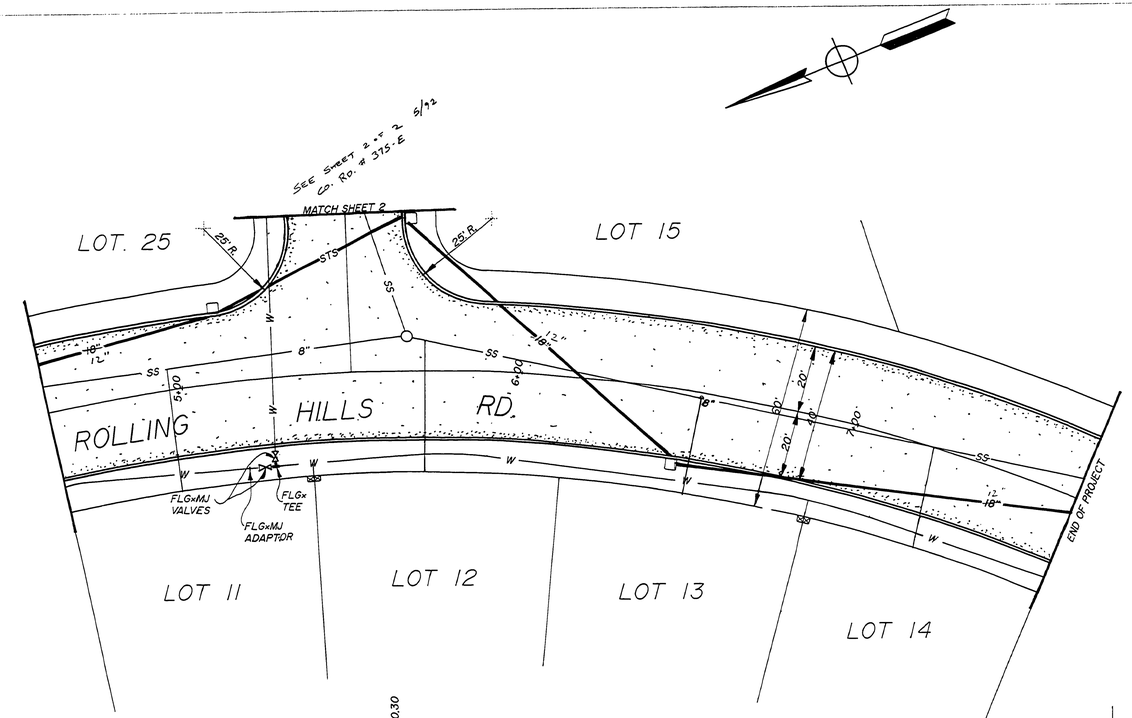


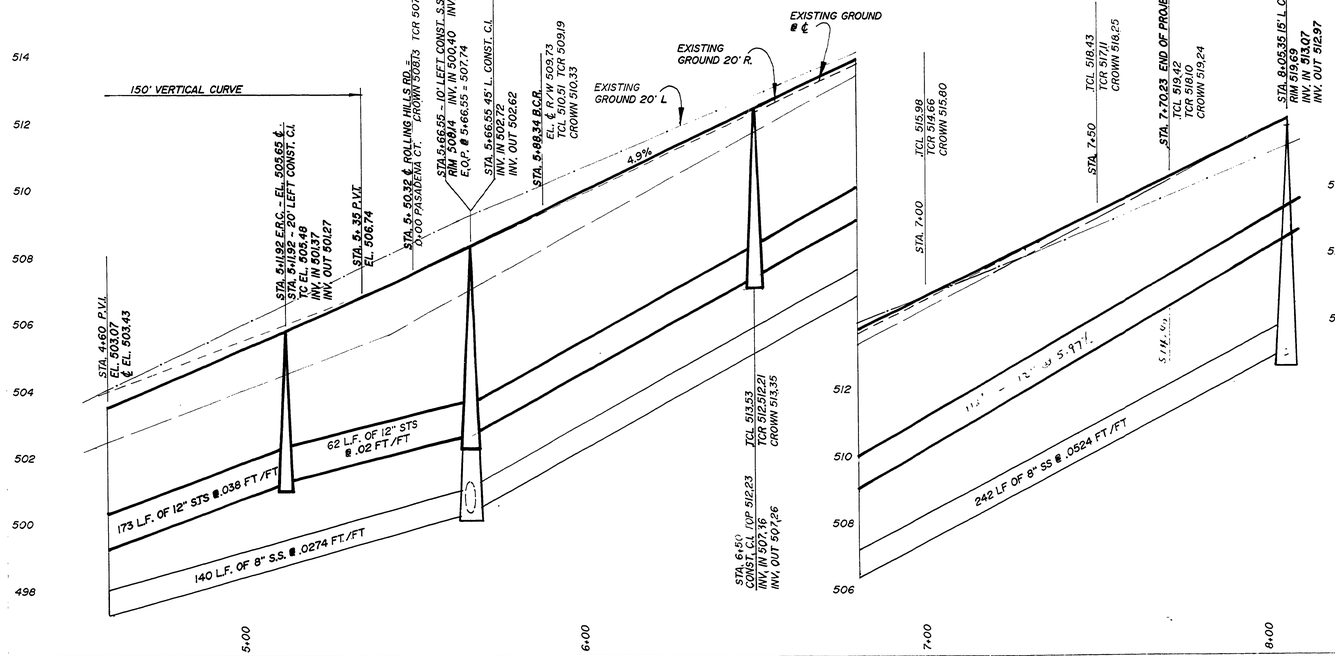


PLATE 4: SINGLE PLAN AND CROSS SECTION (FULL SIZE)

GENERAL NOTES

1. The 1990 edition of the Standard Specifications for Public Works Construction prepared by the American Public Works Association Oregon Chapter will be considered the Standard Specifications with the exception of Division 1 and all measurement and payment sections.
2. Trench backfill shall be Class "A" (3/4"-0 crushed rock) under all streets shoulder to shoulder, and Class "C" (Suitable excavated material) elsewhere unless shown different on trench detail or in specs. All trenches will be compacted with hand operated pneumatic compactor.
3. The contractor shall replace any and all survey monuments which are affected by the construction. All monuments will be reset by a licensed land surveyor.
4. Locations shown on engineering drawings are approximate. The exact location will be staked in the field by the engineer. Contractor to give 7 days notice to engineer for stakes.
5. Contractor shall maintain a minimum horizontal separation of 10 feet between water main and sewer mains measured edge to edge.
6. 14 gage copper toning wire approved for direct bury shall be placed in all trenches where pipe has been laid.
7. The contractor shall notify all affected utility companies for locations of mainline and service line locations prior to digging. Utilities which are damaged and were marked properly will be repaired by the contractor at his cost. Utilities which are damaged by the contractor that were unmarked or improperly marked will be paid for by the owner of the affected utility. Contractor to contact "ONE-CALL" at least 48 hours prior to construction at 673-6676.

GENERAL SANITARY SEWER NOTES

1. All sanitary sewer work shall be in conformance with Green Sanitary District Specifications. In cases of conflict Green Sanitary District Specifications shall take precedence over the Standard Specifications.
2. Sanitary sewer laterals shall be constructed in accordance with Oregon State Department of Commerce, Building Codes Division, 1988 Uniform Plumbing Code and its amendments, except for 8" and larger public sewers which shall be constructed in accordance with DEQ standards for public sewers and to the lines, grades and details shown on the plans. 4" and 6" laterals shall be PVC ASTM 3034. All lines shall have toning wire installed in the trench for future locating.
3. All sewer laterals shall be air tested in accordance with applicable code.

GENERAL STREET IMPROVEMENT NOTES

1. All street improvement work shall be in conformance with the latest version of Douglas County Public Works Department Design Standards and Standard Drawings. In cases of conflict the Douglas County Standards shall take precedence over the Standard Specifications.
2. All asphalt pavement shall be "C" mix meeting Oregon State Highway Department standards.

GENERAL WATER SYSTEM NOTES

1. All water system work shall be in conformance with the rules and regulations of the Roberts Creek Water District. In cases of conflict the Roberts Creek Water District rules and regulations shall take precedence over the Standard Specifications.
2. All pipe for water mainlines shall be PVC C-900 pipe.
3. The contractor shall flush, hydrostatically test and chlorinate all new water mainlines installed. The Engineer shall witness all tests made by the contractor to insure they are performed properly. Test pressure shall be determined by the engineer prior to testing.
4. All construction is subject to inspection by Roberts Creek Water District. The contractor shall give the District 48 hours notice prior to beginning construction.
5. No other major utilities shall run parallel within 3 feet of the new waterman.
6. Thrust blocks shall be installed at all bends and fittings as per the typical thrust block detail

FILED

Date: 2-10-97 By: _____

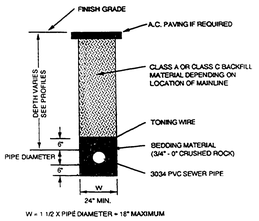
This survey consists of:

Map: _____

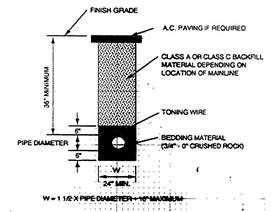
Narrative: _____

Corner Rpt: _____

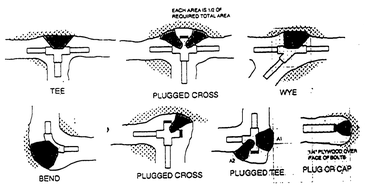
DOUGLAS COUNTY SURVEYOR



TYPICAL SANITARY SEWER TRENCH DETAIL



TYPICAL WATER MAINLINE TRENCH DETAIL



THRUST BLOCK DETAILS AND INFORMATION

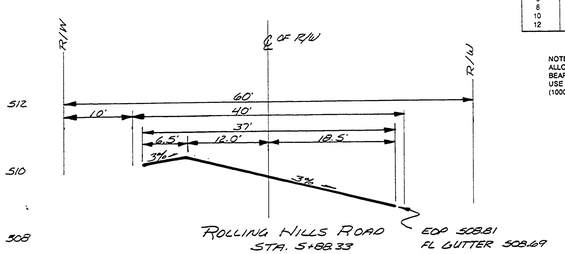
BEARING AREA THRUST BLOCK IN SQUARE FEET

FITTING SIZE	TEE, WYE, PLUG, OR CAP	90 DEG. BEND PLUGGED CROSS	TEE PLUGGED ON RUN A1	TEE PLUGGED ON RUN A2	45 DEG. BEND	22 1/2 DEG. BEND	11 1/4 DEG. BEND
4	3.6	5.1	5.0	3.6	2.8	1.4	0.7
6	7.5	10.6	10.5	7.5	5.7	2.9	1.4
8	12.9	18.2	18.1	12.9	9.9	5.0	2.5
10	19.4	27.4	27.2	19.4	14.8	7.4	3.7
12	27.4	38.7	38.4	27.4	21.0	10.5	5.2

NOTE: ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 200 p.s.i. AND AN ALLOWABLE SOIL BEARING STRESS OF 1,000 lbs. PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/200) x (1000/SOIL BEARING STRESS) x (TABLE VALUE)

NOTES

1) CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2) KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
3) THE REQUIRED THRUST BEARING AREAS FOR SPECIAL CONNECTIONS ARE SHOWN ENCIRCLED ON THE PLANS, e.g. (15) INDICATES 15 SQUARE FEET BEARING AREA REQUIRED.
4) IF NOT SHOWN ON PLANS REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED BELOW, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE SPECIAL SPECIFICATIONS.
5) BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS, TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.



i.e. ENGINEERING
1205 S.E. Court Street
Roseburg, Oregon 97470
PHONE (503) 673-0166
FAX (503) 440-9392

REGISTERED PROFESSIONAL ENGINEER 11306 OREGON JULY 17, 1981 MIKE A. PARKER

Rev.	Date	Description

Project Name: ROLLING HILLS ESTATES 7Ih. ADD. PHASE III

Title: STREET & UTILITY PLAN & PROFILE

DES	MC	PROJECT NO.:	108-04
DWG	MR	DATE:	MAY 1992
CHK	MP	SCALE:	1"=20' H. 1"=2' V.
APP		SHEET	1 OF 2

RD366003

CO. RD. #366

(8)