth, and to the same line and grade as that removed or damaged. Prior to replacing the sections, properly backfill and compact the trench to prevent subsequent settlement. Use a minimum 2-inch thick compacted leveling course of clean 3/4-inch minus rock or gravel under all sidewalks. Place concrete continuously to avoid separation of ingredients. Finish all discontinuous edges with suitable edging tool. Replace concrete sidewalks between scored joints, and make replacement in a manner which will avoid a patched appearance. Finish sidewalks similar to the existing and abutting areas.

Tunneling under sidewalks is optional. However, should any subsequent cracking, subsidence, or any other indication of failure occur within the warranty period, the damaged section shall promptly be replaced at no additional cost to the Owner.

D. PAYMENT. Payment shall conform to applicable portions of Section SURFACE RESTORATION, Schedule S, in addition to the following.

SIDEWALKS. Payment for sidewalk replacement shall be based on the unit price bid per each crossing, as stated in the Contractor's Proposal.

The 2-inch leveling course will be considered as included in the bid price for each sidewalk crossing as stated in the Contractor's Proposal.

If the Contractor elects to tunnel under the sidewalks, payment will be the same as if the sidewalks were actually removed and replaced.

P2C. RAILROAD UNDERCROSSING

A. SCOPE. This section covers the work necessary for the construction of the railroad undercrossing, complete, within the limits shown.

All necessary permits for the undercrossing will be obtained by the Owner.

The operation across the Publishers Paper Company's right-of-way for their private spur tracks must conform to the requirements of Publishers Paper Company as outlined in a pipeline crossing agreement made between Publishers Paper Company and the Owner. The Contractor shall conform with all requirements of the pipeline crossing agreement.

Prior to starting construction, all required labor, materials, and equipment shall be on the site. Notify Publishers Paper Company at least 48 hours in advance of starting the undercrossing.

Tentative limits for the undercrossing have been indicated. The length of undercrossing may be increased or decreased when final approval is obtained.

LOCATION. The following undercrossing will require boring and jacking:

<u>Sewer Line</u>	<u>Station to Station</u>	
Pressure Main	39+92	39+46

Crossing will require casing.

B. MATERIALS. Materials shall conform to applicable portions of Section HIGHWAY CROSSINGS, Schedule S and Section PRESSURE PIPE, Schedule P, except that casing shall be 18-inch minimum diameter, smooth steel pipe with 1/4-inch wall thickness conforming to ASTM A 53.

C. WORKMANSHIP. Workmanship shall conform to applicable portions of Section HIGHWAY CROSSINGS, Schedule S and Section PRESSURE PIPE, Schedule P.

D. PAYMENT. Payment for the crossing will be based upon the lump sum price stated in the Contractor's Proposal. Payment on the lump sum basis shall constitute full compensation to the Contractor for all labor and materials and all equipment required to complete the installation, within the limits shown, including connection to the sewer system. No additional payment for trench excavation and backfill, for furnishing and placing sewer pipe, or for any other items will be made within the limits of the crossing as shown on the Plans. Payment by the Contractor for any services provided by Publishers Paper Company shall also be included in this item.

Should the limits of the crossing be increased or decreased for any reason during construction, the lump sum payment for the crossing shall be adjusted accordingly on the basis of the cost per linear foot obtained by dividing the lump sum bid by the bid length.

P2D. CREEK CROSSING

A. SCOPE. This section covers all work necessary to construct the pressure main across Hess Creek, complete, within the limits indicated.

LOCATION. The crossing is located between Station 1+15 and Station 0+65 on the pressure main. Typical detail for the crossing is shown on the Plans.

B. MATERIALS. Materials shall conform to applicable portions of Section CREEK CROSSINGS, Schedule S and Section PRESSURE PIPE, Schedule P.

C. WORKMANSHIP. Workmanship shall conform to applicable portions of Section CREEK CROSSINGS, Schedule S and Section PRESSURE PIPE, Schedule P.

D. PAYMENT. Payment for the creek crossing will be based on the lump sum price stated in the Contractor's Proposal and shall include all work and materials necessary to construct the crossing between the limits shown.

Should the limits of the crossing be increased or decreased for any reason during construction, the lump sum payment for the crossing shall be adjusted accordingly on the basis of the cost per linear foot obtained by dividing the lump sum bid by the length.

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PI5A. PRESSURE PIPE

A. SCOPE. This section covers the work necessary for the installation of pressure main pipe of the size and class indicated, complete.

B. MATERIALS.

ASBESTOS-CEMENT PRESSURE PIPE AND FITTINGS. Conform to Federal Specification SS-P-351, and ASTM C 296, Type II, Class 150.

Cast iron fittings shall be especially designed for use with asbestos-cement pipe and conform in quality to AWWA C110, with Class D wall thickness conforming to AWWA C100. Fittings shall be TIFCO RR fittings, manufactured by the Independent Fitting Company of Portland, Oregon, or Fluid-Tite or Ring-Tite fittings, manufactured by Olympic Foundry, Seattle, Washington, or as approved. The type of joint shall be the same as that of the pipe to which the fittings are to be connected.

MECHANICAL JOINT CAST IRON PIPE AND FITTINGS. Mechanical joint cast iron pipe shall conform to ASA A21.6, Class 22. Fittings shall conform to ASA A21.10. Joints shall conform to ASA A21.11. Joint materials suitable for the specified pipe sizes and pressures shall be furnished with the pipe and fittings.

CAST IRON PIPE JOINTS. Furnish with the type of ends required for the type of connections shown. Where the pipe joint type is not specified, it is optional.

MECHANICAL JOINT PIPE AND FITTINGS. Conform to Federal Specification WW-P-421, Type III.

RUBBER-GASKET JOINT PIPE AND FITTINGS. Conform to Federal Specification WW-P-421, Type II, except as modified herein. Joints shall be U. S. Tyton joint pipe, manufactured by the United States Pipe and Foundry Company and Pacific States Cast Iron Pipe Company, or as approved. Fittings for use with rubber-gasket joint pipe shall be mechanical joint.

HYDROSTATIC TESTING. Make all arrangements for furnishing water from the nearest hydrant or other suitable source for testing purposes. Perform the tests and provide all hoses, tank trucks, plugs, and other necessary equipment to complete the tests.

CONCRETE FOR THRUST BLOCKING AND THRUST COLLARS. Concrete for thrust blocking and thrust collars shall have a minimum compressive strength of 2,500 psi at 28 days and shall be equivalent to ASTM C 94, Alternate 2.

IMPORTED PIPE BASE AND PIPE ZONE MATERIAL. Granular material for pressure pipe base and pipe zone backfill shall be clean pea gravel or crushed rock with a maximum size of 3/4 inch, uniformly graded from coarse to fine. Clean pit-run or reject crusher-run sand may be substituted for gravel in trenches with no groundwater in the pipe zone. Submit samples to the Engineer for approval.

C. WORKMANSHIP.

PREPARATION OF TRENCH.

IMPORTED PIPE BASE MATERIAL. Provide IMPORTED PIPE BASE MATERIAL under all pressure pipe for full width of trench. Minimum depth of base shall be 4 inches.

Hand-grade base to proper grade ahead of pipe laying. Base shall provide a firm, unyielding support along entire pipe length.

BELL HOLES. Excavate bell holes at each joint to permit proper assembly and inspection of entire joint.

DEWATERING. Provide and maintain ample means and devices to remove and dispose of water entering the trench during the laying operation to the extent required to properly grade the bottom of the trench and allow for proper compaction of the backfill in the pipe zone. Pipe shall not be laid in water.

PIPE DISTRIBUTION. Distribute material on the job no faster than it can be used to good advantage. Unload pipe which cannot be physically lifted by workmen from the trucks, by a forklift or other approved means. Do not drop pipe of any size from the bed of the truck to the ground. Do not distribute more than 1 week's supply of material in advance of laying, unless otherwise approved by the Engineer.

PIPE PREPARATION AND HANDLING. Inspect all pipe and fittings prior to lowering into trench to insure no cracked, broken, or otherwise defective materials are being used. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.

Use proper implements, tools, and facilities for the safe and proper protection of the work. Lower pipe into the trench in such a manner as to avoid any physical damage to the pipe. Remove all damaged pipe from the jobsite. Do not drop or dump pipe into trenches under any circumstances.

LAYING BURIED PIPE. All buried pipe shall be prepared as hereinbefore specified and shall be laid on the prepared gravel base and bedded to insure uniform bearing. No pipe shall be laid in water or when, in the opinion of the Engineer, trench conditions are unsuitable. Joints shall be made as herein specified for the respective types. Take all precautions necessary to prevent uplift and floating of the pipe prior to backfilling.

BELL END TO FACE DIRECTION OF LAYING. Unless otherwise directed, lay pipe with bell end facing in the direction of the laying.

For lines on an appreciable slope, face bells upgrade (at the discretion of the Engineer).

CUTTING PIPE.

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.

CAST IRON PIPE. Cut pipe with milling-type cutter, rolling pipe cutter, or with sledge and cold cutter. Do not flame cut.

DRESSING CUT ENDS. Dress cut ends of pipe in accordance with the type of joint to be made.

Dress cut ends of mechanical joint pipe to remove sharp edges or projections which may damage the rubber gasket.

Dress cut ends of push-on joint pipe by beveling, as recommended by the pipe manufacturer.

Dress cut ends of pipe for flexible couplings or flanged coupling adapters as recommended by the coupling or adapter manufacturer.

JOINTING PIPE.

JOINTING MECHANICAL JOINT PIPE. Mechanical joint pipe varies slightly with different manufacturers. Install the particular pipe furnished in accordance with the manufacturer's recommendations as approved by the Engineer.

JOINTING PUSH-ON JOINT PIPE. Join pipe with push-on type joints in accordance with the manufacturer's recommendations as approved by the Engineer. 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.

JOINTING ASBESTOS-CEMENT PIPE. After a section of pipe has been lowered into the prepared trench, wipe clean the end of the pipe to be joined, the inside of the joint, and the rubber ring immediately before joining the pipe. Make the joint in strict accordance with the recommendations of the manufacturer. Lay pipe with care so as to provide a watertight installation. Provide all special tools and appliances required for the jointing assembly.

After the joint has been made, align and check the pipe for grade. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between joints. Apply sufficient pressure in making the joint to assure that the joint is "home" as defined in the standard installation instructions provided by the pipe manufacturer. To assure proper pipe alignment and joint makeup, place sufficient pipe zone material to secure the pipe from movement before the next joint is installed.

BACKFILL AT THE PIPE ZONE. The pipe zone shall be considered to include the full width of the excavated trench from the bottom of the pipe to a point 10 inches above the top outside surface of the barrel of the pipe.

Particular attention must be given to the area of the pipe zone from the flow line to the center line of the pipe to insure that firm support is obtained to prevent any lateral movement of the pipe during the final back-filling of the pipe zone.

IMPORTED PIPE ZONE MATERIAL shall be used for the full depth of the pipe zone. This material shall be placed simultaneously on both sides of pipe in lifts not to exceed 6 inches, in a manner approved by the Engineer. Each lift shall be "walked in" and supplemented by slicing with a shovel to insure that all voids around the pipe have been completely filled.

MINIMUM PIPE COVER. Minimum pipe cover for pressure pipe shall be 3 feet unless otherwise indicated. Pipe cover shall be varied as required to avoid air pockets in the pipeline.

THRUST BLOCKING AND THRUST COLLARS. Pour thrust blocking and thrust collars against undisturbed earth. Remove all water from the excavation. Construct suitable forms to obtain shapes that will provide full bearing surfaces against undisturbed earth, as indicated. Cure 5 days before conducting hydrostatic or air tests. Take care not to overexcavate in the areas where thrust blocks are to be poured.

MATERIALS, TESTS, AND INSPECTIONS.

ASBESTOS-CEMENT AND CAST IRON PIPE. Asbestos-cement and cast iron pipe shall be inspected at the point of manufacture in accordance with the manufacturer's standard methods. Unless otherwise directed by the Engineer, provide a certificate of tests in lieu of witnessing the inspection and test procedures.

Pipe and accessories that are chipped, cracked, or contain other imperfections, or do not satisfactorily meet the manufacturer's standard test requirements, shall be rejected.

HYDROSTATIC TESTING OF PRESSURE LINES.

GENERAL. Conduct pressure and leakage tests on all pressure lines. Furnish all necessary equipment and material and make all taps in the pipe as required. The Engineer will monitor the tests.

Furnish the following equipment and materials for the tests:

<u>Amount</u>	<u>Description</u>
2	Approved graduated containers.
2	Pressure gauges.
1	Hydraulic force pump as approved by the Engineer.
	Suitable hose and suction pipe as required.

Conduct the tests after the trench has been completely backfilled. The Contractor may, if field conditions, as determined by the Engineer, permit, partially backfill the trench and leave the joints open for inspection and conduct an initial test. The acceptance test shall not, however, be conducted

until all backfilling has been completed. Where any section of pipe is provided with concrete thrust blocking, the pressure test shall not be conducted for 5 days after the concrete blocking is installed. If high-early cement is used for the concrete thrust blocking, the curing time may be reduced to 2 days.

PROCEDURE. After backfilling, fill pipe with water. Let stand for 24 hours if asbestos-cement pipe is being tested. Test pressure shall be 100 psi calculated for the low end of the pipe, or as directed by the Engineer. Expel all air from pipe prior to test. Make up any water lost by absorption and then apply test pressure with suitable pump. Valve off line when test pressure is reached and conduct pressure test for 1 hour. At end of test period raise to test pressure with pump. Measure quantity of water required to restore test pressure.

Leakage is quantity of water necessary to restore test pressure at end of test period. Leakage shall not exceed the gallons per hour as determined by the formula:

$$L = \frac{ND(P)^{\frac{1}{2}}}{5,500}$$

In the preceding 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 = average test pressure during the leakage test,
in pounds per square inch

Repair or replace any test section of pipe with leakage greater than that allowed under the above formula until the leakage is within the specified allowance, at no cost to the Owner.

FINAL SEWER CLEANING. Prior to final acceptance, flush and clean all parts of the system. Remove all accumulated construction debris, rocks, gravel, sand, silt, and other foreign material from the system by flushing.

D. PAYMENT.

PIPE. Payment for pipe will be based upon the unit price per linear foot as set forth in the Contractor's Proposal for the various classes, types, and sizes of pipe installed as shown or as directed by the Engineer. Payment for pipe will be based on the actual number of feet installed, as measured by the Engineer. The pipe will be measured horizontally from center-to-center of manholes or to the end of the pipe, whichever is applicable.

The unit price per linear foot of pressure pipe set forth in the Contractor's Proposal shall be considered as including pipe in place, imported pipe base, backfill in the pipe zone, all cast iron fittings required, the construction of thrust blocks at all angle points, thrust collars, pressure testing, connection to the existing system, and all other work specified.

PI5B. VACUUM AND AIR RELEASE VALVE ASSEMBLIES

A. SCOPE. This section covers the work necessary for the construction of the air and vacuum release structure, complete.

B. MATERIALS.

MANHOLE MATERIALS. Manhole materials shall conform to the applicable portions of Section MANHOLE CONSTRUCTION, Schedule S.

SERVICE SADDLE. Smith-Blair No. 313 double-strap service clamps with AWWA thread corporation stop, tap, and neoprene gaskets. Service clamps shall be adequate for use with the size, type, and class of the water pipe.

AIR AND VACUUM RELEASE VALVES. The air and vacuum release valves shall be a 2-inch 401 APCO sewage air and vacuum valve, as manufactured by the Valve and Primer Corporation and distributed by Pacific Water Works Supply Company, Portland, Oregon. The inlets shall have steel pipe threads.

PIPE AND MALLEABLE IRON FITTINGS. The pipe used for the air release valve assemblies shall be Schedule 80 galvanized steel pipe conforming to ASTM A 120, as shown. Fittings and companion flanges shall conform to Federal Specification WW-P-521, Type II, galvanized.

GATE VALVES. 200-pound w.o.g., bronze body gate valve, nonrising stem, Crane No. 438, or as approved.

GRAVEL FOR DRAIN. 1-1/2-inch crushed rock or gravel as approved by the Engineer.

C. WORKMANSHIP.

MANHOLE. Workmanship shall conform to the applicable portions of Section MANHOLE CONSTRUCTION, Schedule S, except that only a base ring shall be poured to support the precast manhole sections. The inside of the manhole shall be filled to the top of the pressure main with 1-1/2-inch crushed gravel as shown on the Plans.

TAPPING PIPE. The pipe shall be tapped and service saddle installed by experienced workmen using tools in good repair with proper adapters for size main being tapped. The tapping machine shall be of a type approved by the Engineer. Install the service saddle as recommended by the manufacturer and asbestos-cement pipe manufacturer.

PIPING. Cut pipe with sharp tools and ream ends of all cut sections. An approved joint compound shall be applied to the threads of all pipe, fittings, and valves prior to joining. After threaded joints are made up, the exposed threads and pipe shall be given a protective coating of Tarset, a coal-tar epoxy, manufactured by Pittsburgh Coke and Chemical Company; or Bitumastic 300, as manufactured by Koppers Company, Inc. Protective coating shall be applied in conformance with the manufacturer's printed directions and recommendations.

TESTING. Air valve assemblies shall be tested in conjunction with pipeline.

D. PAYMENT. Payment will be based on the lump sum price stated in the Contractor's Proposal and shall include all work and materials necessary to construct the structure and to install the air and vacuum valve. Payment does not include the payment for the portion of the pressure pipe extending through the structure which pipe is paid for under Section PRESSURE PIPE.

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SCHEDULE L

PUMP STATION AND ACCESS ROAD

SCHEDULE L
PUMP STATION AND ACCESS ROAD

L2A. ACCESS ROAD AND PARKING AREA

A. SCOPE. This section covers the work necessary for the construction of the access road, parking area, final fill and embankment around the pump station, and incidental work, complete.

B. MATERIALS.

BASE COURSE. Gravel for the base course shall be clean, hard, durable, pit-run or bank-run gravel, crushed gravel or stone which is reasonably graded from coarse to fine. The maximum size of material shall be 3 inches and shall contain sufficient fines to bind the material together when placed and compacted as specified herein. Submit a sample of the material to the Engineer for approval prior to placing.

GRAVEL SURFACING. The gravel surface course shall be 3/4-inch minus crushed gravel or rock containing sufficient fine materials to serve as binder. The material shall be clean, hard, and durable, and shall be reasonably graded from coarse to fine. Submit a sample of the material to the Engineer for approval prior to placing.

METAL GATE AND GATE POSTS. Materials for the metal gate and gate post shall conform to applicable portions of Section 740 of the State of Oregon Standard Specifications for Highway Construction, 1964 edition.

UNCLASSIFIED EXCAVATION. Excavation is unclassified. Complete all excavation regardless of the type, character, nature, or condition of the materials encountered. The Contractor shall make his own estimate of the kind and extent of the various materials to be excavated in order to accomplish the work.

EARTH BACKFILL. Excavated material free from roots, trash, and other deleterious materials.

BORROW. Borrow shall be clean granular material, free from roots, with maximum size of 2 inches. Investigate available sources of acceptable borrow. Submit samples to Engineer for approval prior to delivery of any borrow material.

C. WORKMANSHIP.

EXCAVATION, FILL, AND BACKFILL. Perform all excavation, filling, and backfilling required to accomplish the construction. Compact fills as specified. Ground surfaces shall be within 0.1 foot of grades indicated as established by the Engineer.

Construct fill for parking area and fill around pump station to the elevations shown. Fill to be EARTH BACKFILL. If there is insufficient excess excavated material to complete the construction, use BORROW material as

specified hereinbefore. Pump station backfill to the existing ground line is specified under Section PUMP STATION.

CLEARING AND GRUBBING. The Contractor shall clear the site within the limits shown and shall remove the existing trees and all brush and stumps and waste material on the site. Stumps and roots shall be grubbed out. Prevent damage to adjacent trees which are intended to remain. Dispose of waste materials from the clearing by burning. Remove nonburnable debris from the site and dispose of it as directed by the Engineer. Obtain all permits from the proper authorities for burning brush and waste materials. Burn materials in conformance with all Federal, State, and local laws relating to fire permits; periods of the year when burning is prohibited; and similar requirements. Pile combustible materials to be burned and burn at locations that will not damage existing trees or endanger structures.

EXCAVATION FOR ROAD AND PARKING AREA. Remove topsoil to a depth of 6 inches from areas to be cut or filled. Pile topsoil to one side for future use. Excavate to the lines and grades indicated. Bring rough excavation to within 0.1 foot of required grade. The method used by the Contractor to perform the excavation is optional, except that no heavy machinery shall be operated within 5 feet of the existing structures or newly completed construction without approval of the Engineer. Excavation that cannot be accomplished without endangering the present or new structures shall be performed with hand tools. Use excavated material other than topsoil for fill as required.

COMPACTION OF FILL. Construct fill to lines and cross sections shown. Deposit fill material in horizontal layers not exceeding 8 inches in depth before compaction across full width of embankment. Compact each layer by routing loaded trucks or earth-moving equipment not less than 10 times over the fill area. Route vehicles so that all areas are covered. For areas within 6 feet of structures, compact each layer with approved compaction equipment to 95 percent of maximum density at optimum moisture content in accordance with AASHO T 99, Method D.

MOISTURE CONTROL. Prior to and during the compacting operations, the material in each layer of the earth fill shall have the optimum practicable moisture content required for compaction purposes, and the moisture content shall be uniform throughout the layer. Sprinkle water on the earth when required to obtain a near optimum moisture content for compaction. Insofar as practicable, apply water to the material for this purpose at the site of excavation, and supplement, if required, by sprinkling the earth fill.

Do not compact embankment material which contains excessive moisture until the material is dry enough to obtain the required compaction. Aerate material by blading, discing, harrowing, or otherwise to hasten the drying process.

CONSTRUCTION OF METAL GATES AND POSTS. Workmanship for construction of metal gates and posts shall conform to applicable portions of Section 740 of the State of Oregon Standard Specifications for Highway Construction, 1964 edition.

PREPARATION OF SUBGRADE. Bring subgrade to proper grade and cross section shown by means of a blade grader or other suitable equipment. Compact subgrade with bulldozer, roller, loaded trucks, or other suitable equipment moving uniformly over the surface. The finished subgrade shall provide a satisfactory base for the road and be acceptable to the Engineer.

BASE COURSE. Spread base rock on prepared subgrade in a uniform layer, without segregation of size, to such loose depth that, when compacted, the course shall have a thickness of 6 inches. Accomplish compaction by pneumatic-tired trucks, moving over the full width of the road or by other approved means until the base is thoroughly compacted. Sprinkle base material as necessary to aid compaction. Blade ruts and irregularities smooth during the compaction process until a smooth surface, conforming to the grade shown, is obtained.

SURFACE COURSE. The cross section of the finished surface shall be subject to reasonable variation by the Engineer to meet the varying conditions encountered. Spread the 3/4-inch minus rock to such a loose depth that, when compacted, it will be a minimum depth of 2 inches. Compact the surface material in a manner similar to that specified for the base and blade until the top surface is smooth and conforms to the grade and crown requirements shown, with any minor adjustments hereinbefore specified.

D. PAYMENT. Payment for the work in this section will be based upon the Lump sum price stated in the Contractor's Proposal for this item.

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LIIA. PUMP STATION

A. SCOPE. This section covers the work necessary for furnishing and installing a completely factory-built sewage pump station. Connecting pressure lines, gravity sewer lines, and the pump station bypass are included under this section to the limits shown.

The Contractor shall include in the Proposal alternate bids from at least 3 pump station manufacturers and shall request each manufacturer to submit full descriptive literature to the Engineer prior to the bid opening, including pump curves indicating pump efficiency, horsepower, and head capacity relationships; pump and motor shaft diameter, all structural data including plate thickness and reinforcing; and all mechanical and electrical details.

B. MATERIALS.

EXCAVATION. The excavation for the work is unclassified. The Contractor shall make his own estimate of the kind and extent of the various materials which will be encountered in the excavation. All information on ground conditions which the Engineer has will be available to the Contractor upon request.

GRAVEL FOR BACKFILL. Two-inch minus river- or pit-run uniformly graded and free from clay, roots, and organic material or water-settled approved sand.

GRAVEL FOR CONCRETE PAD SUBBASE. 1-1/2-inch minus crushed rock or gravel reasonably uniformly graded, clean, tough, and durable. Submit samples to Engineer for approval.

SELECTED EXCAVATED BACKFILL. Native excavated material from the site excavation free from rock, boulders, roots, stumps, or other pieces of material larger than 2 inches in diameter.

CONCRETE AND REINFORCING STEEL. Concrete to conform to ASTM C 94, Alternate 2, with a 28-day minimum compressive strength of 2,500 psi. Steel to be Intermediate Grade, conforming to ASTM A 615, Grade 40, and A 305.

PIPE BASE AND PIPE ZONE MATERIAL. Conform to Section GRAVITY SEWER PIPE, Schedule S.

PRECAST WET WELL SECTIONS. Conform to Section MANHOLE CONSTRUCTION, Schedule S.

GRAVITY SEWER PIPE. Conform to Section GRAVITY SEWER PIPE, Schedule S.

PRESSURE PIPE. Cast iron conforming to Section PRESSURE PIPE, Schedule P, except joints. Joints on the pressure line within the limits of Schedule L shall be lock type mechanical joint using Pacific States Cast Iron, American Cast Iron Pipe, U.S. Pipe, or other approved mechanical joint retainer glands.

MANHOLE FRAMES AND COVERS. Conform to Section MANHOLE CONSTRUCTION, Schedule S.

CAST IRON PIPE AND FITTINGS. Conform to Federal Specification WW-P-421, Class 150. Flanged fittings conform to ASA B16.1, 125-pound. Mechanical joints shall be lock type as specified hereinbefore for PRESSURE PIPE. Provide all fittings and adapters as required.

EXTERIOR PLUMBING. Galvanized pipe conform to ASTM A 120. Malleable iron, screwed fittings conforming to Federal Specification WW-P-521, Type II, galvanized. Copper to be Class K, conforming to ASTM B 88, with soldered joint fittings.

CORRUGATED METAL PIPE. Corrugated metal pipe for the outlet end of the emergency bypass shall be 12-inch, 14-gauge, asbestos bonded, as manufactured by the Armco Drainage and Metal Products Company, Inc., or as approved.

FLAP GATES. Flap gates shall be Armco Model 10C with spigot back, cast iron seating surfaces equipped with galvanized steel hinge arms, assembly bolts and bronze bushings, or as approved.

GUARD POSTS. Four-inch, galvanized, Schedule 40 pipe, conforming to ASTM A 120.

ELECTRICAL SERVICE. Provide service mast, metering facilities, and entrance equipment as required by electric utility and as shown. Provide 3-pole, single-throw, fused service disconnect with locking type ON or OFF in NEMA 3 R raintight enclosure. Run circuits between service mast transformer and pump station in rigid steel conduit. Joints in all exterior conduit shall be watertight. All electrical materials shall be new and shall be in accordance with applicable specifications of NEMA, ANSI, UL, and IPCEA, and shall conform to requirements of NEC and applicable State and local codes.

Fused switch shall be Cutler-Hammer, or approved.

Conductors shall be THW insulated wire, size as shown on the Plans.

Provide a 110-volt, duplex convenience outlet to be mounted immediately adjacent to the blower and light switch in the pump station entrance tube.

PUMP STATION.

GENERAL. Each station shall be a complete factory-built, dry-pit, 2-pump unit, as manufactured by Smith and Loveless, Inc.; Hydronix, Inc.; Cornell Manufacturing Company; or as approved with modifications as outlined herein. Station shall be built in 2 sections consisting of pump chamber and required entrance tube as shown for joining in field by welding or bolting.

Minimum pump chamber inside diameter shall be 8 feet.

Minimum entrance tube diameter shall be 2'-6".

PUMP CHAMBER. Construct in circular cross section with ASTM A 283, Grade C, plate. Minimum thickness as follows:

Shell and miscellaneous - 1/4 inch
Top and bottom plates - 3/8 inch

Minimum clear inside height 2 feet greater than height of pump motors but not less than 7'-0". Double weld inside and out top and bottom plates to shell. Reinforce top and bottom plates with I-beam or channels to withstand all loads including hydrostatic uplift and hydrostatic pressure due to flooding to Elevation 108.00. A domed cover may be furnished in lieu of reinforcing top plate.

Provide lifting eyes or lugs suitably placed to lift chamber.

Provide minimum 15" diameter x 8" deep sump well, a box or other approved pump subbase, and lifting eyes centered over each pump.

Where the cast iron suction and discharge lines pass through the station walls, they shall be reinforced with 1/4-inch thick steel sleeves, welded inside and out to the station walls. The space between the cast iron pipes and the steel sleeves shall be packed tight with portland cement grout containing Embecco to prevent leakage.

The outside of the pump chamber shall have a 3" x 3" x 1/4" angle clip welded above the copper 3/4-inch bubbler line and the 1-1/4-inch sump pump discharge line if extended through the access tube. Other methods for providing exterior protection of the lines will be considered. The 2 outlets shall be threaded female couplings, protected with threaded plugs. The couplings shall be suitable for joining with Class K copper, conforming to ASTM B 88 of the soldered joint type.

ENTRANCE TUBE. Minimum 1/4-inch, ASTM A 283, Grade C plate. Provide drip lip; exterior lift handle; pin and tumbler lock operable from inside without key; 2 additional ladder rungs on underside of cover; a positive holdback mechanism consisting of panel with hand release; a continuous molded neoprene gasket around top of tube; and screened air intake and exhaust vents.

Entrance tube to extend 2'-0" above finish grade.

Furnish in 1 or more sections as required. Stiffen at top and bottom with angles or bars rolled to match outside diameter of tube and securely welded thereto. The bottom stiffener shall rest on suitable angle shop welded to pump station. Join entrance tube and pump chamber by continuous field welding outer edge of the joining angles or stiffeners to avoid damage to finished paint surface.

CORROSION PROTECTION. After shop welding is completed, give the entire pump chamber, entrance tube, and cover assemblies of the station a commercial sandblast inside and outside in conformance with Steel Structures Painting Council Specification SSPC-SP 6. The sandblasted exterior surfaces shall then be given a minimum of 2 coats of Tarsol coal-tar epoxy coating, as manufactured by Pittsburgh Coke and Chemical Company, or other approved epoxy coating. Minimum finished dry film thickness for coal-tar epoxy shall be 16 mils. Lesser thickness for other epoxy coatings will be considered upon request. This finished thickness shall control, and as many coats as required shall be applied. The interior surface of the station shall be given a prime coat and a minimum of 2 finish coats of heavy-duty industrial enamel. Minimum

finished dry film thickness shall be 4 mils. Sufficient interior and exterior paint shall be furnished for field touch-up of all abraded areas. In addition, 1 gallon of each color of field maintenance paint shall be furnished with the station.

The exterior coating will be tested by the Engineer for uniformity of coating, pinholes, and holidays by the use of a low-voltage, wet-sponge type holiday detector similar to the Tinker and Rasor Model M-1 or the K-D Bird Dog. All defective areas or areas of low resistance shall be field coated with the original coating to provide the specified paint thickness.

Provide a minimum of four 17-pound packaged magnesium anodes with No. 10TW wire leads of sufficient length to be firmly attached without splicing to the switches in the anode terminal box as detailed. Anode terminal box to be furnished by station manufacturer.

Provide high quality nonslip rubber mat on all traveled areas of station floor.

PUMPS. Pumps shall be 4-inch vertical nonclog sewage pumps designed for use with mechanical seals. Pumps shall be capable of passing minimum 3-inch diameter solids.

Provide suction elbow of increasing type when nominal pump size is smaller than suction line and 1/4-inch plugged taps on suction and discharge for pump test gauges.

Pump suction center line elevation is 88.33 with finished grade at Elevation 108.00.

Pump characteristics shall be as follows at an elevation of 100 above sea level:

Each pump shall have a guaranteed capacity of 700 gpm at a total head of 98 feet and a speed not exceeding 1750 rpm. Minimum motor horsepower shall be 30 hp.

Each pump shall be factory tested by the manufacturer for capacity, power requirement, and efficiency for each speed and specified operating head and as many other points as necessary to provide certified pump performance curves. The selected pump station manufacturer shall furnish such curves for approval prior to delivery of the station.

Each pump shall also be capable of operating satisfactorily at discharge rates down to 50 gpm through a variable output control system.

Provide double carbon and wide ceramic construction mechanical seal constructed so as to be readily removable from the pump shaft as a unit. The seal shall be pressurized and lubricated by water taken directly from the pump discharge through a filter to the seal housing, and introduced between the upper and lower sealing surfaces. The filters shall be of corrosion-resistant materials and shall screen out all solids larger than 50 microns. The seal system shall contain a brass valve connected near the top of the seal housing

to permit the relief of any air trapped in the seal unit. A manually operated brass air release valve shall also be provided to vent the pump volute and shall be piped to drain into the sump.

MOTORS. Vertical solid shaft squirrel cage induction type, designed, manufactured, and tested in conformance with NEMA MG 1. Motors shall be continuously rated 460-volt, 3-phase, 60-cycle, with Class A or B insulation and 1.15 service factor. The connected load shall not exceed the motor nameplate horsepower rating under any anticipated operating conditions.

Motors shall be suitable for full-voltage starting and provided with drip-proof enclosure and lifting eyes.

Motors for close-coupled pumps shall have a combination 1-piece stainless steel pump and motor shaft from the top of the motor through the impeller. Each motor shall have oversized, grease-lubricated ball bearings with the thrust bearing at the bottom locked in position to eliminate shaft end play. The minimum motor pump shaft diameter for motor frame sizes 182 through 286 shall be 1-7/8 inches; for motor frame sizes 324 to 326, it shall be 2-1/8 inches; and for frame 364 and larger, it shall be 3 inches. The motor pump shaft shall be centered in relation to the motor base within .005 inch. The shaft runout shall be limited to .003 inch.

The complete unit, consisting of the motor and the pump, connected and in normal operation, shall not develop amplitudes of vibration exceeding the recommendations of the Hydraulic Institute Standards, 12th edition. The pumps shall be free of cavitation over their full range of operation. The driving motor alone shall operate without vibration in excess of the limits prescribed by NEMA MG 1.

PUMP CONTROLS. The pumping station shall be equipped with a complete variable pumping rate control system permitting automatic variable rate pumping down to 50 gpm for each pump and designed in such a manner as to permit station to operate as a standard ON-OFF unit if any component in the flow regulating system should become inoperative. The system shall be controlled by an air bubbler system, complete with air compressor, air reservoir, combination air filter and pressure regulator with auxiliary gauge, needle valve, flow indicator, bubbler line, and mercury pressure switches, and all other auxiliary equipment. A valved bypass shall also be provided for blowing out the bubbler tube. The air compressor shall be mounted oilless type with a minimum 2-gallon air receiver with a minimum capacity of 1 cfm free air at 20 psi. The compressor shall be mounted outside of the electric control cabinet. The control units shall be equipped with an altitude type gauge reading 0 to 150 inches of water. Adjustment valves shall be furnished on the air line to facilitate initial setting of the pressure switches without water in the wet well.

In lieu of a compressor and tank assembly, an air supply system consisting of 2 diaphragm type air pumps and interconnecting piping may be furnished. Each pump shall be capable of supplying all the air requirements of the station. Only 1 air pump shall operate at a time.

The variable pumping rate control system shall be accomplished electrically by pump speed control of the motor or by varying pumping head. The pump station manufacturer shall furnish complete details of the systems offered with his proposal.

SUMP PUMP. Provide a 1/3 hp submersible type sump pump with nonclog 2-vane impeller capable of delivering 1,000 gallons per hour at a total dynamic head of 20 feet. The pump discharge shall be fitted with 2 check valves and a gate valve. A removable enclosure of 1/4-inch galvanized steel mesh shall cover the sump to keep out debris.

DEHUMIDIFIER AND BLOWER. Furnish a packaged type automatic refrigeration type dehumidifier and blower capable of removing 2 gallons of moisture per day. The automatic controls shall be through an adjustable humidistat and low air temperature cutout.

The blower shall have sufficient capacity to change air in the pump station every 3 minutes and controlled by an adjustable repeat cycle time clock, which will permit continuous or intermittent blower operation during each hour. A manual switch shall also be located just under the entrance tube cover.

The blower and lights shall be turned on automatically when the cover is raised by a double-pole, spring-operated entrance switch mounted under the cover. The manual switch controlling the blower shall also operate the lights when the cover is closed.

LIGHTS. Lighting shall provide illumination for all areas in the station and control panels. The lighting shall be well protected against damage and shall be controlled by the spring-operated entrance switch and a manual switch as described above.

PIPING AND VALVES. Pump suction lines shall be Class 150 cast iron pipe with mechanical joint bell outside the pump chamber and with bronze-fitted, double-disc gate valves inside the chamber. The discharge line from each pump shall be Class 150 cast iron, and shall have flanged or mechanical joint outlet as shown. Bronze-fitted, spring-loaded checks and double-disc gate valves shall be installed in each pump discharge line. The sump pump discharge line shall be 1-1/4-inch galvanized, standard steel pipe and shall be fitted with a steel-to-copper adapter at the wall exterior as previously discussed. The mechanical joint on the pump station discharge shall be furnished with a Pacific States Cast Iron, American Cast Iron, or U.S. Pipe retainer gland for thrust protection.

Schedule 40 steel pump piping will be considered if prior approval is received on its construction and corrosion protection.

The air bubbler line installed by the station manufacturer in the station shall be 1/4-inch nominal tubing terminating in a fitting in the entrance tube to accept the 3/4-inch copper pipe extending to the wet well. A return loop in the entrance tube shall be provided for flooding protection and a valve shall be provided to bleed off condensation accumulations to the sump. The air bubbler line shall extend to a loop at ground level in the entrance tube.

Provide American Cast Iron Pipe or U.S. Pipe mechanical joint retainer glands on exterior pressure line where shown to resist thrust.

ELECTRICAL. The electric power and control equipment for the pump station shall be mounted in NEMA Type 1 gasketed dead-front enclosure, fabricated of not less than 12-gauge sheet steel, and provided with hinged doors complete with handles and 3-point latching devices. All wiring inside the panel shall be neatly bundled, tied, and supported at regular intervals with sleeve type wire markers at each wire end. The panel shall be finished inside with 2 coats of white enamel and outside with 2 coats of light gray enamel over a rust-inhibiting primer. The panel shall be Autocon Plan-Pak, or as approved.

The panel construction and all interior and exterior wiring and equipment wiring shall be in strict accordance with the National Electrical Code, State and local codes, and in conformance with applicable specifications of NEMA, ANSI, UL, and IPCEA. Thermo-magnetic circuit breakers externally operable, dead-front type, shall be provided for each motor branch circuit, control circuits, and auxiliary power and lighting circuits.

Panel shall be suitable for operation from 480-volt, 3-phase, 3-wire power supply. Provide transformer to serve 120-volt loads.

Magnetic motor controllers shall have thermal overload protection in all 3 legs, and shall be full-voltage nonreversing types.

The electrical control system shall operate in conjunction with the air purged bubbler system to control the operation of the pumps with variations of sewage level in wet well. The control for the pumps shall include a HAND-OFF-AUTO selector switch and an elapsed time meter for each pump mounted on the panel door. Meters G.E. Type 236, or approved.

An automatic alternator with manual ON-OFF selector switch shall be provided to change the sequence of operation of the pumps on the completion of each pumping cycle. Provisions shall be made for the standby pump to operate in parallel with the base pump should the level in the wet well continue to rise above the starting level for the base pump and for shutdown of the standby pump prior to the base pump, with a falling level in the wet well as shown on the Plans.

The pump station shall be completely wired at the factory, except for the power service. All wiring in the pump station shall be color coded. All wiring outside the panel shall be in rigid steel conduit, except for such 110-volt accessory items which, under State code, can be connected with insulated service cord from an outlet located adjacent to each accessory, and for power connections to motors which shall be in liquidtight flexible conduit. Rigid steel conduit shall be used from the control panel across the ceiling and up the entrance tube to receive the power service. The conduit shall terminate in a threaded conduit connection through the wall of the entrance tube above the ground level. No conduit will be allowed through the pump chamber ceiling. Separate conduit shall be used for power and alarm systems when specified. Provide one 110-volt convenience outlet in station.

Conductors up to and including No. 8 AWG shall have thermo-plastic insulation Type TW. Conductors No. 6 AWG or larger shall have Type THW insulation. All wiring outside station shall be minimum No. 12 AWG.

FACTORY TEST. The completed pump station shall be given an operation test of all equipment at the factory to check for excessive vibration, for leaks in all piping, and for correct operation of the automatic control system and all auxiliary equipment.

SPARE PARTS. Provide a complete tool kit containing all necessary nonstandard tools to dismantle pump and replace pump seals, including a lightweight chain or cable hoist suitable for lifting pump and motor assembly.

Provide following spare parts:

- 2 complete replacement mechanical seal assemblies
- 2 spare filter cones
- 2 spare volute gaskets
- 2 complete sets pump packing

START-UP. A factory representative shall inspect the start-up test, and shall make the necessary adjustments to the equipment for satisfactory operation. The representative shall also be responsible for instructing the Owner's personnel in the operation and maintenance of the station.

Two complete sets of operating and maintenance instructions, including electrical wiring diagrams, shall be furnished the Owner. Instructions shall include complete parts list for all equipment and detailed instructions for changing pump seals.

GUARANTEE AND OPERATION. Each complete station shall be guaranteed for a period of 1 year from final acceptance against defective materials and workmanship.

C. WORKMANSHIP.

CLEARING AND GRUBBING. Clear and grub the pump station site and burn or otherwise dispose of the cleared material as approved by the Engineer.

GENERAL EXCAVATION. Perform all excavation of every description, regardless of the character, nature, or condition of material encountered, as specified herein, shown on the Plans, or required to accomplish the construction. Trench excavation shall be performed to the line, depth, or grade indicated on the Plans or established by the Engineer. Workmanship shall conform to applicable portions of Section TRENCH EXCAVATION AND BACKFILL, Schedule S. All excess excavation shall be removed and disposed of by the Contractor.

Furnish and install all shoring, bracing, and sheeting required to support adjacent earth and for protection and safety of all personnel working in the excavations. Protect adjacent fences and other structures from damage by adequate shoring of excavation. Furnish adequate dewatering equipment and operate such equipment to keep the groundwater level down to permit the construction. Dispose of water pumped out of the excavation in a manner which will not damage adjacent property.

All excess excavated material from the station excavation conforming to SELECTED EXCAVATED BACKFILL may be used for site fill. Additional imported fill shall be furnished by the Contractor as required and shall conform to SELECTED EXCAVATED BACKFILL or GRAVEL FOR BACKFILL. All site fill shall be placed in minimum 8-inch lifts and compacted to 90 percent of maximum density at optimum moisture content as determined by AASHO T 99.

PUMP STATION BACKFILL. Place GRAVEL FOR CONCRETE PAD SUBBASE and compact to 95 percent maximum density as determined by AASHO T 99.

Backfill the pump station excavation to the original ground line with SELECTED EXCAVATED MATERIAL except under piping. Backfill under all piping shall be compacted GRAVEL FOR BACKFILL. Backfill above the original ground line is specified under Section ACCESS ROAD AND PARKING AREA, Schedule L.

Take extreme care in backfilling around the station to prevent damage to the outside protective coating and exterior piping. All backfill shall be pushed on the slope of fill previously placed and allowed to roll into the excavation. The Contractor will not be allowed to push the backfill material into the excavation in such a manner as to permit free fall of the material. All backfill shall be mechanically tamped, or otherwise compacted to 95 percent maximum density as determined by AASHO T 99 to prevent settlement of the backfill and damage to the piping or parking area. Any such damage or settlement, within 1 year after final acceptance of the pump station, shall be repaired by the Contractor at his own expense.

TRENCH. All workmanship to conform to applicable portions of Section TRENCH EXCAVATION AND BACKFILL.

Backfill above pipe zone shall correspond with adjacent pump station backfill.

CONCRETE AND STEEL. Float finish pump station and transformer base slab. Give broom finish to exposed slabs. Pour mass concrete under station after installation of station and any piping in the area. Bend "hold-down" reinforcing rods over I-beams before pouring mass concrete.

Place reinforcing in conformance with best accepted practice.

PRECAST WET WELL. Construct in conformance with applicable portions of Section MANHOLE CONSTRUCTION, Schedule S.

SEWER PIPE. Install in conformance with applicable portions of Section GRAVITY SEWER PIPE, Schedule S.

CAST IRON PRESSURE PIPE AND FITTINGS. Install in conformance with applicable portions of Section PRESSURE PIPE, Schedule P and best accepted practice.

CORRUGATED METAL PIPE. The laying of the corrugated metal pipe shall conform to the applicable portions of Section GRAVITY SEWER PIPE, Schedule S. Connect the corrugated metal pipe to gravity sewer pipe using a concrete closure collar as shown in the drawings.

FLAP GATE. The flap gate shall be bolted to the end of the corrugated metal pipe portion of the emergency bypass using galvanized steel bolts. The quantity and size of the anchor bolts shall be as recommended by the manufacturer.

CLOSURE COLLARS. Pour closure collars against undisturbed earth. Remove all water from the excavation. Construct suitable forms to obtain shapes that will provide full bearing surfaces against undisturbed earth. Cure 5 days before conducting hydrostatic or air tests.

Use closure collars only where shown in the drawings. Use closure collars only when approved by the Engineer, and then only to make connections between dissimilar pipe or where standard rubber-gasketed joints are impractical. Before the closure collars are poured, wash pipe to remove all loose material and soil from the surface on which the concrete will be placed. Wet nonmetallic pipe thoroughly prior to pouring the collars. Wrap and securely fasten a light gauge of sheet metal or building felt around the pipe to insure that no concrete shall enter the line. Make entire collar in 1 pour and extend a minimum of 12 inches on each side of the joint. The minimum thickness around the outside diameter of the pipe shall be 6 inches. No collar shall be poured in water. After the collars are poured and have taken their initial set, cure by covering with well-moistened earth.

ELECTRICAL. Install in strict accordance with the National Electrical Code and applicable State and local codes.

Provide minimum 2-foot cover for conduit installed underground.

PUMP STATION. Installation of the prefabricated pump station shall be in strict conformance with the manufacturer's instructions. These instructions shall accompany the pump station. All welds shall be watertight. Stations shall not be installed on the concrete base until continuous electrical power is available. The dehumidifier, blower, pump controls, and sump pump shall be put in operation the same day the station is installed. All exterior abraded areas and field welds shall be touched up with 2 coats of the same epoxy material as the original coating a minimum of 2 days prior to backfilling. The protective anodes shall be installed at the approximate horizontal midpoint and 6 feet out from station shell and securely connected to the junction box switches. Each anode connection shall be tested with a d-c volt-ammeter in the presence of the Engineer after backfilling is completed to demonstrate that the anodes are properly installed and connected. Voltage between the anode and pump station should measure from 1.5 to 1.7 volts and current should measure between 30 and 100 milliamperes.

The sump pump copper discharge line shall be installed from the station to the wet well. The copper air bubbler line shall be installed horizontally with no moisture pockets. The bubbler line must be airtight and shall be pressure tested at 10 psi after backfilling with the mass concrete, but prior to earth or gravel backfill.

Prior to starting up the station, all construction debris shall be removed from the system. A representative of the pump station manufacturer shall start, test, and adjust the equipment for complete and satisfactory operation, and shall instruct a representative of the Owner in the operation and maintenance of the station. Two bound copies of operating and maintenance instructions for the pump station shall be furnished to the Owner. A complete lubrication and maintenance instruction chart shall be furnished at the station mounted on the interior wall in a plastic covered case. The complete operating instructions shall accompany the pump station when delivered to the site.

All supplementary water required to start, test, and adjust the station shall be supplied by the Contractor as directed by the pump station manufacturer's representative. It will be the responsibility of the Contractor to make all necessary arrangements for the source of water.

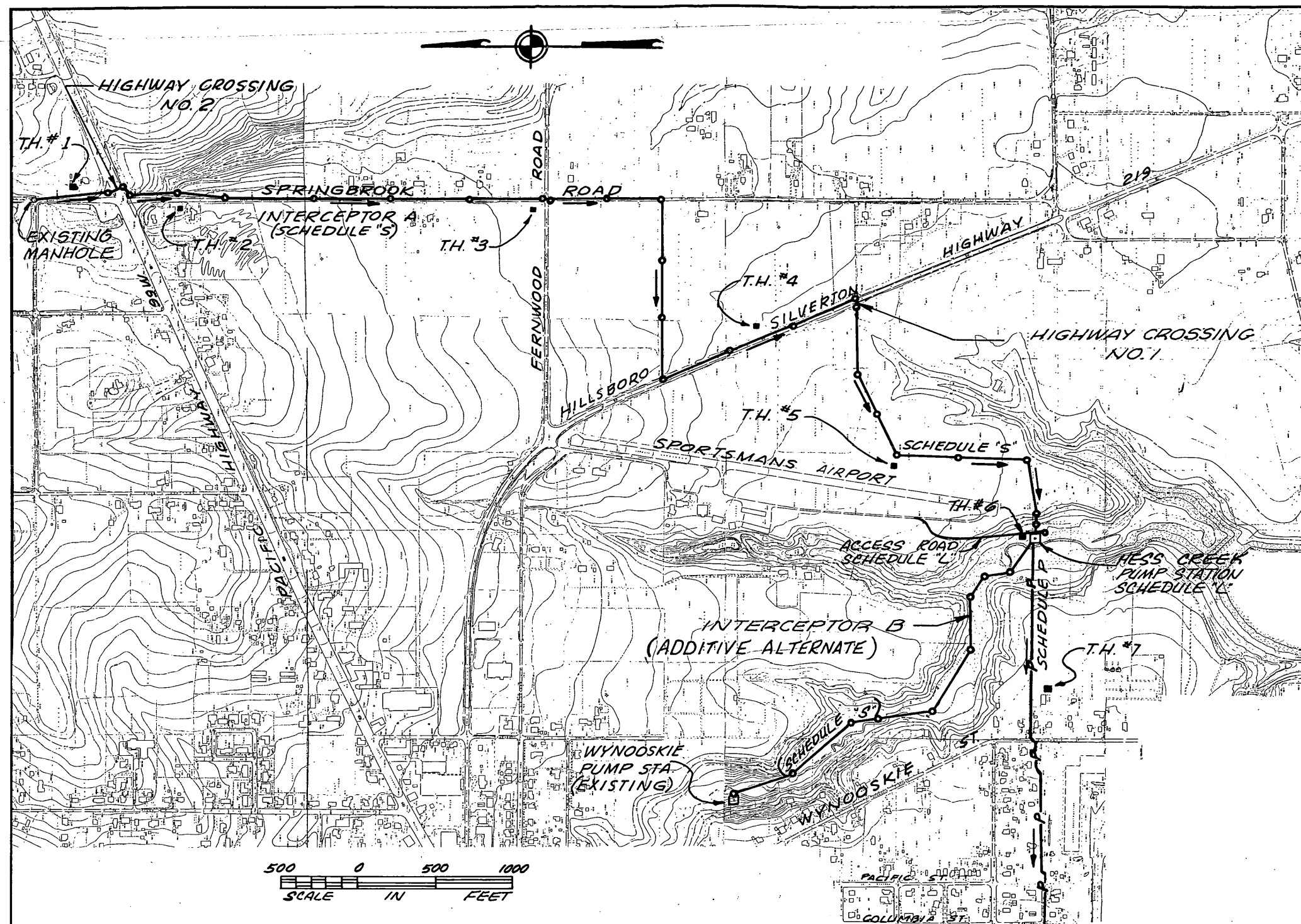
The pump station shall be touched-up on the inside with the touch-up paint furnished, the sump pit cleaned, and the entire interior cleaned of all dust, dirt, and other foreign material.

D. PAYMENT.

PUMP STATION. Payment for the pump station, within the limits shown, complete, will be based on the lump sum price for each station as set forth in the Contractor's Proposal for the particular station selected by the Owner.

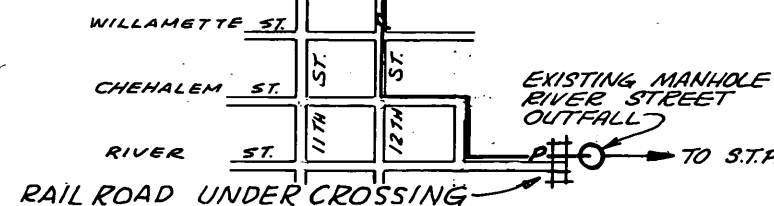
Sp. Specs. LIIA - 12

-72-



LEGEND (THIS SHEET ONLY)

- SANITARY SEWER AND MANHOLE TO BE CONSTRUCTED UNDER SCHEDULE "S" THIS CONTRACT.
- P— PRESSURE MAIN TO BE CONSTRUCTED UNDER SCHEDULE "P" THIS CONTRACT.
- T.H.#6 ■ TEST HOLE, SOIL BORING



INDEX TO DRAWINGS

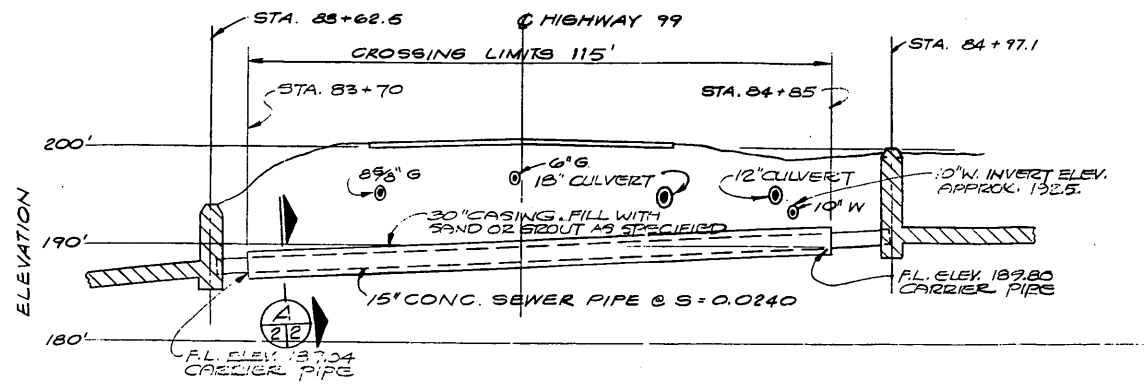
DRAWING NO.	SHEET NO.	ALL SCHEDULES
E5505-1	1.	INDEX TO DRAWINGS, GENERAL LAYOUT
C5505-1	2.	LEGEND; TEST HOLE LOG; TRENCH BACKFILL DETAILS; HIGHWAY, CREEK & RAILROAD CROSSING DETAILS
		SCHEDULE L, PUMP STATION & ACCESS ROAD
E5505-1	3.	ACCESS ROAD-PLAN & PROFILE
C5505-1	4.	PUMP STATION SITE PLAN-TYPICAL CROSS SECTIONS ACCESS ROAD & PARKING AREA
C5505-1	5.	PUMP STATION DETAILS
		SCHEDULE S, GRAVITY SEWERS
E5505-1	6.	INTERCEPTOR "A" STA 0+00-STA 11+00
E5505-1	7.	INTERCEPTOR "A" STA 11+00-STA 23+00
E5505-1	8.	INTERCEPTOR "A" STA 23+00-STA 36+50
E5505-1	9.	INTERCEPTOR "A" STA 36+50-STA 50+50
E5505-1	10.	INTERCEPTOR "A" STA 50+50-STA 64+50
E5505-1	11.	INTERCEPTOR "A" STA 64+50-STA 78+00
E5505-1	12.	INTERCEPTOR "A" STA 78+00-STA 89+85
E5505-1	13.	INTERCEPTOR "B" STA 0+00-STA 12+00
E5505-1	14.	INTERCEPTOR "B" STA 12+00-STA 23+00
E5505-1	15.	INTERCEPTOR "B" STA 23+00-STA 28+50
		SCHEDULE P, PRESSURE MAIN
C5505-1	16.	PRESSURE MAIN, DETAILS
E5505-1	17.	PRESSURE MAIN, STA 0+00-STA 13+00
E5505-1	18.	PRESSURE MAIN, STA 13+00-STA 25+00
E5505-1	19.	PRESSURE MAIN, STA 25+00-STA 32+00
E5505-1	20.	PRESSURE MAIN, STA 32+00-STA 41+26

CITY OF NEWBERG, OREGON
HESS CREEK-SPRINGBROOK SANITARY SEWERS

INDEX TO DRAWINGS, GENERAL LAYOUT

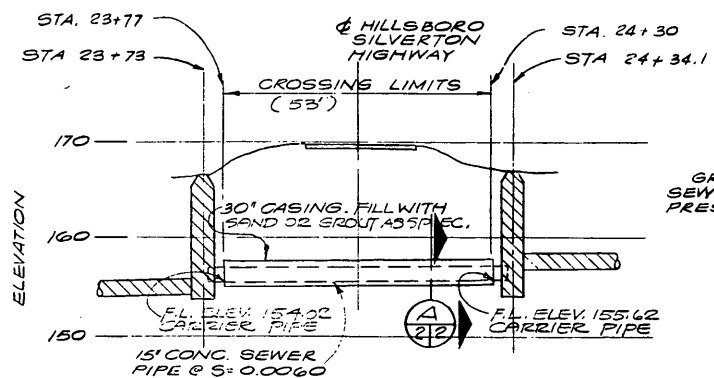
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DES DWA	DR RFG	CK RCH	CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE
			E 5505--1

THIS PRINT IS REDUCED TO ONE-HALF
OF THE ORIGINAL SCALE
IF THE SCALE READS:
1"=1'-0" USE 1/2"=1'-0" OR 1"=10' USE 1"=20'



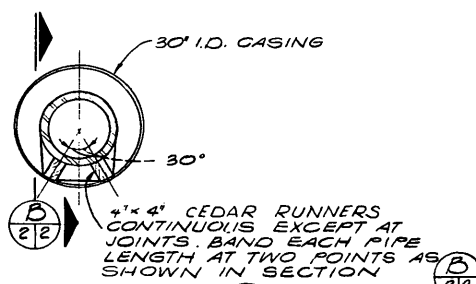
HIGHWAY CROSSING NO. 2

VERT. 1" = 10'
HORIZ. 1" = 20'



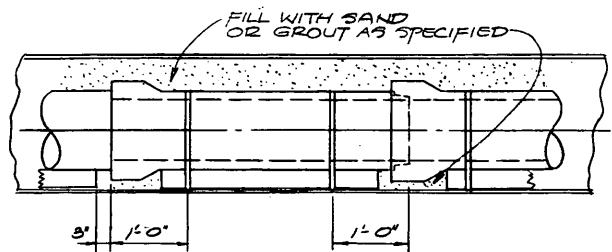
HIGHWAY CROSSING NO. 1

VERT. 1" = 10'
HORIZ. 1" = 20'



SECTION A-A

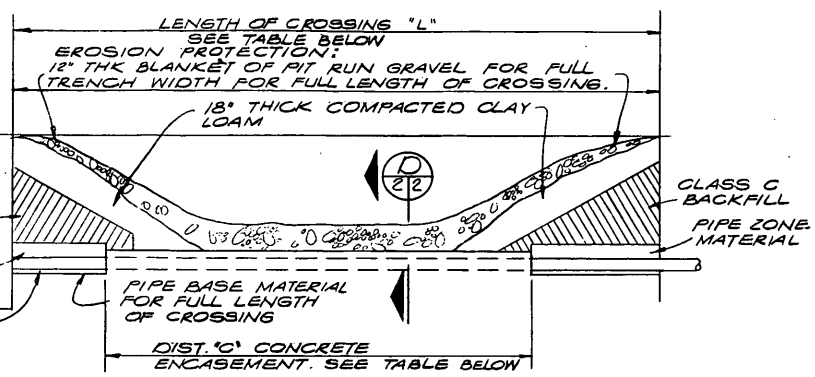
1/2" = 1'-0"



SECTION B-B

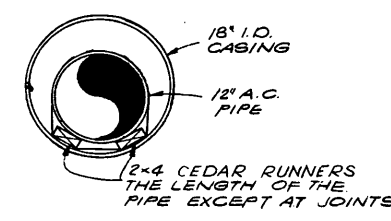
1/2" = 1'-0"

TABLE - CREEK CROSSINGS					
LINE	CROSSING NO.	STATION TO STATION	LENGTH "L"	DISTANCE "C"	
INTERCEPTOR	1	0+73 1+10	37	15	
DO	2	4+36 4+71	35	13	
DO	3	8+46 8+79	33	10	
DO	4	16+08 16+43	35	15	
DO	5	26+50 26+72	22	10	
PRESSURE MAIN	HESSE CREEK	0+65 1+15	50	20	



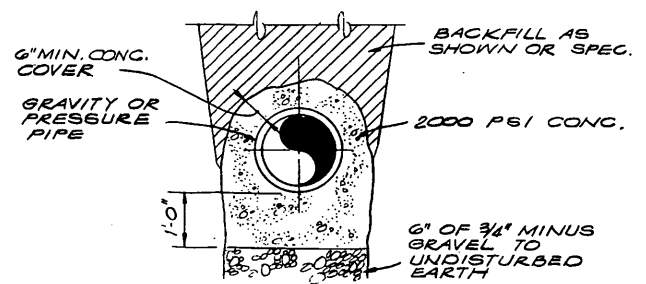
TYPICAL CREEK CROSSING

NTS



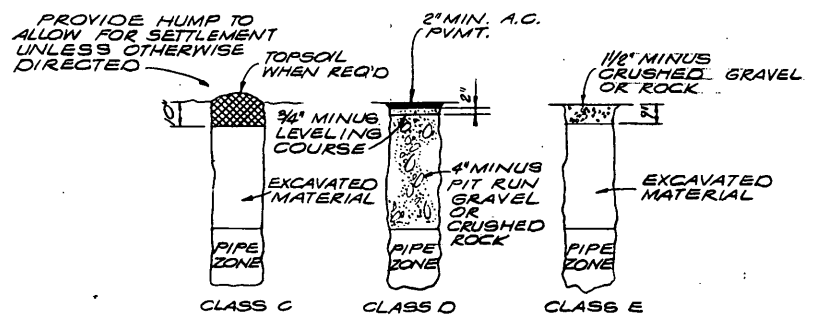
SECTION C-C

NTS

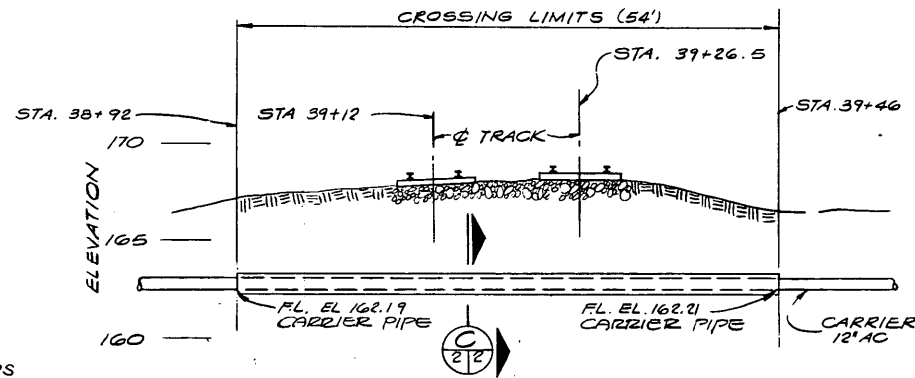


SECTION D-D

NTS

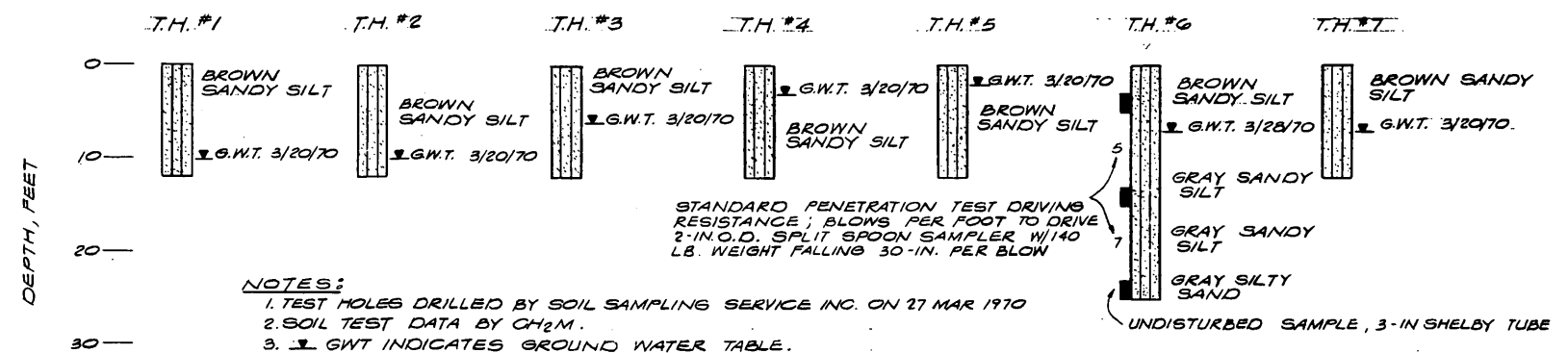


TRENCH BACKFILL DETAILS



SCHEDULE P RAILROAD CROSSING

VERT. 1" = 5'
HORIZ. 1" = 10'

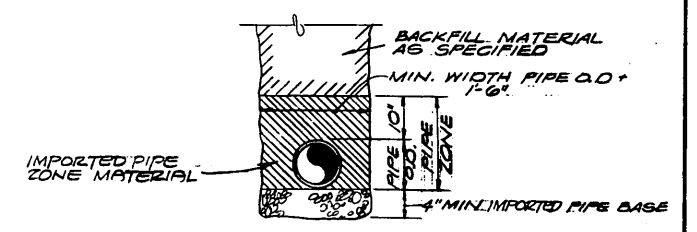


NOTES:
1. TEST HOLES DRILLED BY SOIL SAMPLING SERVICE INC. ON 27 MAR 1970
2. SOIL TEST DATA BY CH2M.
3. GWT INDICATES GROUND WATER TABLE.

TEST HOLE LOG

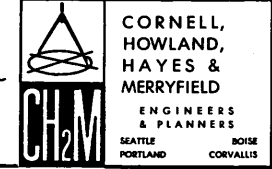
LEGEND
PLAN AND PROFILE SHEETS

- PROPOSED SEWERS
- EXISTING SEWERS AND MANHOLE
- STANDARD MANHOLE
- DROP MANHOLE
- GAS LINE
- WATER LINE
- TELEPHONE
- EXTENT OF BACKFILL AS NOTED "C", "D" OR "E"
- SIZE AND SLOPE OF PIPE (8" PIPE AT FALL OF 0.0040 FOOT PER FOOT)
- EXISTING CULVERTS
- WATERTIGHT MANHOLE
- NO. OF TEST HOLE AND LOCATION ON PROFILE
- BOTTOM OF TEST HOLE
- PROPERTY LINE
- RIGHT-OF-WAY LINE



TYPICAL TRENCH SECTION AT PIPE ZONE

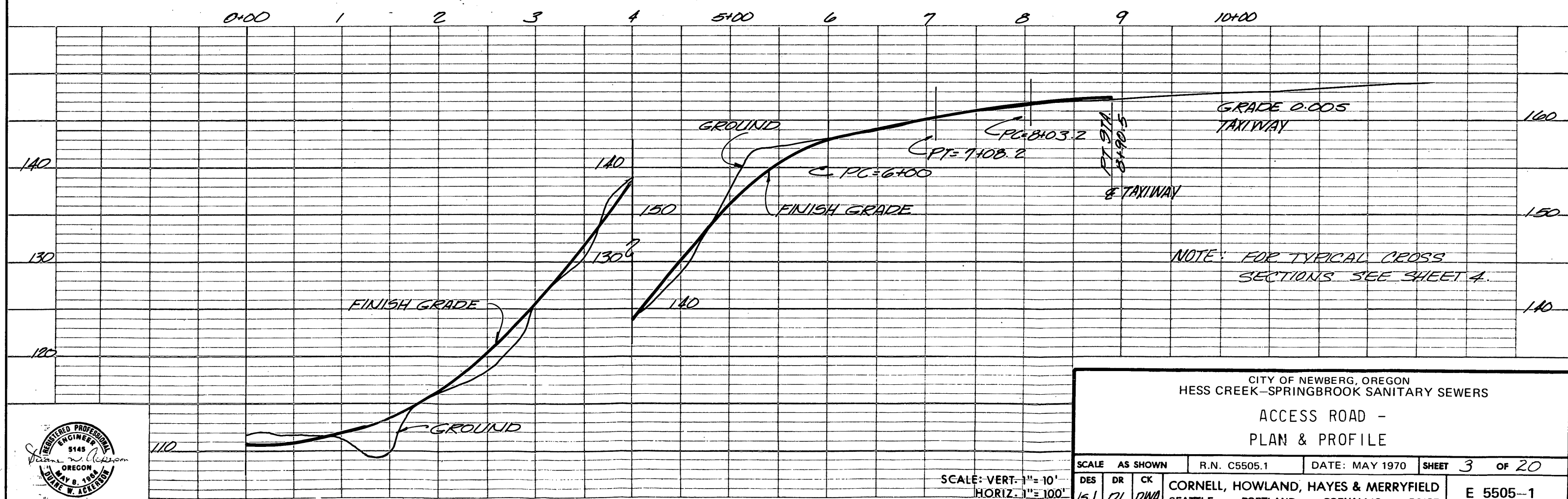
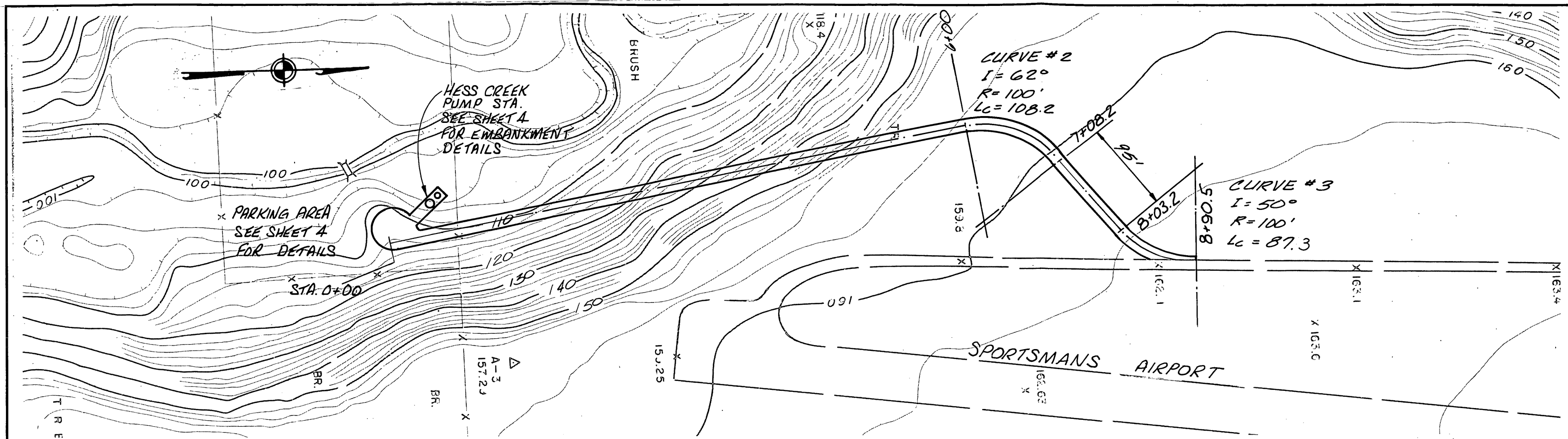
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CORNELL, HOWLAND, HAYES & MERRYFIELD
ENGINEERS & PLANNERS
SEATTLE PORTLAND BOISE CORVALLIS

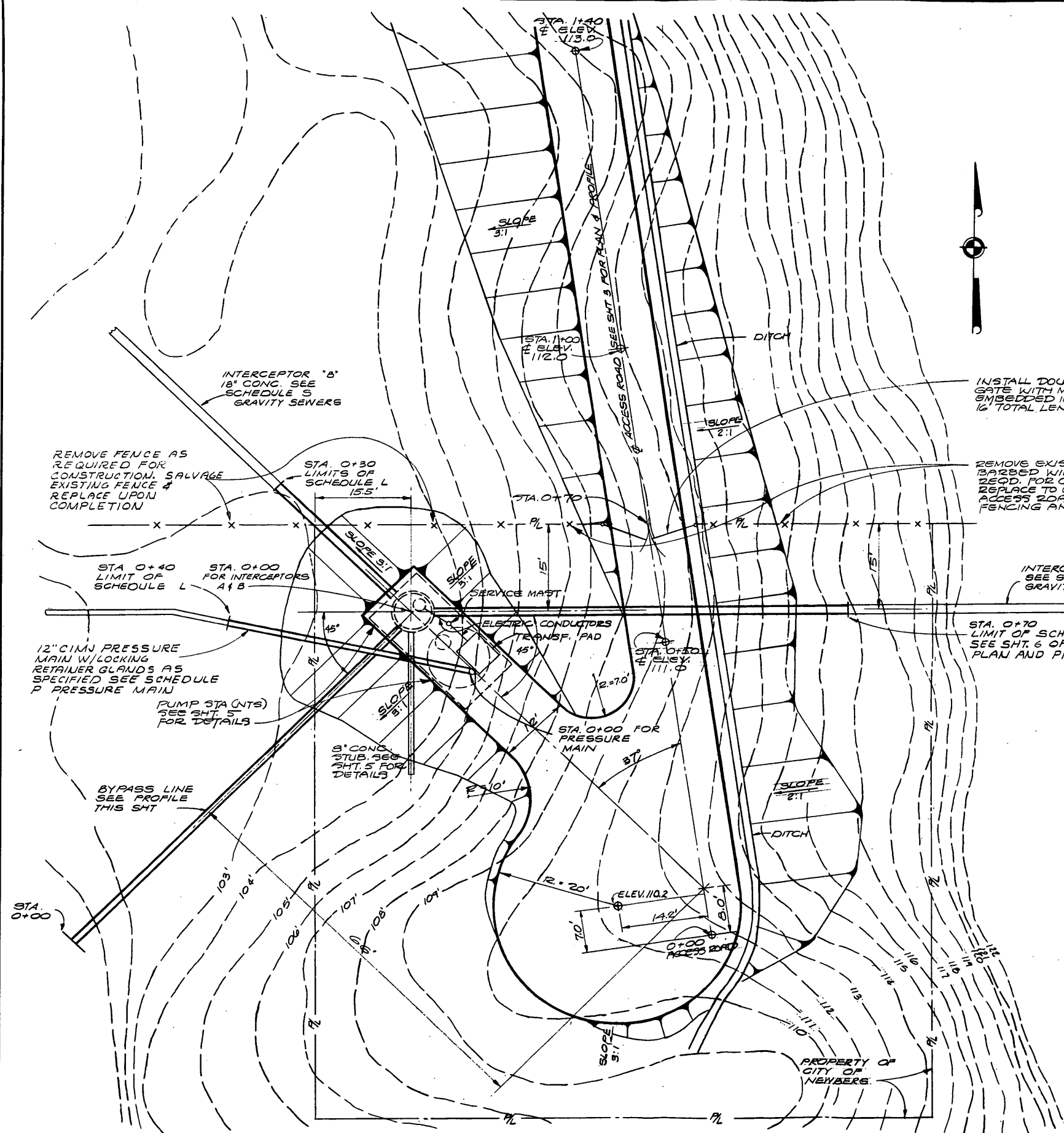
CITY OF NEWBERG, OREGON
HESSE CREEK-SPRINGBROOK SANITARY SEWERS
LEGEND: TEST HOLE LOG;
TRENCH BACKFILL DETAILS;
HIGHWAY, CREEK & RAILROAD
CROSSING DETAILS

DATE: MAY 1970
SCALE: AS SHOWN
SHEET: 2
C 5505-1

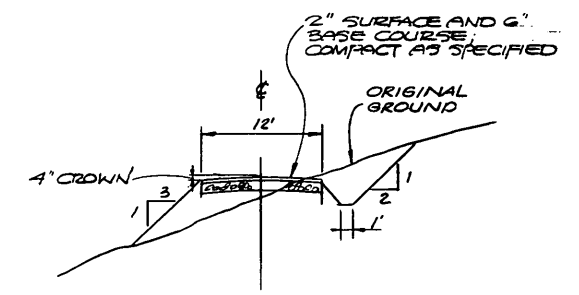


CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
ACCESS ROAD - PLAN & PROFILE			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 3 OF 20
DES JES	DR DI	CK DWA	CORNELL, HOWLAND, HAYES & MERRYFIELD
			SEATTLE PORTLAND CORVALLIS BOISE
E 5505-1			

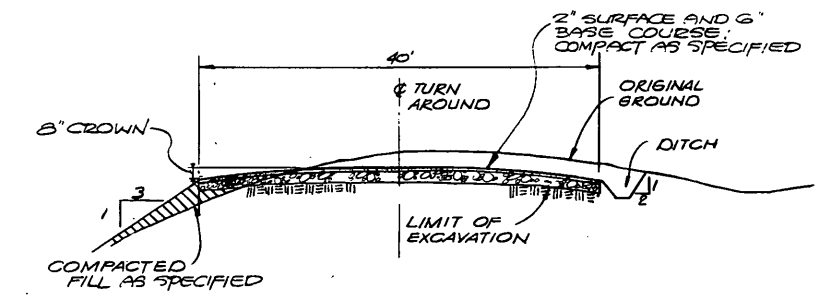
SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'



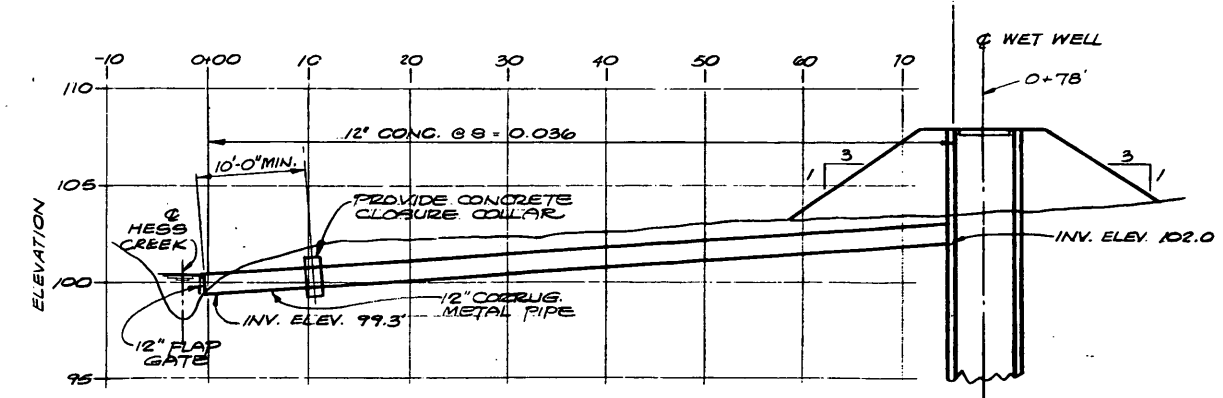
ACCESS ROAD AND PARKING AREA PLAN
1"=10'



TYPICAL CROSS SECTION ACCESS ROAD
HORIZ. 1"=10'
VERT. 1"=5'



TYPICAL CROSS SECTION PARKING AREA
HORIZ. 1"=10'
VERT. 1"=5'



PROFILE - BYPASS LINE
HORIZ. 1"=10'
VERT. 1"=5'

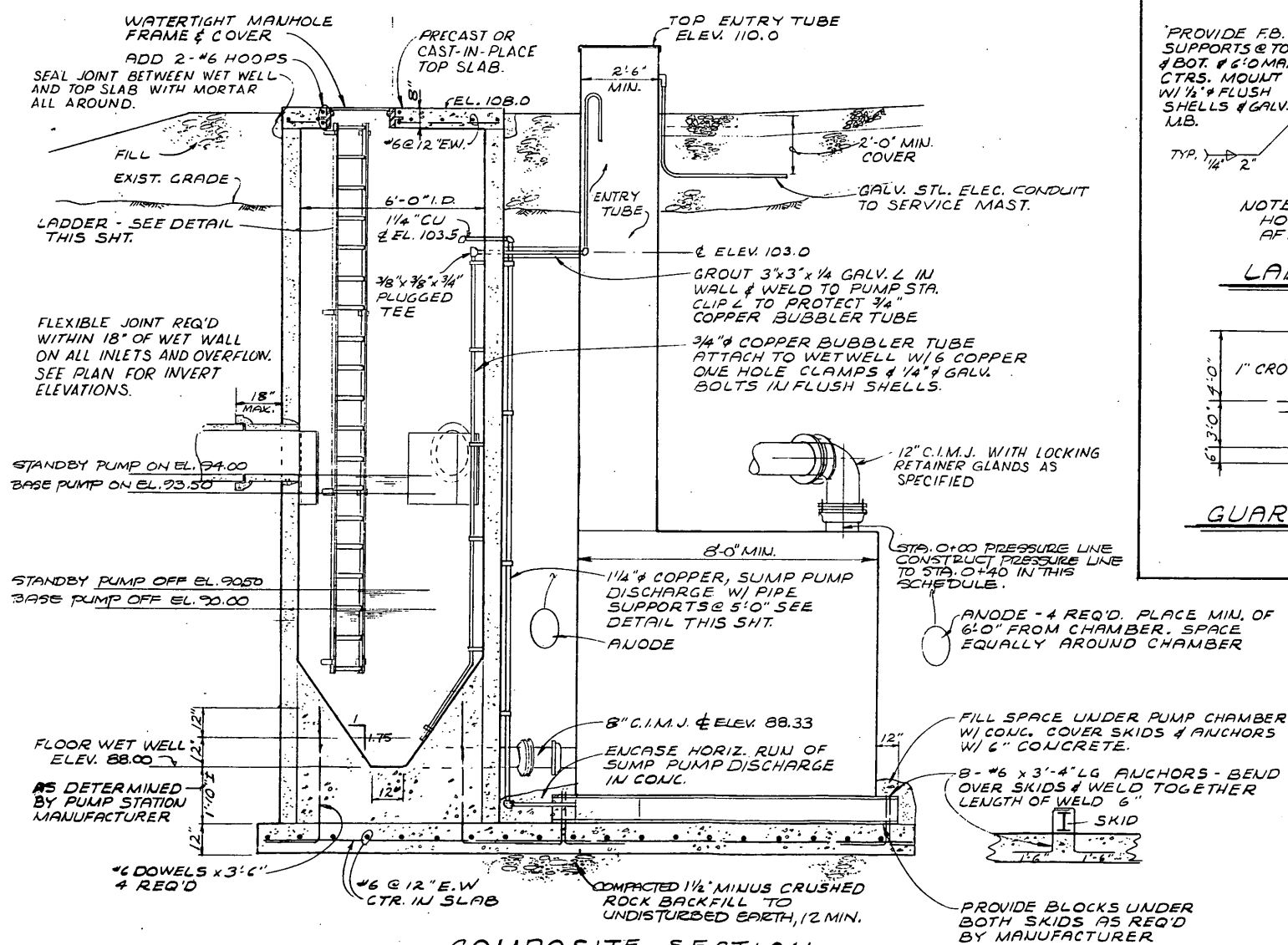
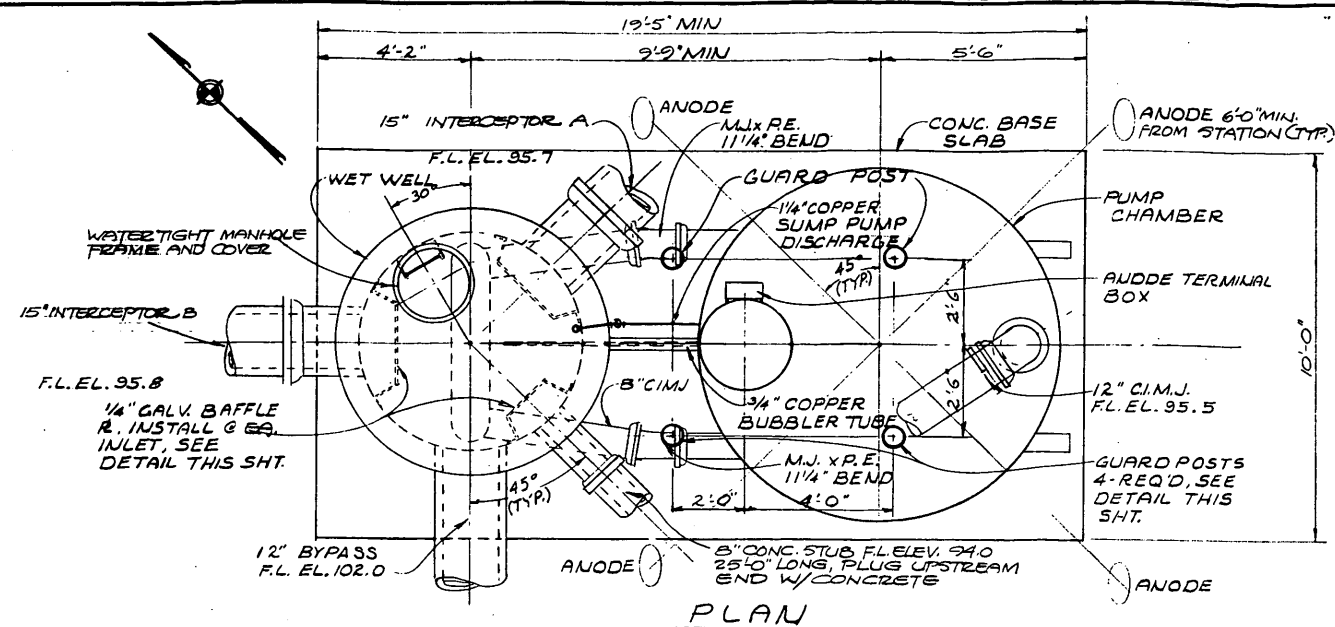
THIS PRINT IS REDUCED TO ONE-HALF OF THE ORIGINAL SCALE
IF THE SCALE READS:
1"=1'-0" USE 1/2"=1'-0" OR 1"=10' USE 1"=20'



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CITY OF NEWBERG, OREGON
HESS CREEK-SPRINGBROOK SANITARY SEWERS
PUMP STATION SITE PLAN
TYPICAL CROSS SECTIONS ACCESS ROAD & PARKING AREA

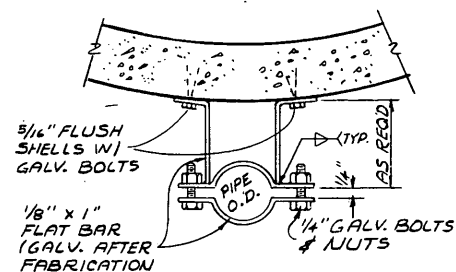
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CHECKED BY	CK	OF	20
DATE	MAY 1970	SCALE	AS SHOWN
BY	ESS08.1		
DWG NO.	C 5505-1		



COMPOSITE SECTION

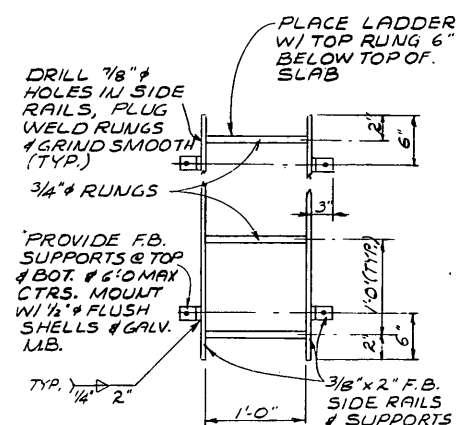
PUMP STATION

N.T.S



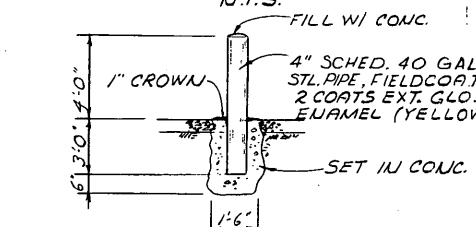
PIPE SUPPORT DETAIL

N.T.S.



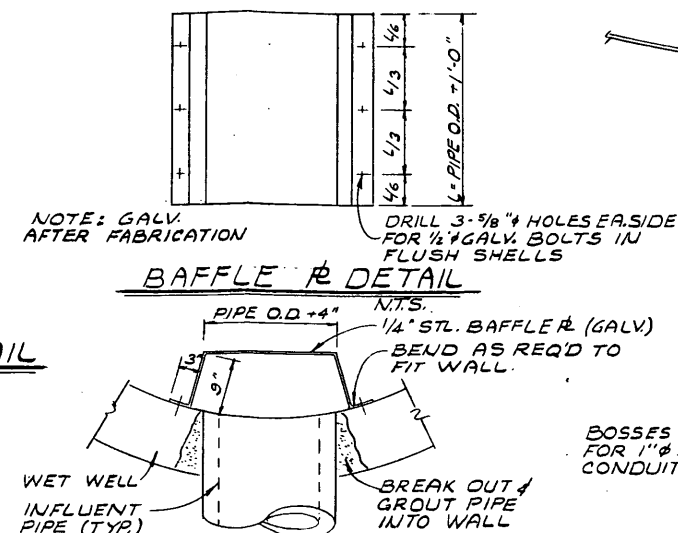
LADDER DETAIL

MTS



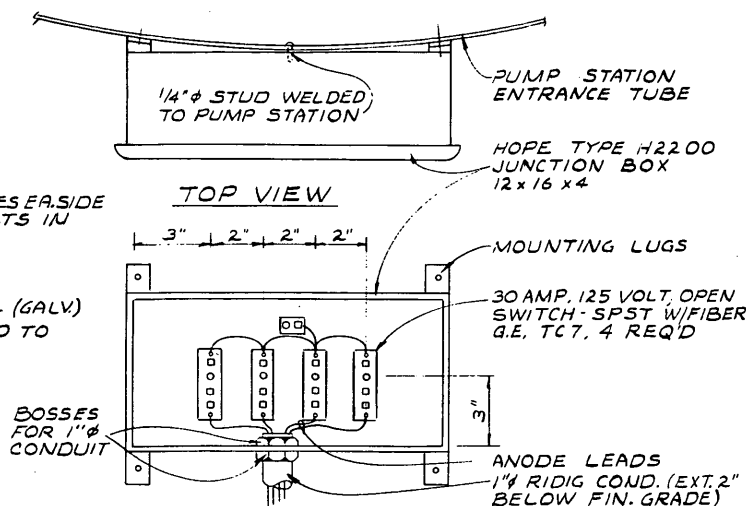
GUARD POST DETAIL

N.T.



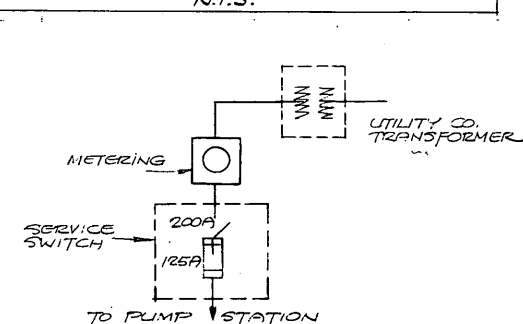
WET WELL CONNECTION
DETAIL

NTS



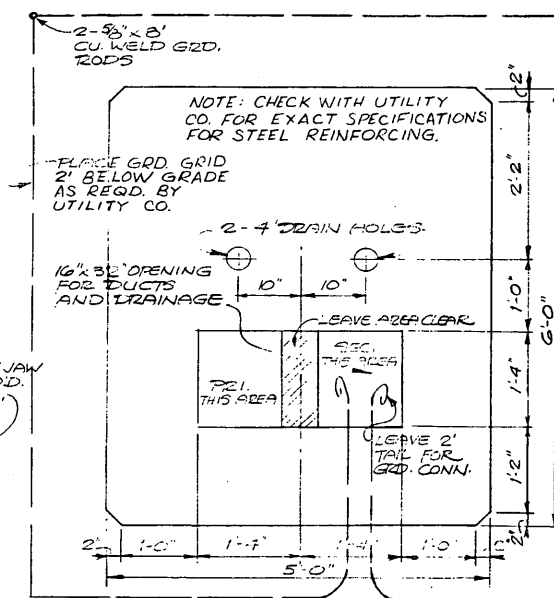
ANODE TERMINAL BOX DETAILS

N.T.



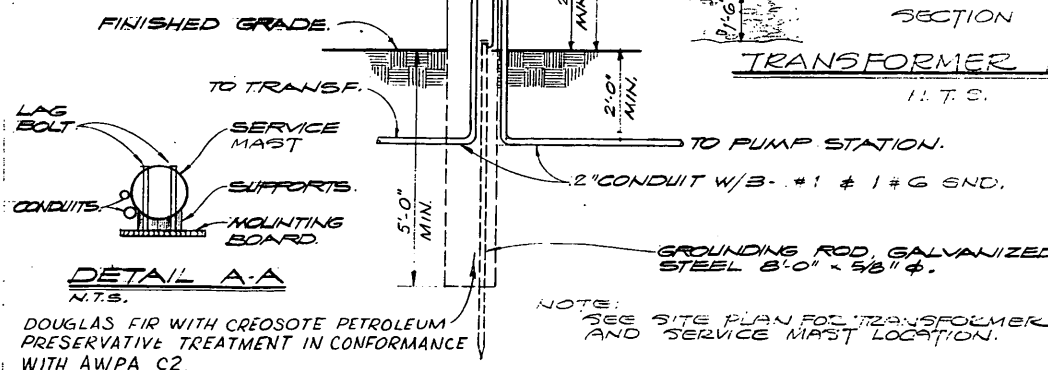
ONE LINE DIAGRAM

N.T.S.



TRANSFORMER PAD

11 T. 5



SERVICE EQUIP. DETAIL

N.T.S

THIS PRINT IS REDUCED TO ONE-HALF
OF THE ORIGINAL SCALE
IF THE SCALE READS:
1" = 1'-0" USE $\frac{1}{2}$ " = 1'-0" OR 1" = 10' USE 1" = 20'



**CORNELL,
HOWLAND,
HAYES &
MERRYFIELD**

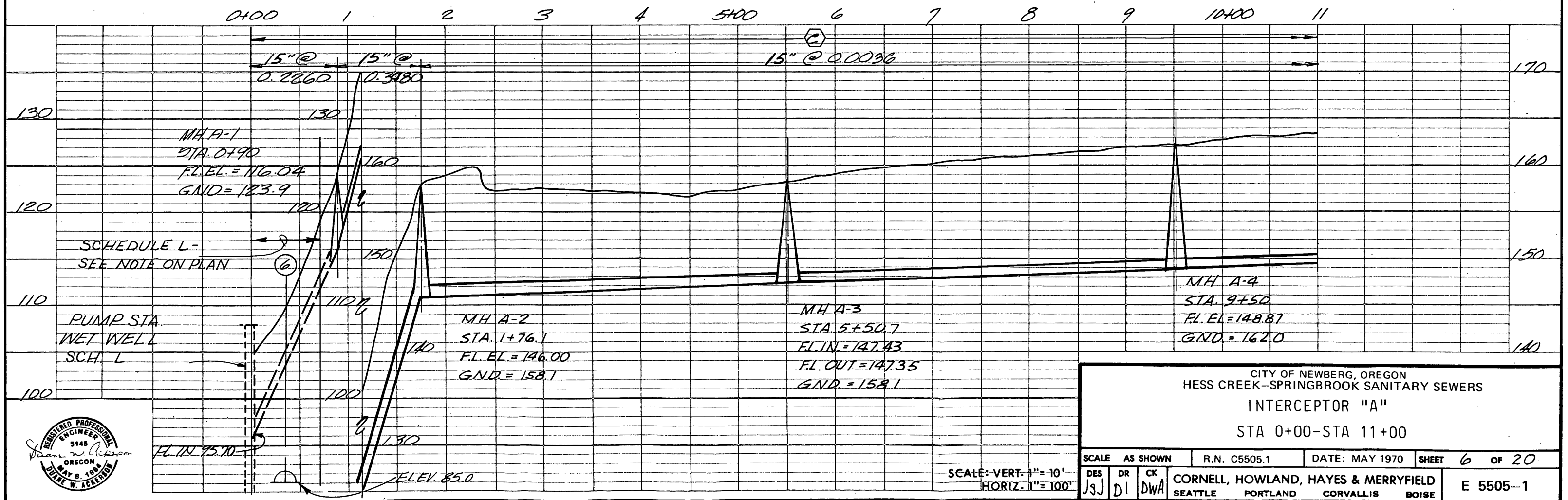
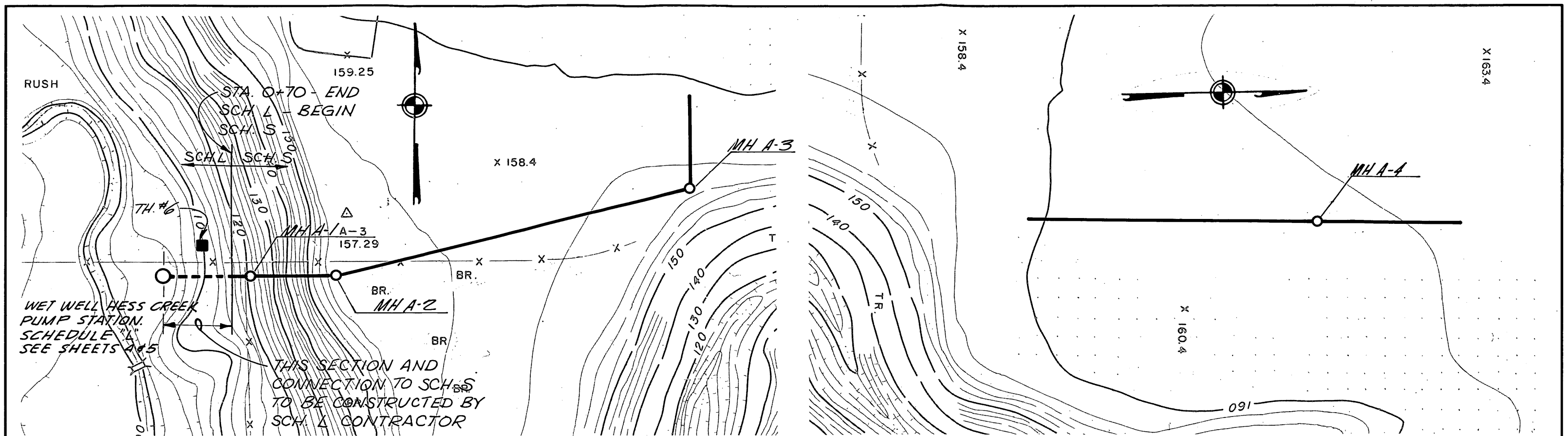
ENGINEERS
& PLANNERS

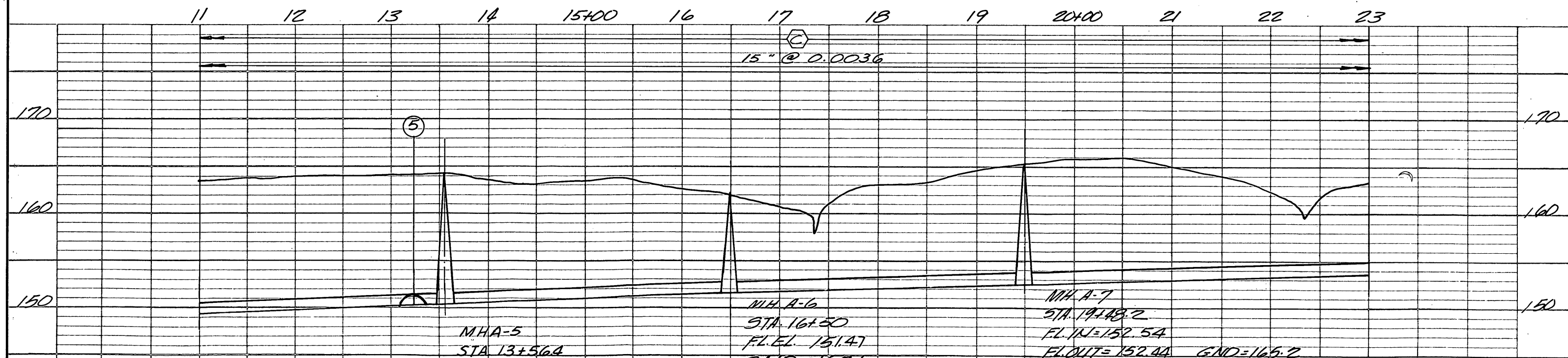
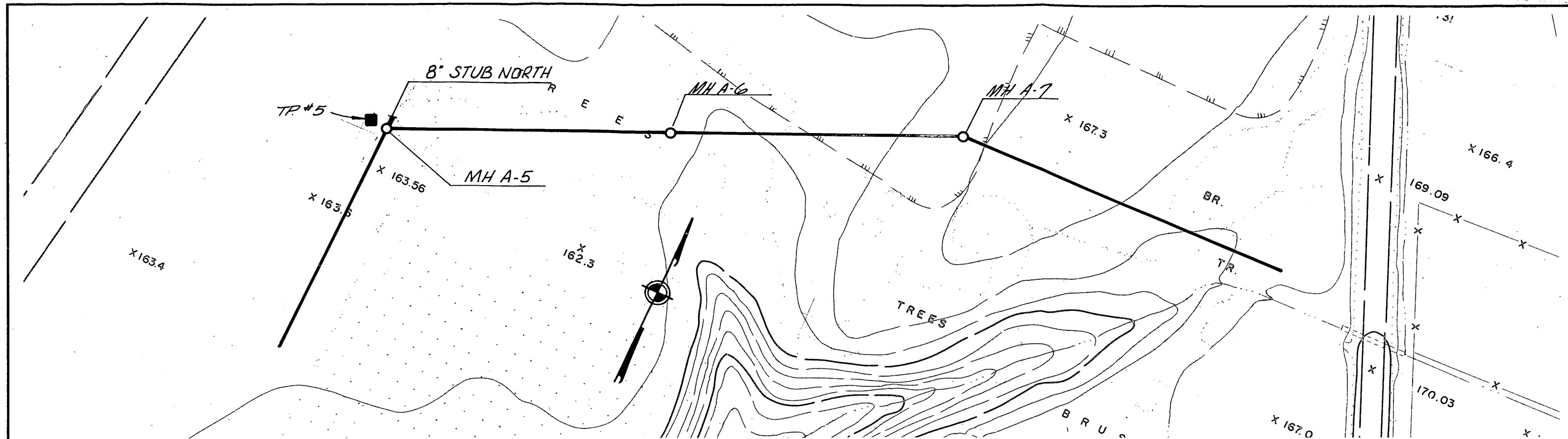
SEATTLE
PORTLAND
CORNELL

CITY OF NEWBERG, OREGON
HESS CREEK-SPRINGBROOK SANITARY SEWERS

PUMP STATION DETAILS

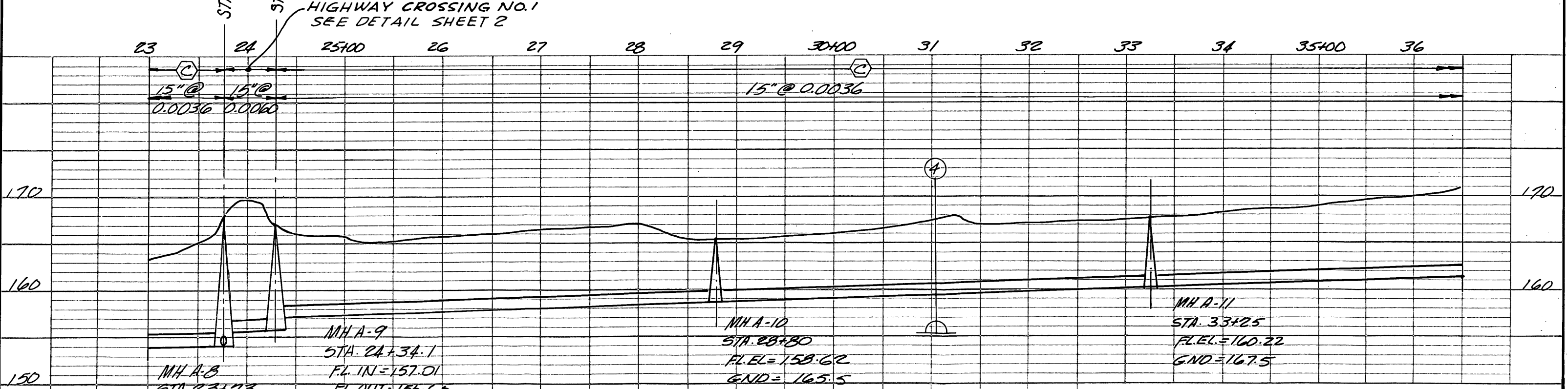
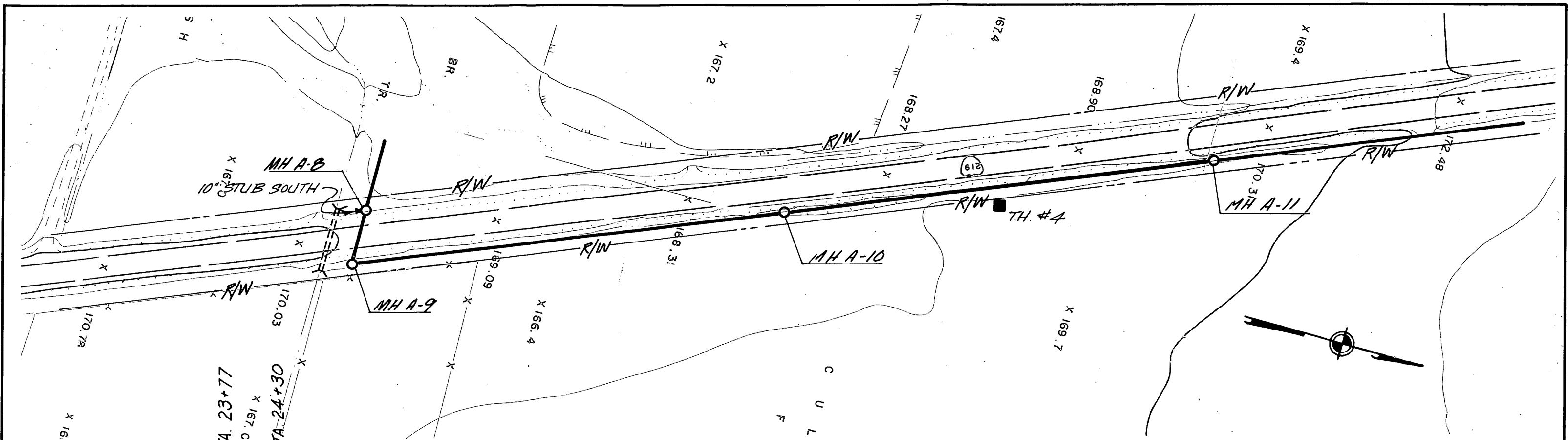
DES	SHEET 5
DR AFW	OF 20
CK	DATE MAY 1971
EN	SCALE AS SHOWN
C5505-1	
DWG C 5505-1	





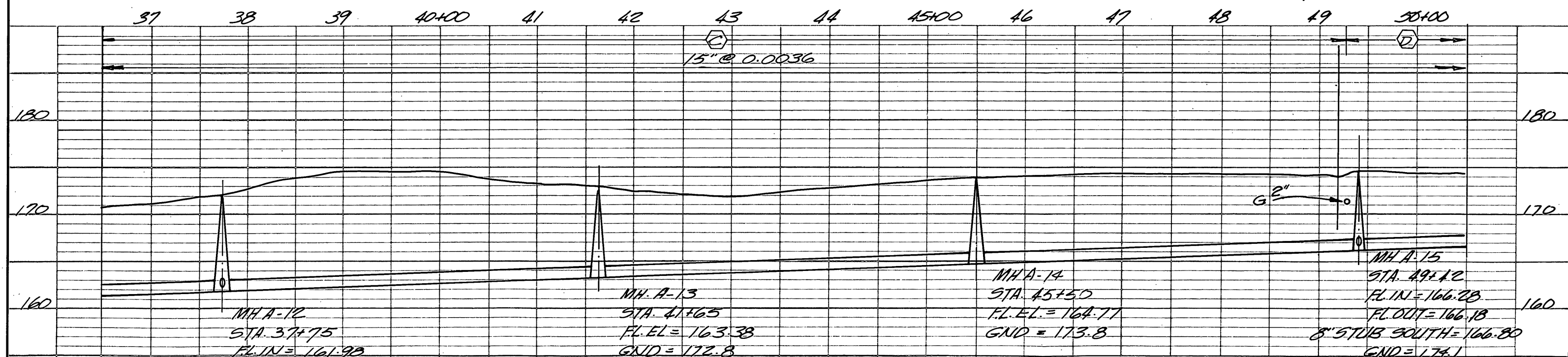
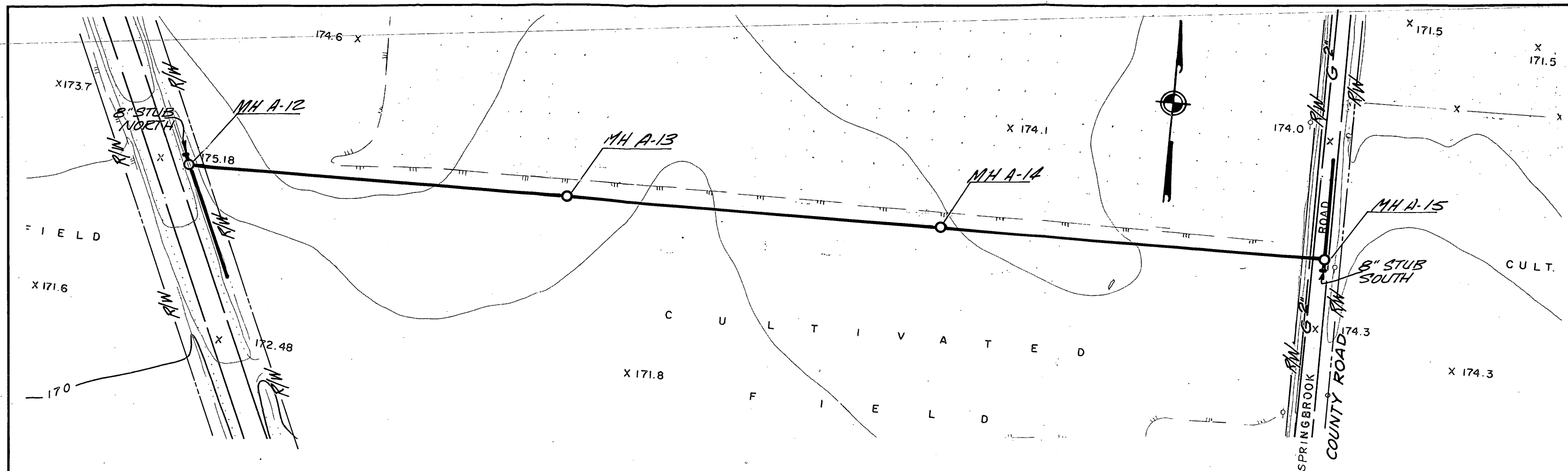
SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'

CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
INTERCEPTOR "A"			
STA 11+00-STA 23+00			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 7 OF 20
DES J3	DR DI	CK DWA	CORNELL, HOWLAND, HAYES & MERRYFIELD
SEATTLE PORTLAND CORVALLIS BOISE			E 5505-1



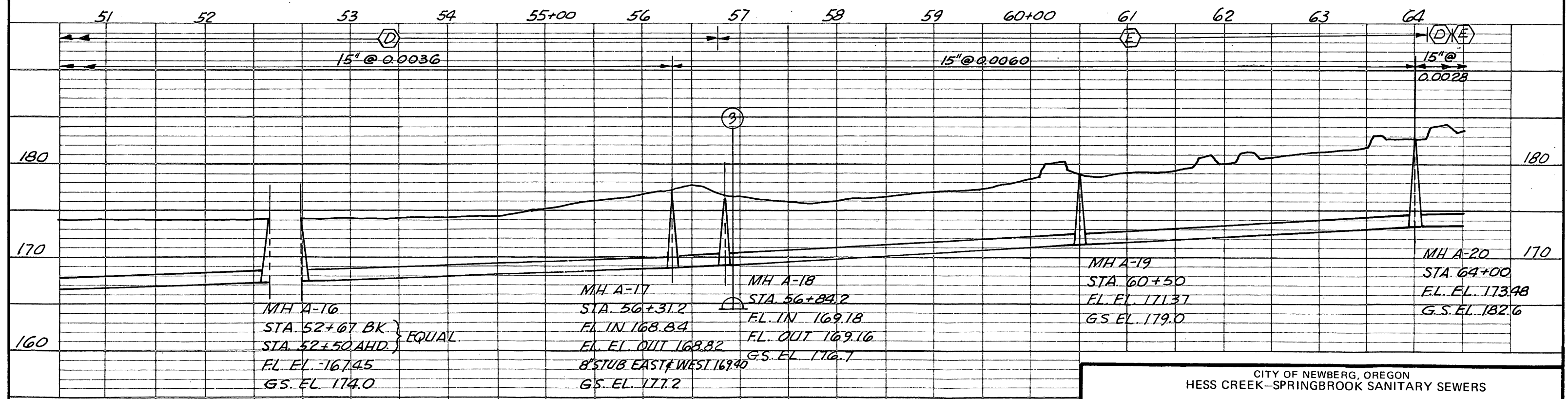
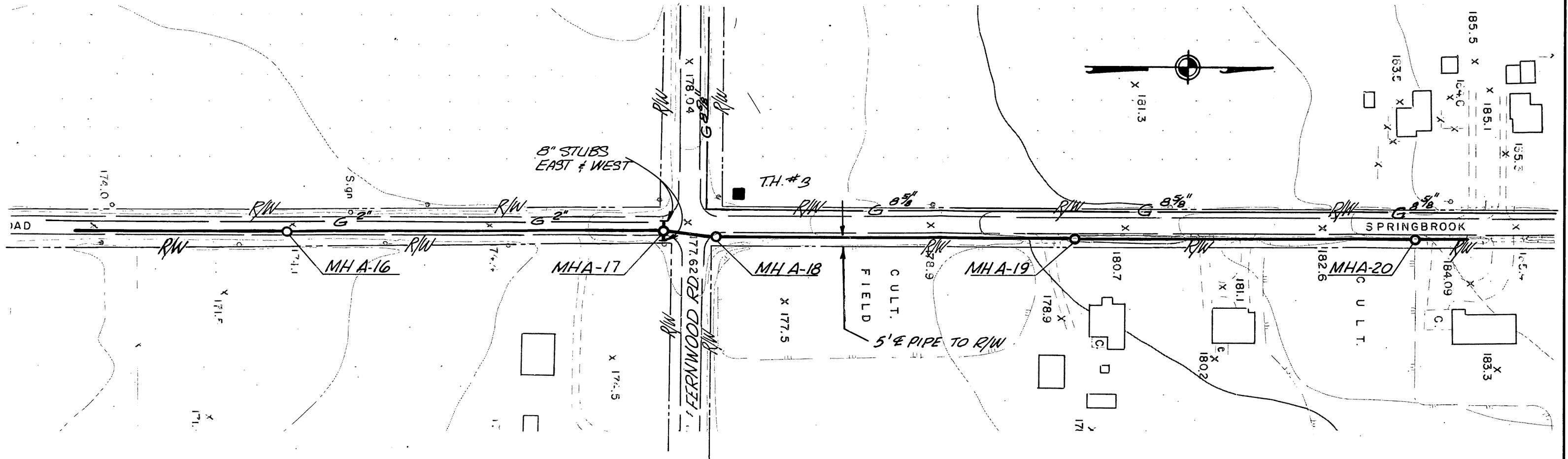
CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS INTERCEPTOR "A" STA 23+00-STA36+50			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 8 OF 20
DES JSL	DR 21	CK DWA	CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE
E 5505-1			

SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'



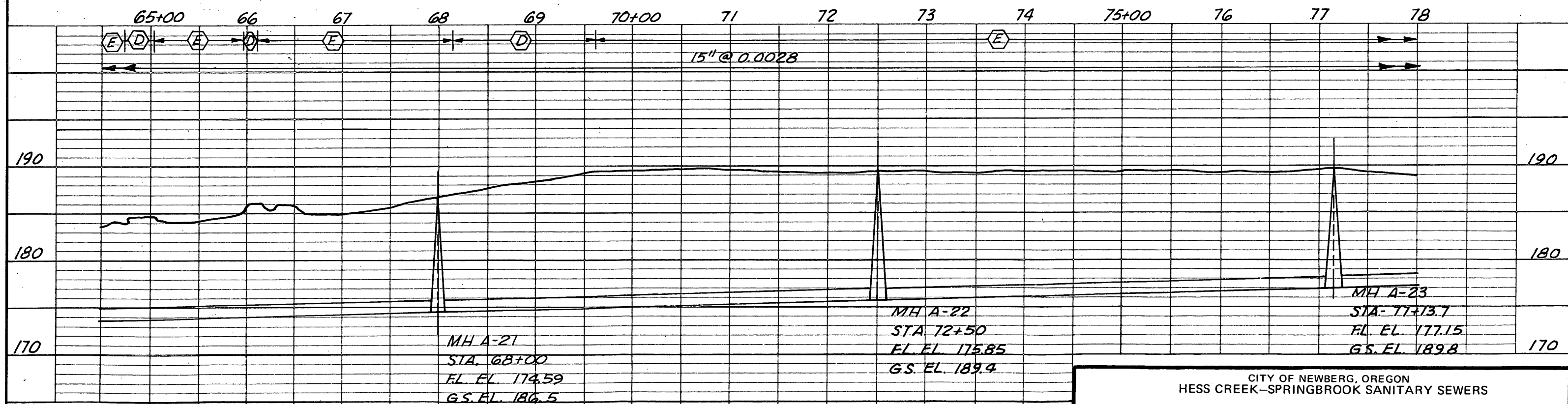
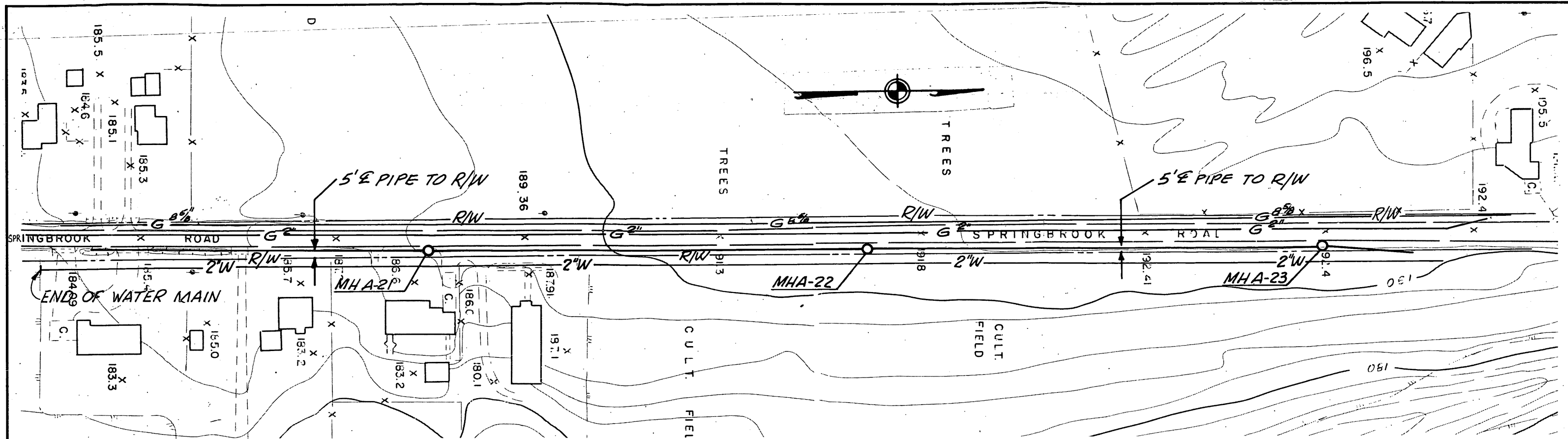
CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
INTERCEPTOR "A"			
STA 36+50-STA 50+50			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 9 OF 20
DES J.S.	DR D.I.	CK D.W.	CORNELL, HOWLAND, HAYES & MERRYFIELD
SEATTLE PORTLAND CORVALLIS BOISE			E 5505-1

SCALE: VERT. 1"=10'
HORIZ. 1"=100'



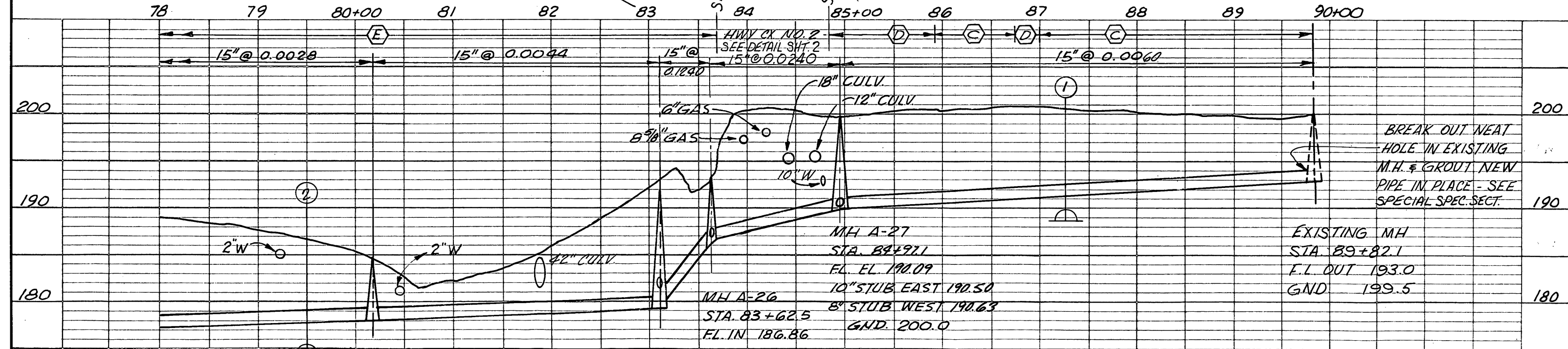
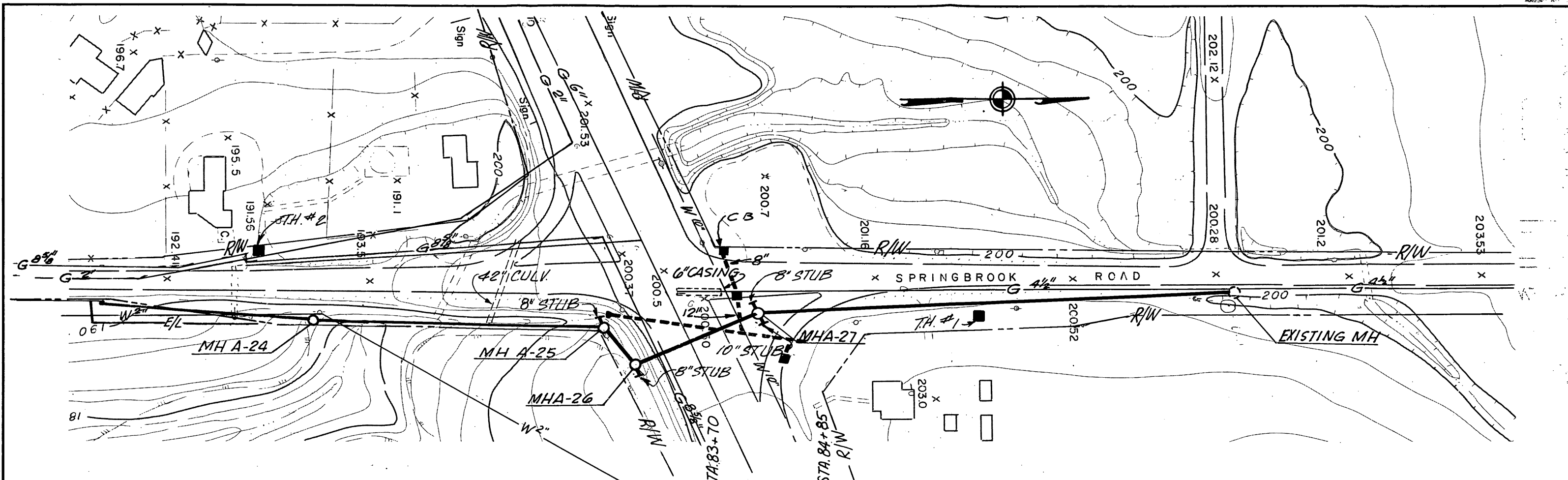
CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
INTERCEPTOR "A"			
STA 50+50-STA 64+50			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 10 OF 20
DES JSJ	DR DI	CK DWA	CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE
			E 5505-1

SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'



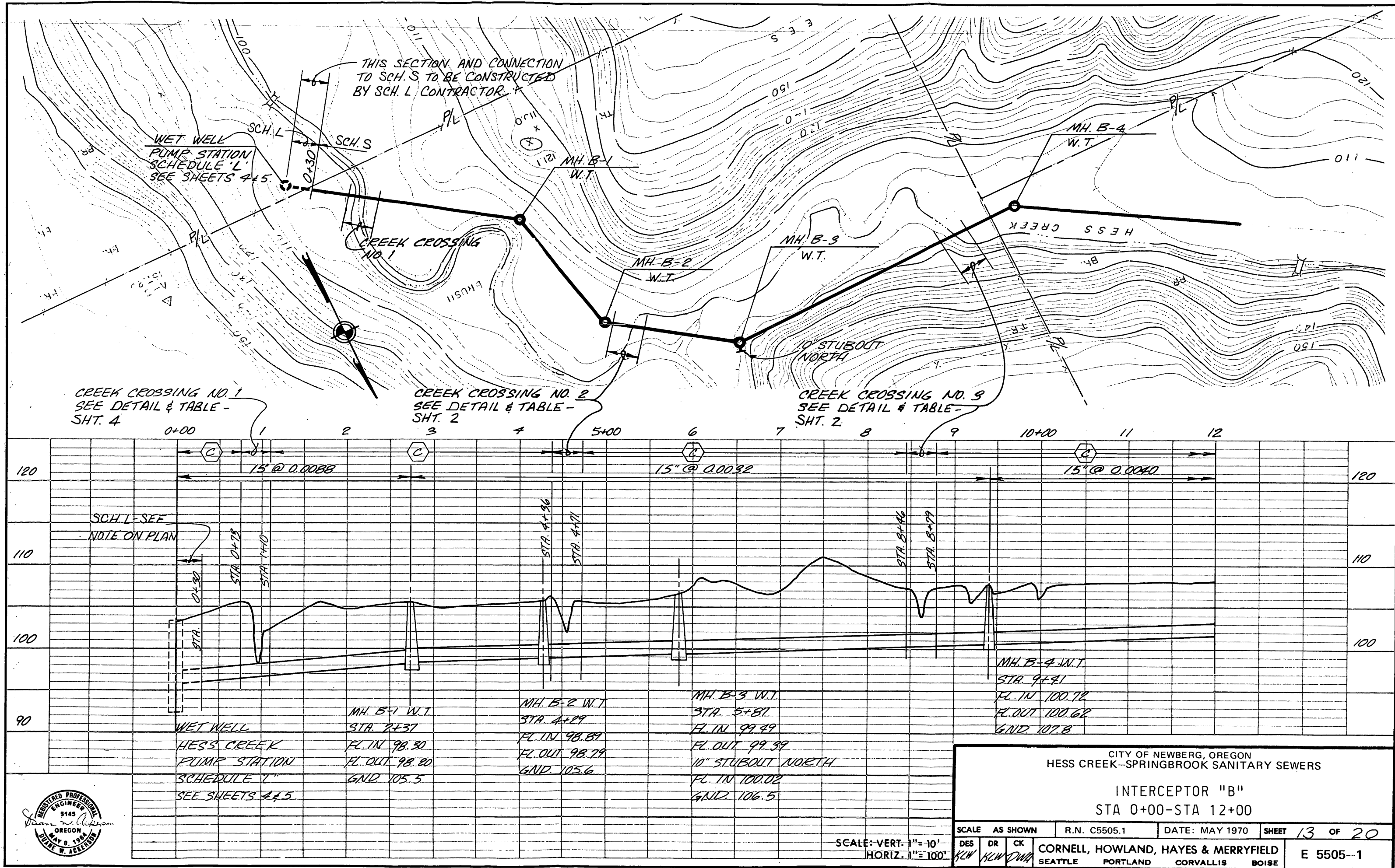
SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'

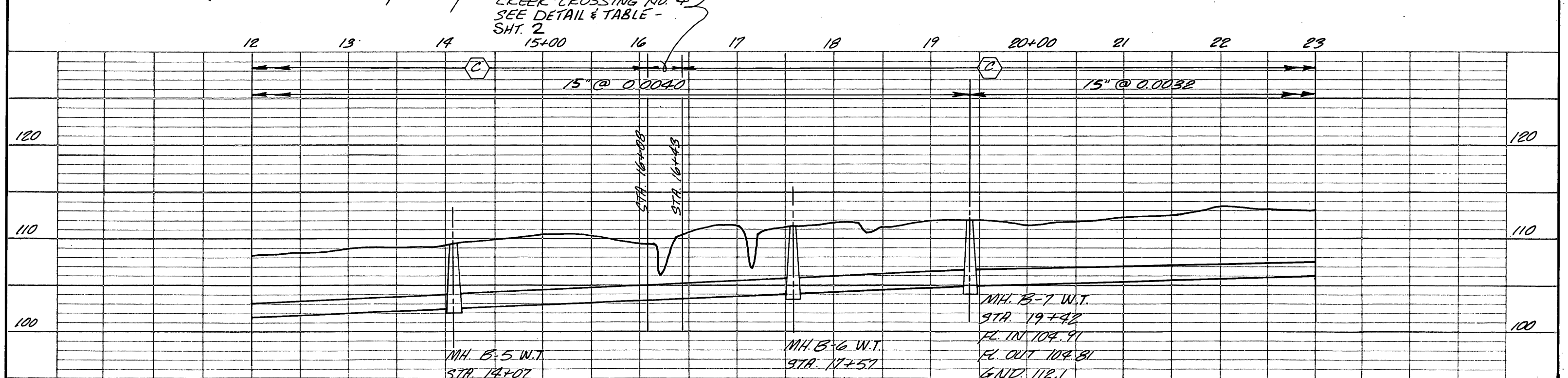
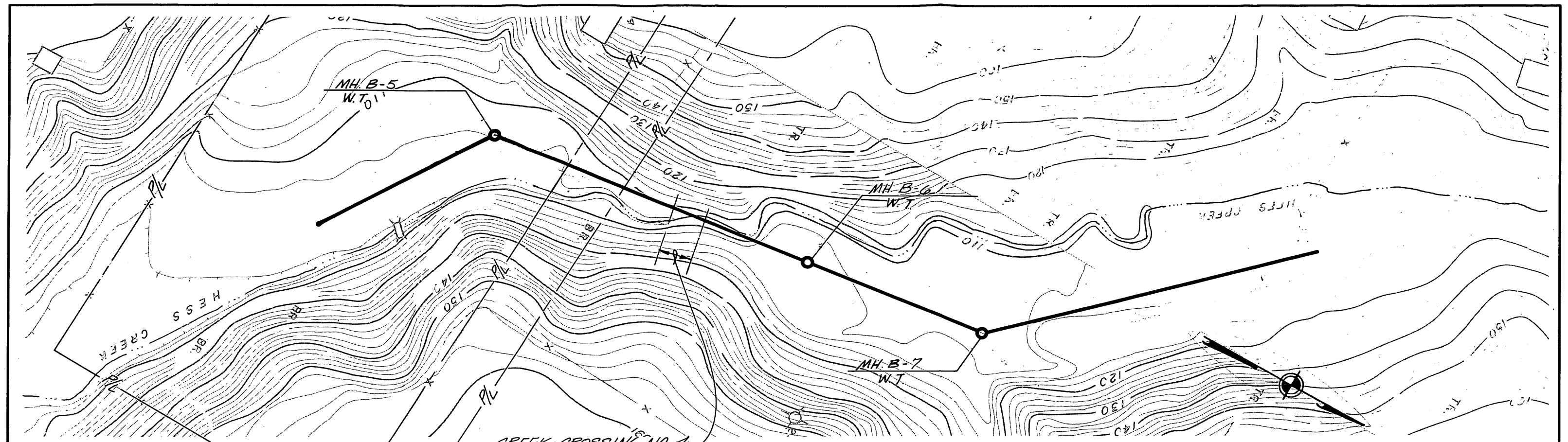
CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
INTERCEPTOR "A"			
STA 64+50-STA 78+00			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 11 OF 20
DES JSJ	DR DI	CK DWA	CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE
			E 5505-1



MANHOLE DATA		SEWER DATA	
MH A-24	STA. 80+15.9 EL. FL. 178.00 GND. 184.6	MH A-25	STA. 83+10.4 FL. IN 180.30 FL. OUT 179.30 8" STUB WEST 181.50 GND. 193.4
MH A-26	STA. 83+62.5 FL. IN 186.86 FL. OUT 186.16 8" STUB EAST 187.32 GND. 193.3	MH A-27	STA. 89+82.1 FL. EL. 190.09 10" STUB EAST 190.50 8" STUB WEST 190.63 GND. 200.0

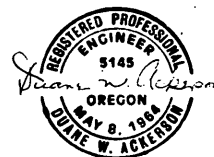
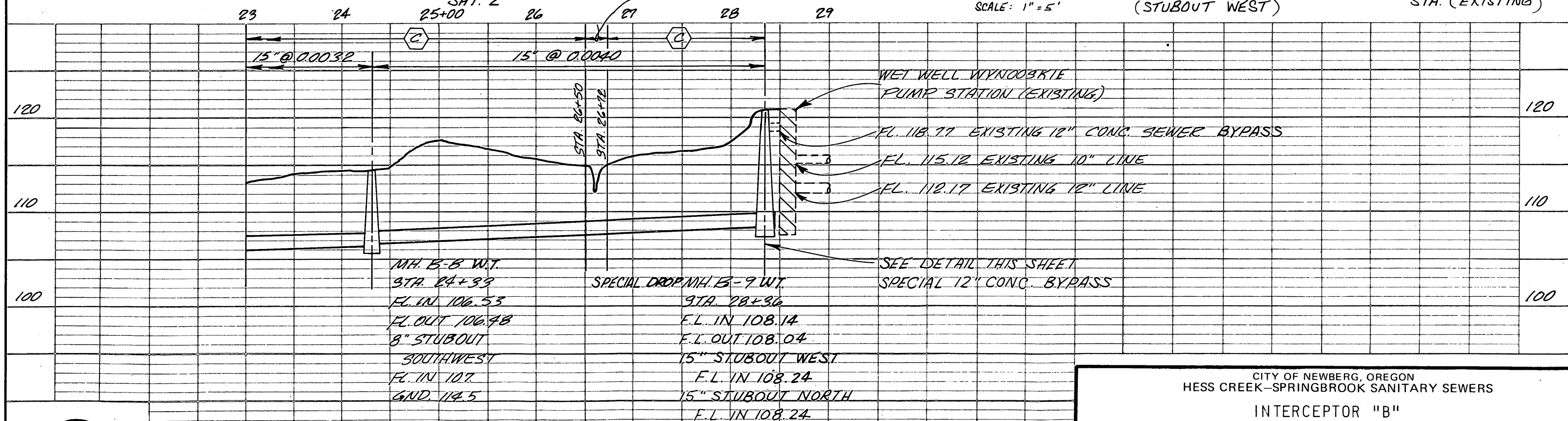
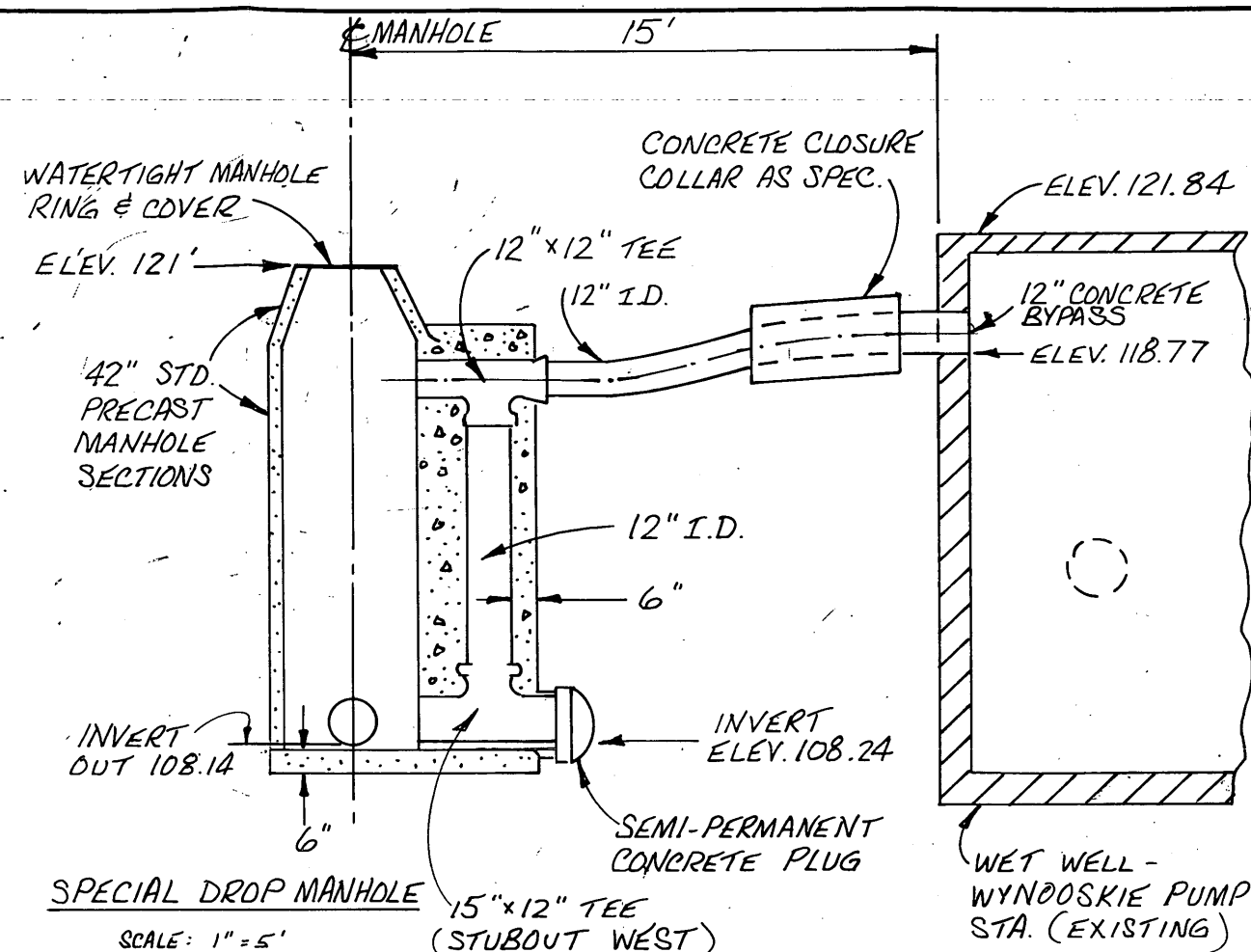
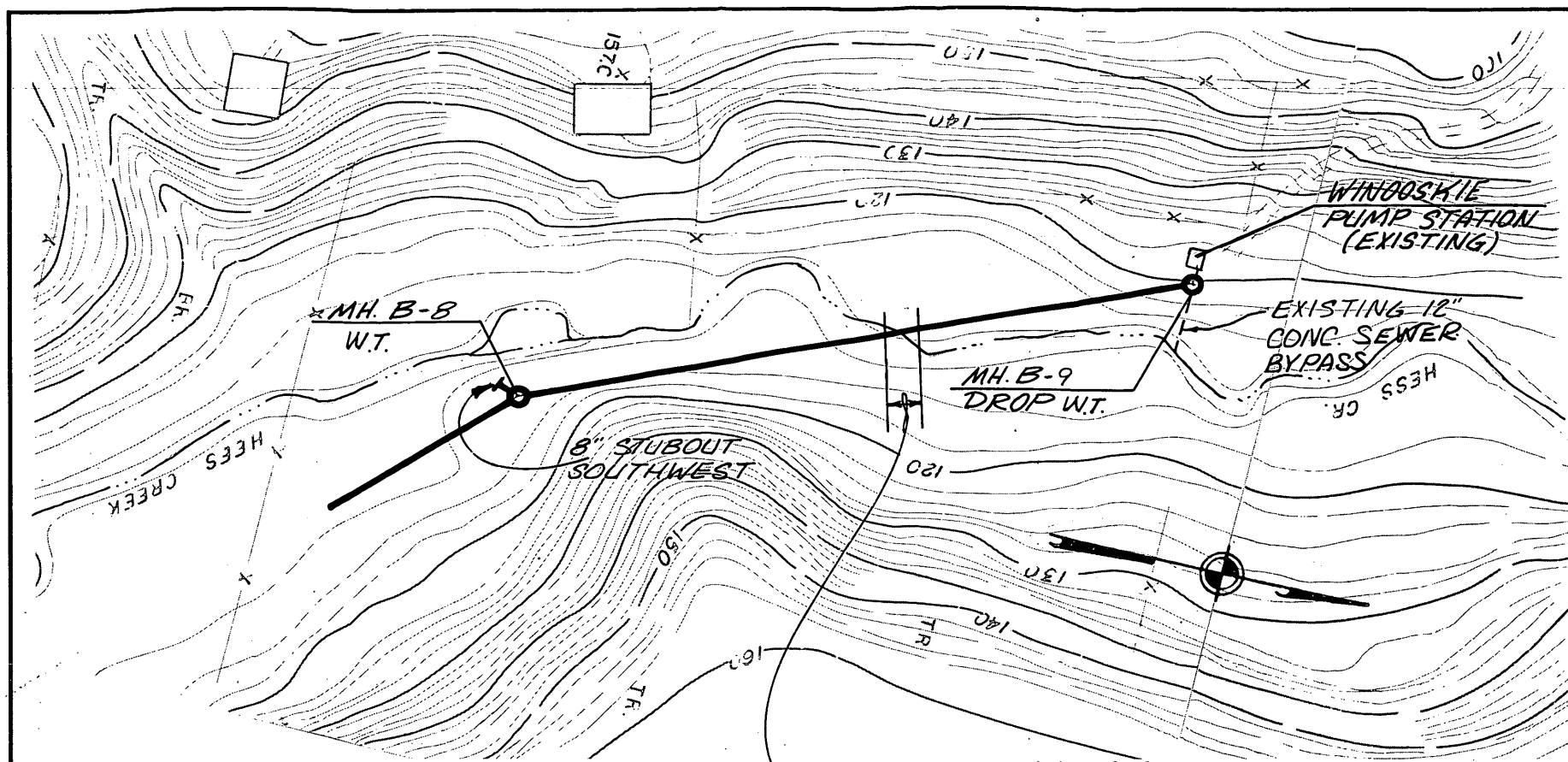
REGISTERED PROFESSIONAL ENGINEER 5145 JUAN W. ACKERSON OREGON MAY 8, 1968		CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS INTERCEPTOR "A" STA 78+00-STA 89+85	
SCALE: VERT. 1"=10' HORIZ. 1"=100'	DES J3J	DR DI	CK DWA
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 12 OF 20
CORNELL, HOWLAND, HAYES & MERRYFIELD		E 5505-1	
SEATTLE		PORTLAND CORVALLIS BOISE	





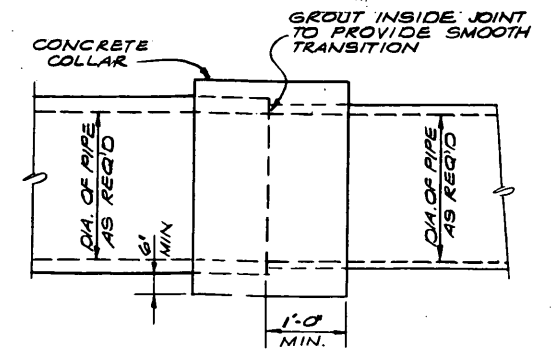
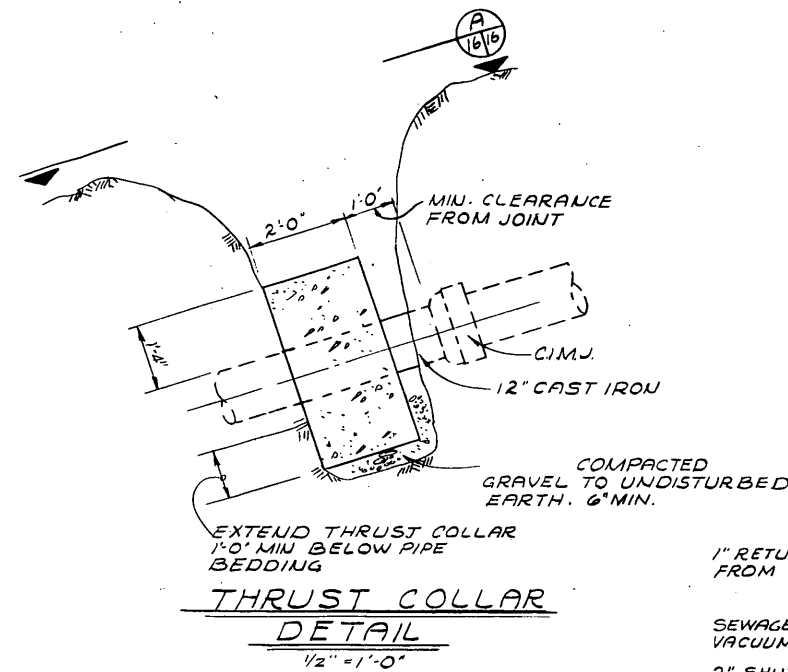
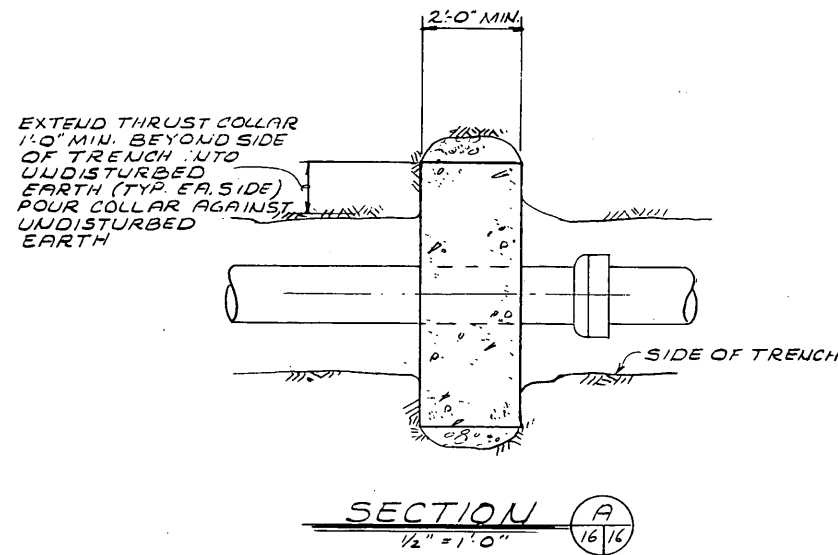
SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'

CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
INTERCEPTOR "B"			
STA 12+00-STA 23+00			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 14 OF 20
DES KLM	DR KLM	CK KLM	DATE
CORNELL, HOWLAND, HAYES & MERRYFIELD			E 5505-1
SEATTLE	PORTLAND	CORVALLIS	BOISE

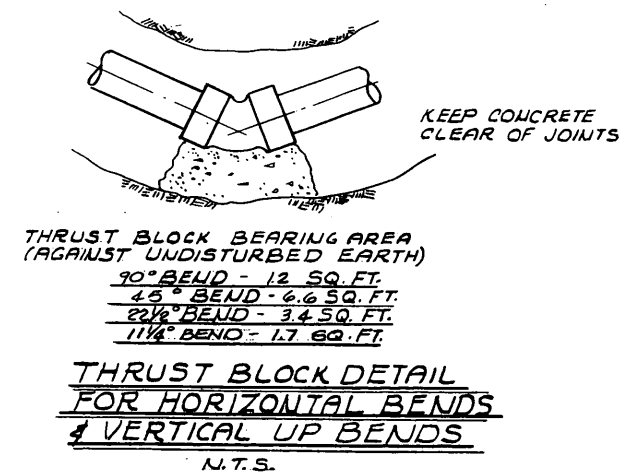
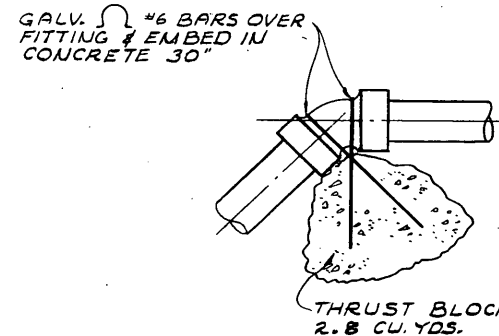
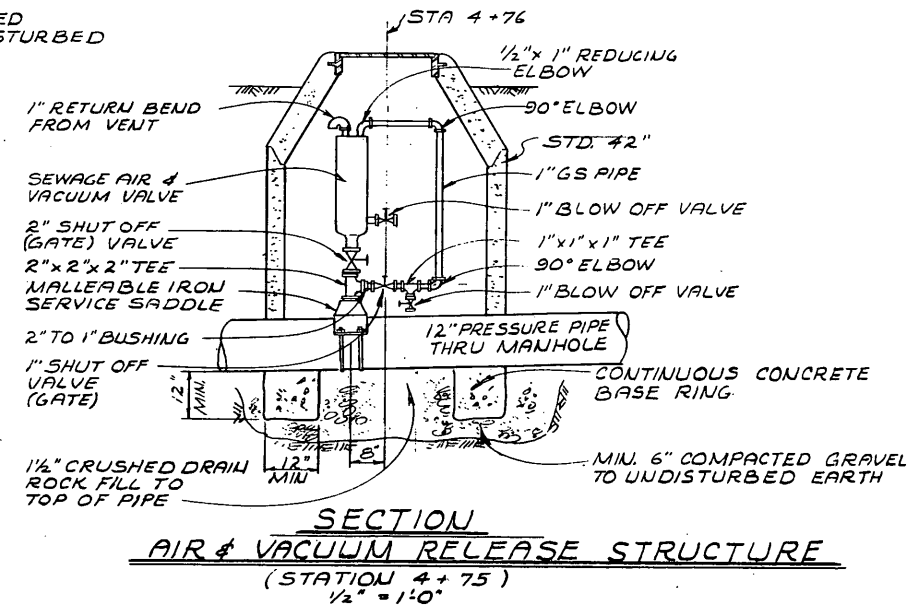


CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
INTERCEPTOR "B"			
STA 23+00-STA 28+50			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 15 OF 20
DES KLN	DR KLN	CK DWA	CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE
E 5505--1			

SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'



CONCRETE CLOSURE COLLAR DETAIL
NTS



THIS PRINT IS REDUCED TO ONE-HALF OF THE ORIGINAL SCALE
IF THE SCALE READS:
1" = 1'-0" USE 1/2" = 1'-0" OR 1" = 10' USE 1" = 20'

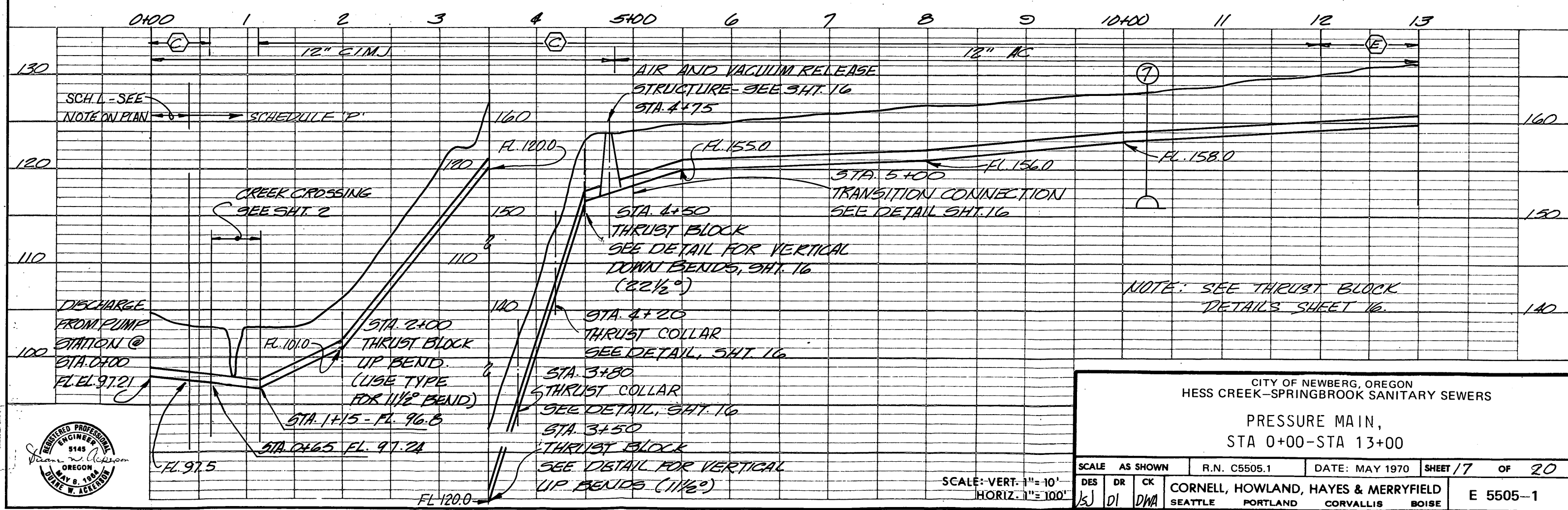
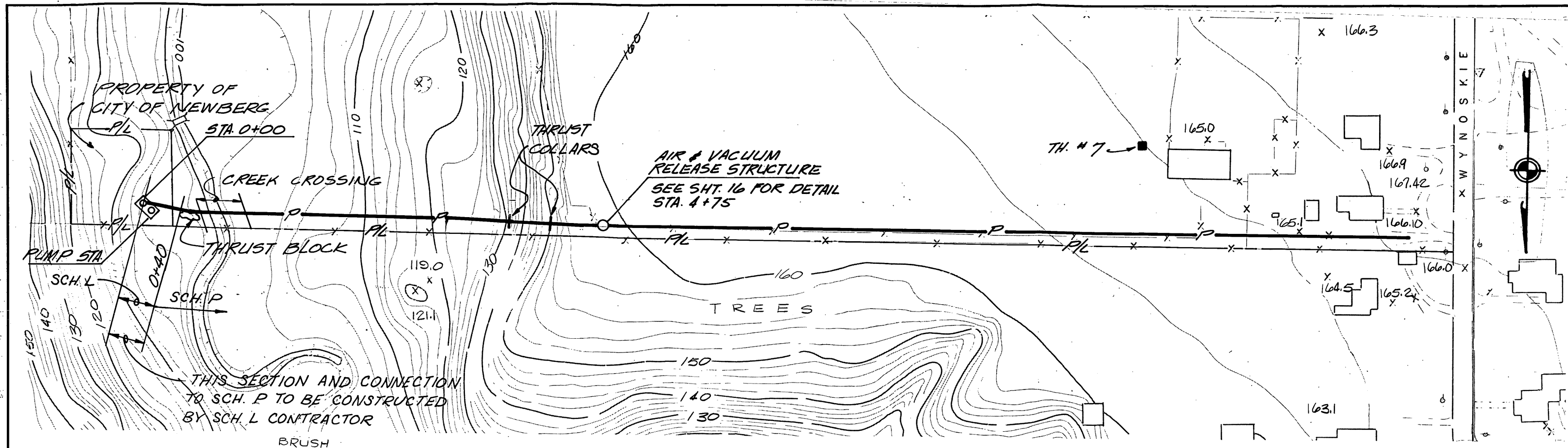


CORNELL, HOWLAND, HAYES & MERRYFIELD
ENGINEERS & PLANNERS
SEATTLE PORTLAND BOISE CORVALLIS

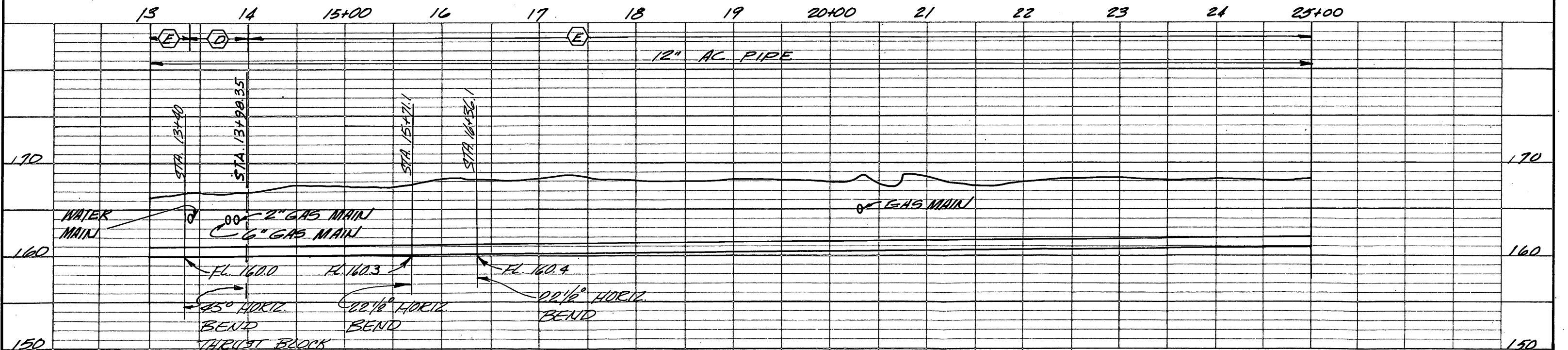
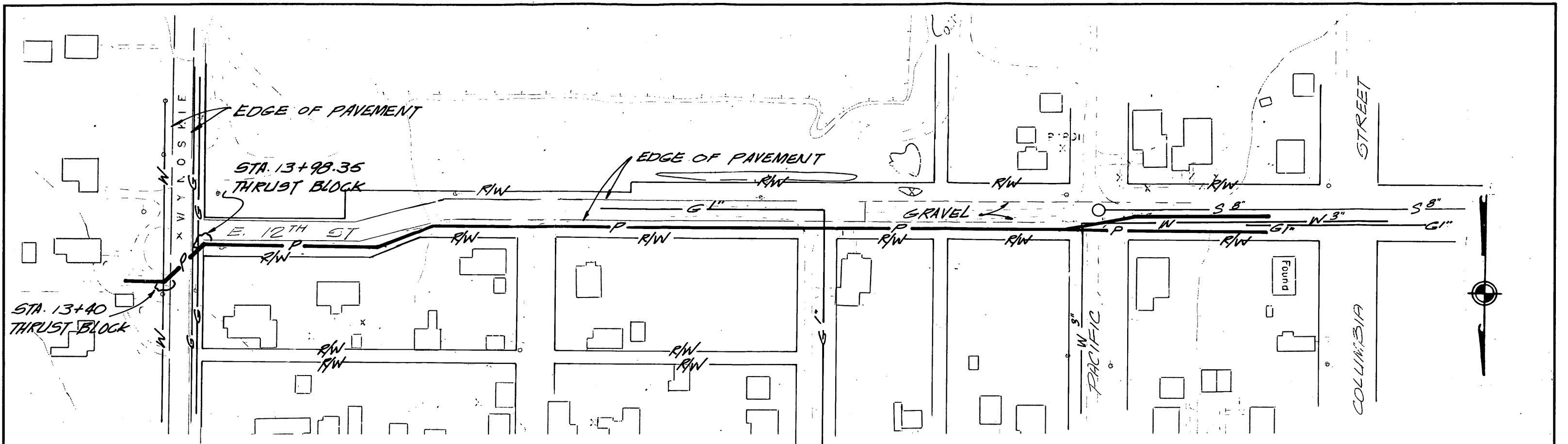
CITY OF NEWBERG, OREGON
HESS CREEK-SPRINGBROOK SANITARY SEWERS

PRESSURE MAIN, DETAILS

DES	DWA	SHEET	16
BY	AFW	OF	20
DATE			
SCALE	AS SHOWN		
NO	55505-1		
REV	C	5505-1	



CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
PRESSURE MAIN, STA 0+00-STA 13+00			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 17 OF 20
DES DR CK	CORNELL, HOWLAND, HAYES & MERRYFIELD		E 5505-1
151 DI DWA	SEATTLE PORTLAND CORVALLIS BOISE		

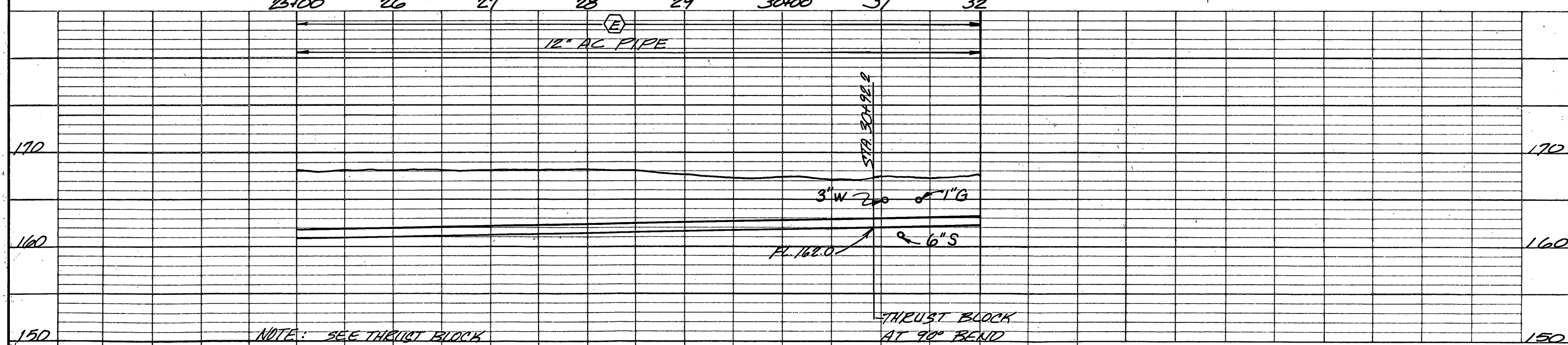
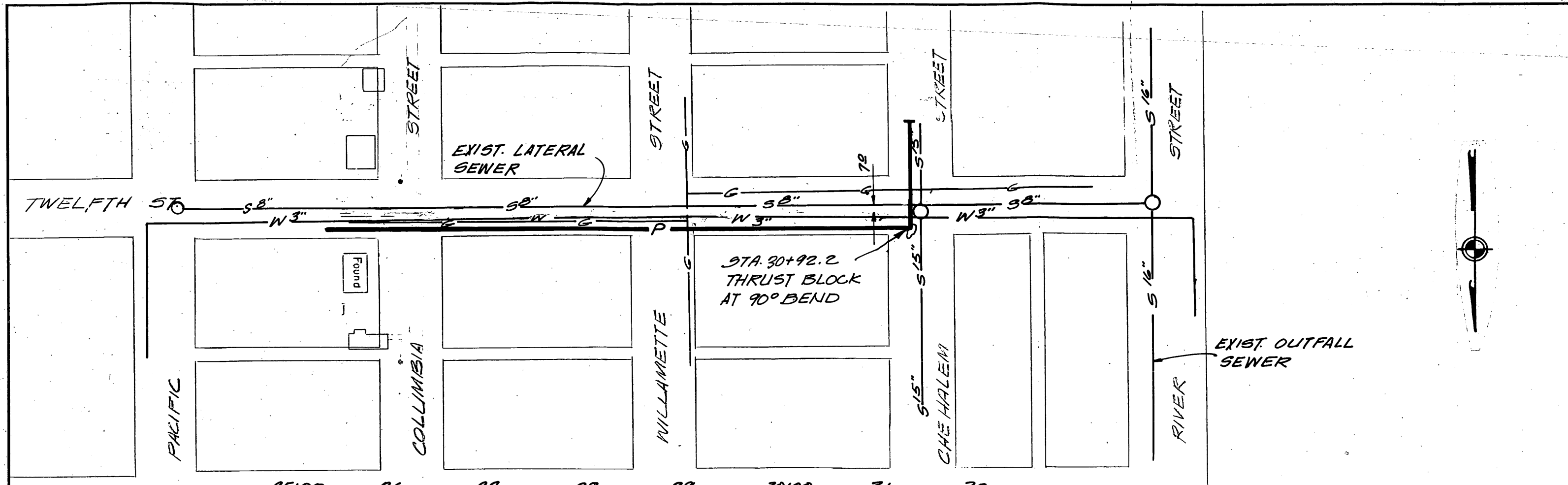


NOTE: SEE THRUST BLOCK
DETAILS SHEET 16.



SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'

CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
PRESSURE MAIN, STA 13+00-STA 25+00			
SCALE AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 18 OF 20
DES 1/2	DR DI	CK DWA	
CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE			E 5505-1



NOTE: SEE THRUST BLOCK
DETAILS SHEET 16



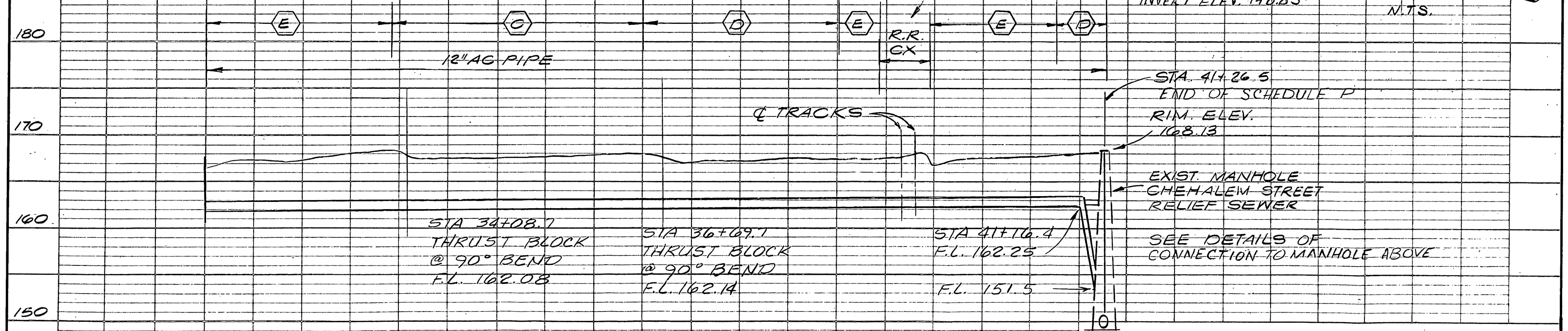
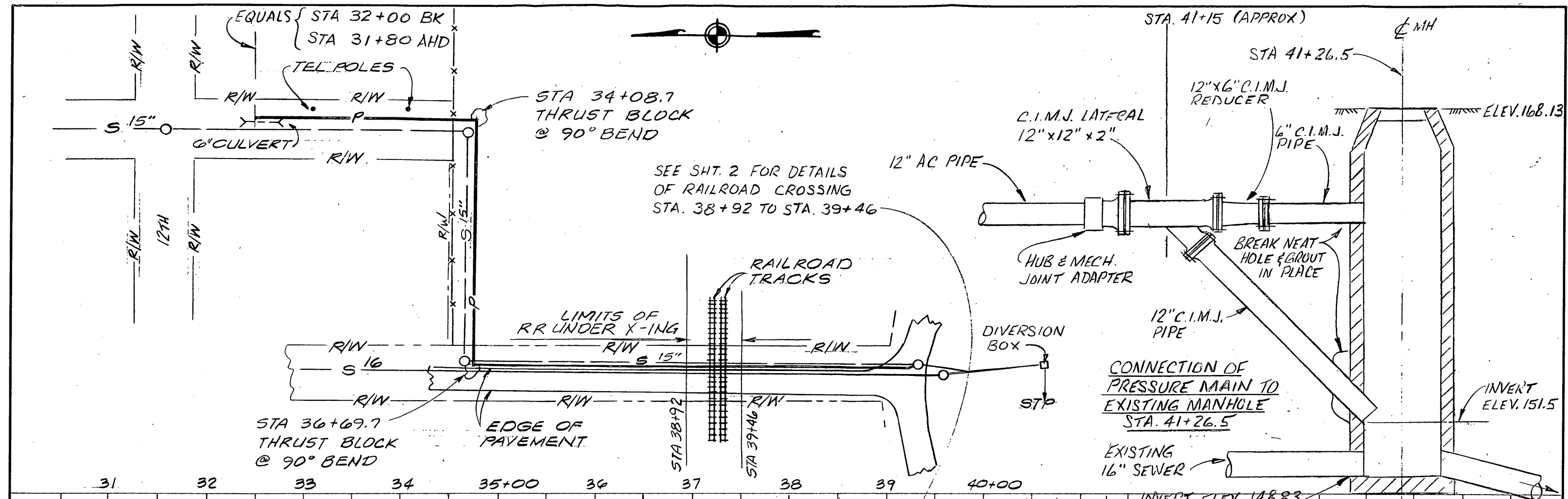
SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'

CITY OF NEWBERG, OREGON
HESS CREEK-SPRINGBROOK SANITARY SEWERS

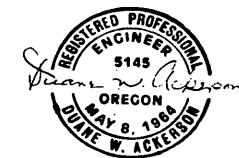
PRESSURE MAIN,
STA 25+00-STA 32+00

SCALE AS SHOWN			R.N. C5505.1		DATE: MAY 1970		SHEET 19 OF 20	
DES	DR	CK	CORNELL, HOWLAND, HAYES & MERRYFIELD					E 5505-1
15/	01	DMA	SEATTLE PORTLAND		CORVALLIS BOISE			

E 5505-1



NOTE: SEE THRUST BLOCK DETAILS, SHEET 16.



SCALE: VERT. 1" = 10'
HORIZ. 1" = 100'

CITY OF NEWBERG, OREGON HESS CREEK-SPRINGBROOK SANITARY SEWERS			
PRESSURE MAIN, STA 32+00-STA 41+26			
SCALE: AS SHOWN	R.N. C5505.1	DATE: MAY 1970	SHEET 20 OF 20
DES DWA	DR RFG	CK RCH	CORNELL, HOWLAND, HAYES & MERRYFIELD SEATTLE PORTLAND CORVALLIS BOISE
			E 5505-1