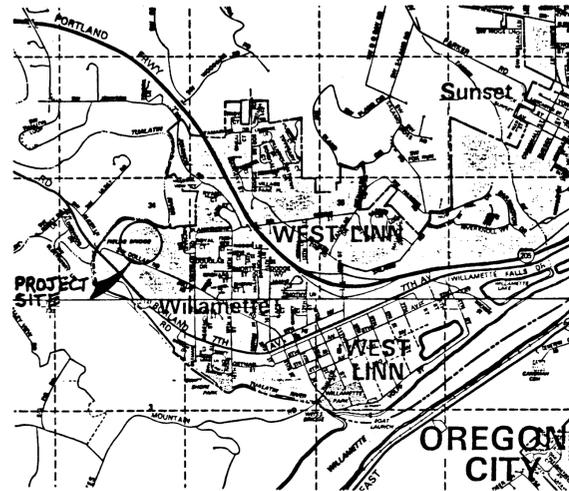


CONSTRUCTION NOTES



VICINITY MAP
N.T.S.

CONSTRUCTION PLANS FOR STREET & UTILITY IMPROVEMENTS RIVER HEIGHTS II WEST LINN, OREGON

THESE "AS BUILT" PLANS ARE COMPILED FROM DATA COLLECTED FROM THE CONTRACTOR, PERIODIC FIELD OBSERVATIONS DURING CONSTRUCTION AND SURVEY DATA. WE SUGGEST THAT THESE PLANS BE USED IN CONJUNCTION WITH FIELD VERIFICATION OF LOCATION AND ELEVATION OF IMPROVEMENTS IN QUESTION. TO THE BEST OF MY INFORMATION, KNOWLEDGE, AND BELIEF, THESE PLANS ARE AN ACCURATE RECORD OF THE SUBJECT IMPROVEMENTS.

Anthony R. Weller DATE: 6/24/90
ANTHONY R. WELLER

SHEET LEGEND

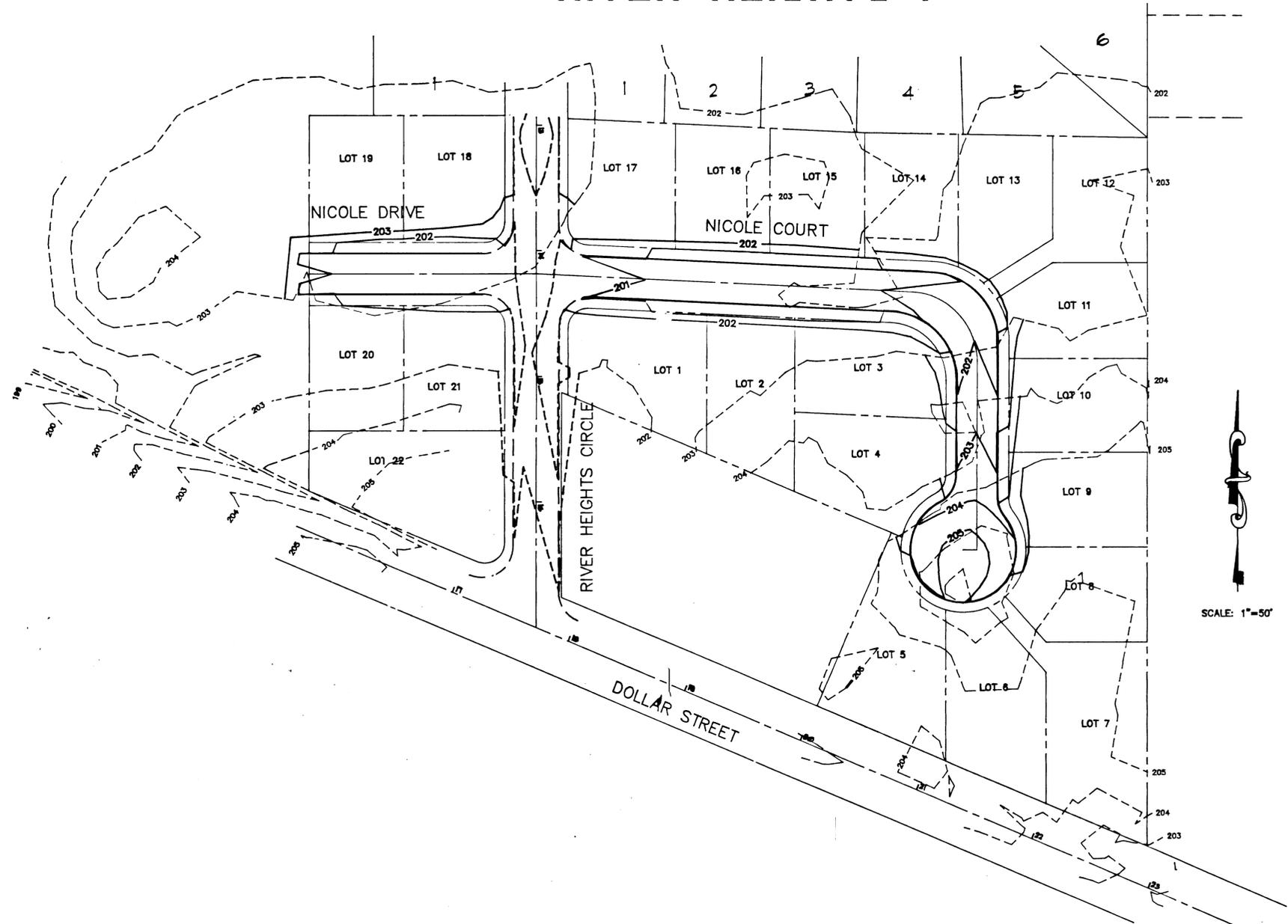
NUMBER	DESCRIPTION
	TITLE SHEET
1	GRADING PLAN
2	STREET PLAN & PROFILE
3	STORM SEWER PLAN & PROFILE
4	SANITARY SEWER PLAN & PROFILE
5	WATERLINE PLAN
6	DETAILS

PREPARED BY:

CONSULTING ENGINEERING SERVICES
12655 S.W. CENTER STREET, SUITE 360
BEAVERTON, OREGON 646-4509

- A. GENERAL**
- ALL PUBLIC IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF WEST LINN CONSTRUCTION STANDARDS.
 - ELEVATION DATUM: CITY OF WEST LINN TBM NUMBER 7, 1/2-INCH PIPE IN MONUMENT BOX IN CENTERLINE OF DOLLAR STREET AT INTERSECTION WITH EAST LINE OF RIVER HEIGHTS, ELEVATION 202.59.
 - THE CONTRACTOR SHALL PERFORM ALL THE WORK SHOWN ON THE DRAWINGS AND ALL INCIDENTAL WORK NECESSARY TO COMPLETE THE PROJECT IN AN ACCEPTABLE MANNER. ALL INCIDENTAL WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEMS OF WORK LISTED IN THE PROPOSAL. ANY ITEM NOT LISTED IN THE PROPOSAL IS CONSIDERED INCIDENTAL.
 - THE CONTRACTOR AND/OR SUB-CONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF APPROVED CONSTRUCTION PLANS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION PHASES.
 - ALL MATERIAL SUPPLIER(S) SHALL, UPON REQUEST, SUBMIT TO THE ENGINEER PROOF OF MATERIAL(S) TESTED IN ACCORDANCE WITH THE SPECIFICATIONS. BY ACCEPTANCE OF THE CONTRACT WITH THE OWNER/DEVELOPER, THE CONTRACTOR CERTIFIES THAT ALL MATERIALS DELIVERED TO THE JOB SITE OR INCORPORATED INTO THE WORK WILL MEET OR EXCEED SPECIFICATIONS. ANY MATERIAL NOT CONFORMING SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
 - CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY SIGNIFICANT DISCREPANCIES. UTILITIES HAVE BEEN LOCATED FROM AVAILABLE RECORDS AND MAY NOT BE AS SHOWN HEREON. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT 48 HOURS PRIOR TO BEGINNING EXCAVATION.
- B. STREETS AND STRUCTURAL FILLS**
- ALL TREES, BRUSH AND DEBRIS WITHIN LIMITS OF THE RIGHT-OF-WAY AND ON THE AREAS TO BE FILLED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE PLANS.
 - ALL AREAS OF CONSTRUCTION SHALL BE STRIPPED. STRIPPING SHALL CONSIST OF REMOVING THE TOPSOIL HUMUS. EXCESS STRIPPING MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR, OFF-SITE.
 - EMBANKMENTS OR STRUCTURAL FILLS FOR STREET CONSTRUCTION OR FILLS TO BE CONSTRUCTED ON BUILDABLE AREAS SHALL BE CONSTRUCTED FROM EXCAVATED MATERIALS ACCEPTABLE TO THE ENGINEER AND SHALL BE BROUGHT TO GRADE IN LIFTS NOT TO EXCEED 4' LOOSE MEASURE. EACH LIFT SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY AS OBTAINED BY AASHTO T-99 COMPACTION TEST.
- FILLS SHALL NOT BE CONSTRUCTED ON NATURAL SLOPES STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL. ALL FILL SLOPES SHALL NOT EXCEED TWO HORIZONTAL TO ONE VERTICAL. NO ROCK OR SIMILAR IRREDUCIBLE MATERIAL WITH A MAXIMUM DIMENSION GREATER THAN 12" (310) MM BURIED OR PLACED IN THE FILLS.
- IF SPRINGS OR GROUND WATER ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL ADVISE THE ENGINEER OF THE CONDITION FOUND AND COORDINATE HIS ACTIVITIES IN A MANNER THAT WILL ALLOW THE ENGINEER TO REVIEW THE SITUATION AND PREPARE A PLAN TO PROPERLY DISPOSE OF THE WATER ENCOUNTERED.
- ROCK BASE, ASPHALTIC CONCRETE PAVEMENT, CURB AND SIDEWALK CONSTRUCTION SHALL BE AS SHOWN ON THE TYPICAL SECTIONS AND IN ACCORDANCE WITH THE ABOVE REFERENCED SPECIFICATIONS.
 - PROVIDE A MINIMUM OF TWO 3-INCH PLASTIC PIPES PER LOT DURING CURB AND GUTTER CONSTRUCTION PER DETAIL SHOWN ON PLANS.
 - CONTRACTOR TO STAMP CURBS DURING CURB CONSTRUCTION WITH "W" TO DENOTE WATER SERVICE AND "S" TO DENOTE SANITARY SEWER SERVICE LOCATIONS.
- C. UTILITIES**
- ALL TRENCH BACKFILL WITHIN RIGHT-OF-WAY AREAS SHALL BE CLASS "B" (GRANULAR). TRENCH BACKFILL OUTSIDE OF RIGHT-OF-WAY AREAS SHALL BE CLASS "A" (NATIVE).
 - STORM SEWER PIPE SHALL BE OF THE SIZE NOTED ON THE PLANS. PVC STORM SEWER SHALL CONFORM TO ASTM D-3034 AND ASTM 789 (T-1) WITH RUBBER GASKETS.
 - SANITARY SEWER SHALL BE OF THE SIZE NOTED ON THE PLANS. PVC SANITARY SEWERS SHALL CONFORM TO ASTM D-3034 AND ASTM 789 (T-1) WITH RUBBER GASKETS. SANITARY SEWERS SHALL BE AIR TESTED IN ACCORDANCE WITH CITY OF WEST LINN STANDARDS.
 - SANITARY SEWER SERVICE LATERALS SHALL BE 4-INCH PVC AND SHALL BE INSTALLED AT 2% MINIMUM SLOPE UNLESS OTHERWISE NOTED ON THE PLANS. MARK ALL LATERAL ENDS WITH 2"x4" MARKER THAT IS LABELED TO INDICATE DEPTH.
 - ALL SANITARY SEWER MANHOLES WILL BE HYDROSTATICALLY TESTED. TEST PROCEDURES SHALL CONFORM TO THE CITY OF WEST LINN STANDARDS.
 - WATERLINE SHALL BE OF THE SIZE NOTED ON THE PLANS. DUCTILE IRON PIPE SHALL BE CLASS B2, CEMENT LINED CONFORMING TO ANSI A21.51, WITH PUSH-ON TYPE JOINTS. CAST IRON FITTINGS SHALL BE MECHANICAL JOINT CONFORMING TO ANSI A21.10. ALL WATER PIPE SHALL HAVE A MINIMUM 36" OF COVER MEASURED FROM FINISHED GRADE.
 - ALL WATERLINE SERVICES SHALL BE 3/4-INCH OR 1-INCH COPPER, TYPE K AS NOTED ON THE PLANS. ALL CORPORATION STOPS, TEES AND ANGLE METER STOPS SHALL BE COMPRESSION FITTINGS.
 - ALL TEES, BENDS, ELBOWS AND CHANGES IN DIRECTION OF MORE THAN 11 1/4 DEGREES SHALL BE SECURELY THRUST BLOCKED USING 3000 PSI CONCRETE POURED AGAINST UNDISTURBED GROUND, OR APPROVED ALTERNATE.
 - TESTING, FLUSHING AND STERILIZATION OF ALL NEW WATERLINE IMPROVEMENTS SHALL BE APPROVED BY THE CITY OF WEST LINN PRIOR TO ANY PHYSICAL CONNECTION OF THE NEW WATERLINE TO THE EXISTING CITY WATERLINE. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE CITY OF WEST LINN FOR ANY USE OF CITY WATER SYSTEM FOR TESTING, FLUSHING AND STERILIZATION.
- D. APPROVALS**
- CHANGES TO THESE PLANS MUST BE APPROVED BY THE CITY OF WEST LINN AND THE ENGINEER PRIOR TO IMPLEMENTATION.
 - CONTRACTOR TO ACQUIRE ALL REQUIRED PERMITS BEFORE WORKING IN THE PUBLIC RIGHT OF WAY.
- E. EROSION/SEDIMENTATION CONTROL**
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
 - ALL DISTURBED AREAS SHALL BE RESEDED.

RIVER HEIGHTS 1



THESE "AS BUILT" PLANS ARE COMPILED FROM DATA COLLECTED FROM THE CONTRACTOR, PERIODIC FIELD OBSERVATIONS DURING CONSTRUCTION AND SURVEY DATA. WE SUGGEST THAT THESE PLANS BE USED IN CONJUNCTION WITH FIELD VERIFICATION OF LOCATION AND ELEVATION OF IMPROVEMENTS IN QUESTION. TO THE BEST OF MY INFORMATION, KNOWLEDGE, AND BELIEF, THESE PLANS ARE AN ACCURATE RECORD OF THE SUBJECT IMPROVEMENTS.

Anthony R. Weller
 ANTHONY R. WELLER DATE: 6/21/90



RIVER HEIGHTS 2
 RIVER HEIGHTS JOINT VENTURE
 P.O. BOX 758
 BORING, OR 97201
 (503) 658-6440

CONSULTING ENGINEERING SERVICES
 CENTER PLAZA WEST SUITE 300 (PH) 646-4000
 1700 S.E. CENTER ST. MANASTON, OR 97130



DATE: MAR 8, 1990

REVISIONS
 1 AS BUILT

PROJECT NO. 90-367
 DESIGNED BY: ARW
 DATE: MAR 8, 1990
 DRAWN BY: ARW

GRADING PLAN

SHEET

1

OF

6



RIVER HEIGHTS 2
 RIVER HEIGHTS JOINT VENTURE
 P.O. BOX 758
 BORING, OR 97201
 (503) 658-6440

CONSULTING ENGINEERING SERVICES
 CENTER PLAZA WEST SUITE 300
 TIGARD, OREGON 97146
 (503) 844-0000



A.P.W. 6/90

REVISIONS
 L. ASBULLY

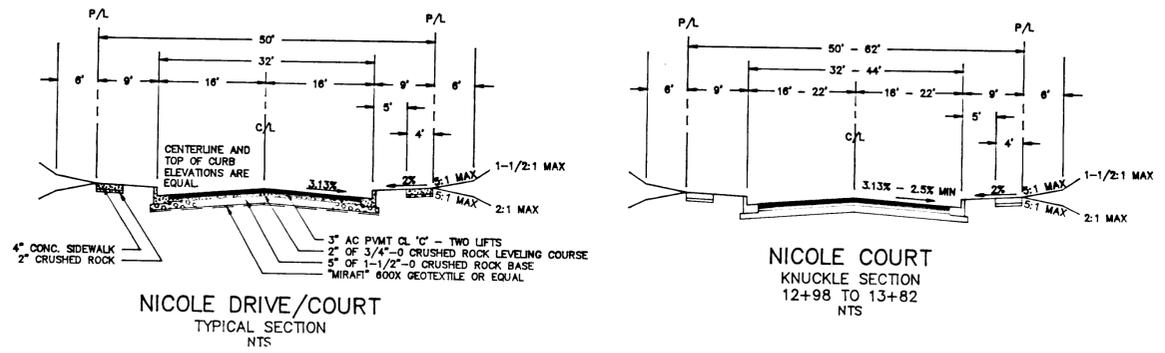
PROJECT NO. 90-367
 DATE: MAR 6, 1990
 DRAWN BY: ARW

SHEET

2

6

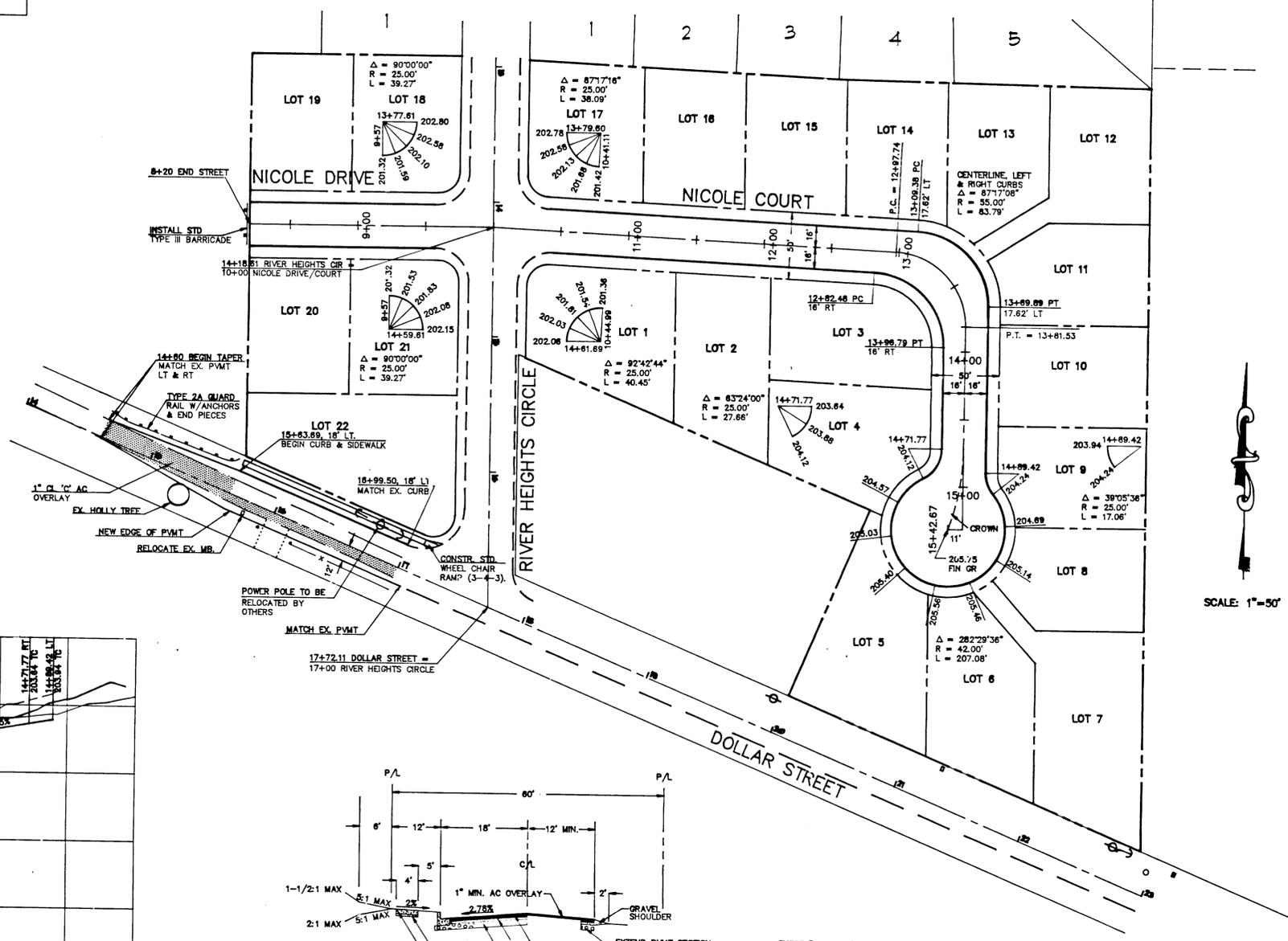
STREET PLAN & PROFILE



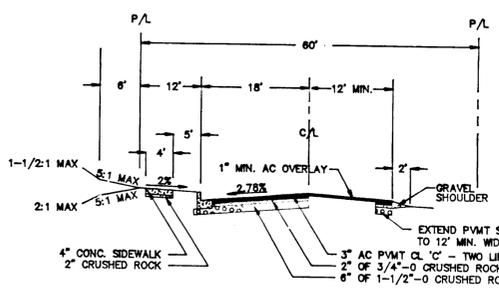
NICOLE DRIVE/COURT
 TYPICAL SECTION
 NTS

NICOLE COURT
 KNUCKLE SECTION
 12+98 TO 13+82
 NTS

RIVER HEIGHTS 1



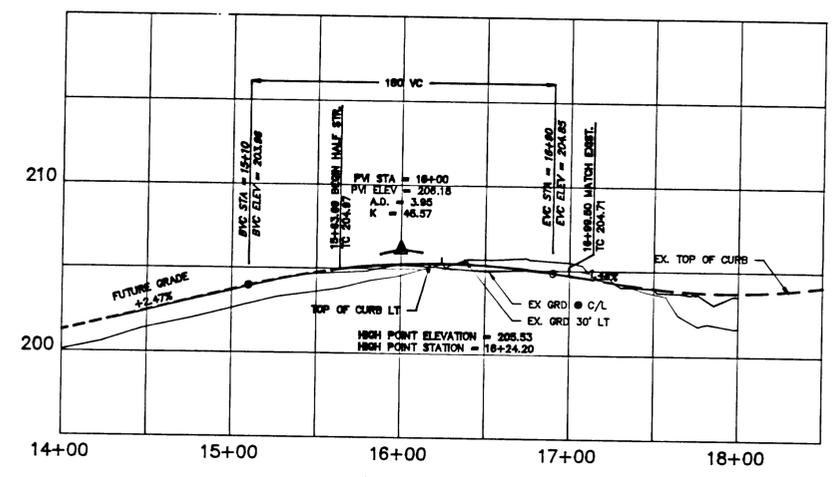
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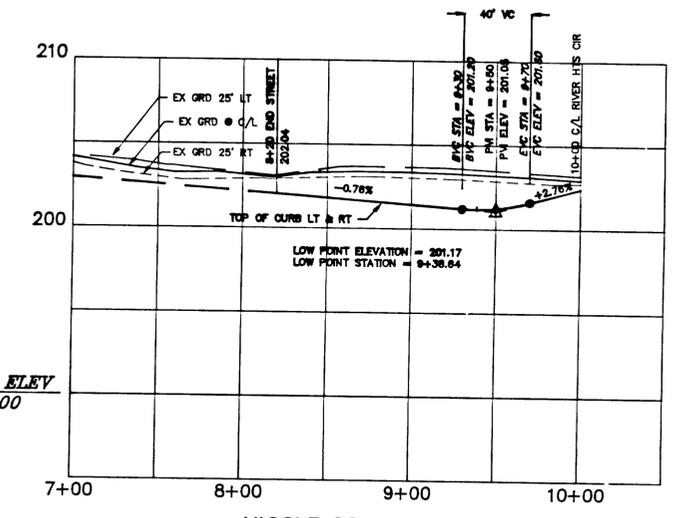
DOLLAR ROAD
 TYPICAL SECTION
 NTS

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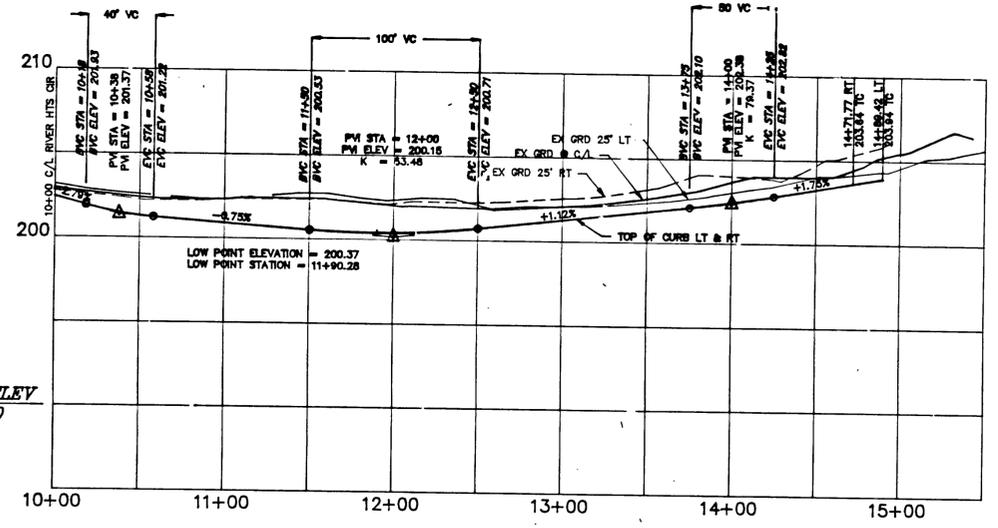
Anthony R. Weller
 ANTHONY R. WELLER DATE: 6/24/90



DOLLAR ROAD



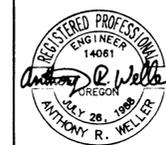
NICOLE DRIVE



NICOLE COURT

DATUM ELEV
 190.00

DATUM ELEV
 190.00



RIVER HEIGHTS 2
 RIVER HEIGHTS JOINT VENTURE
 P.O. BOX 758
 BORING, OR 97201
 (503) 658-6440

CONSULTING ENGINEERING SERVICES
 1000 P.O. BOX WEST STATE 300 (503) 644-0000
 1000 S.W. CENTER ST. ASTORIA, OR 97103-0001



DATE: 6/24/90

DESIGNED BY: ARW

DATE: MAR 6, 1990

PROJECT NO. 90-367

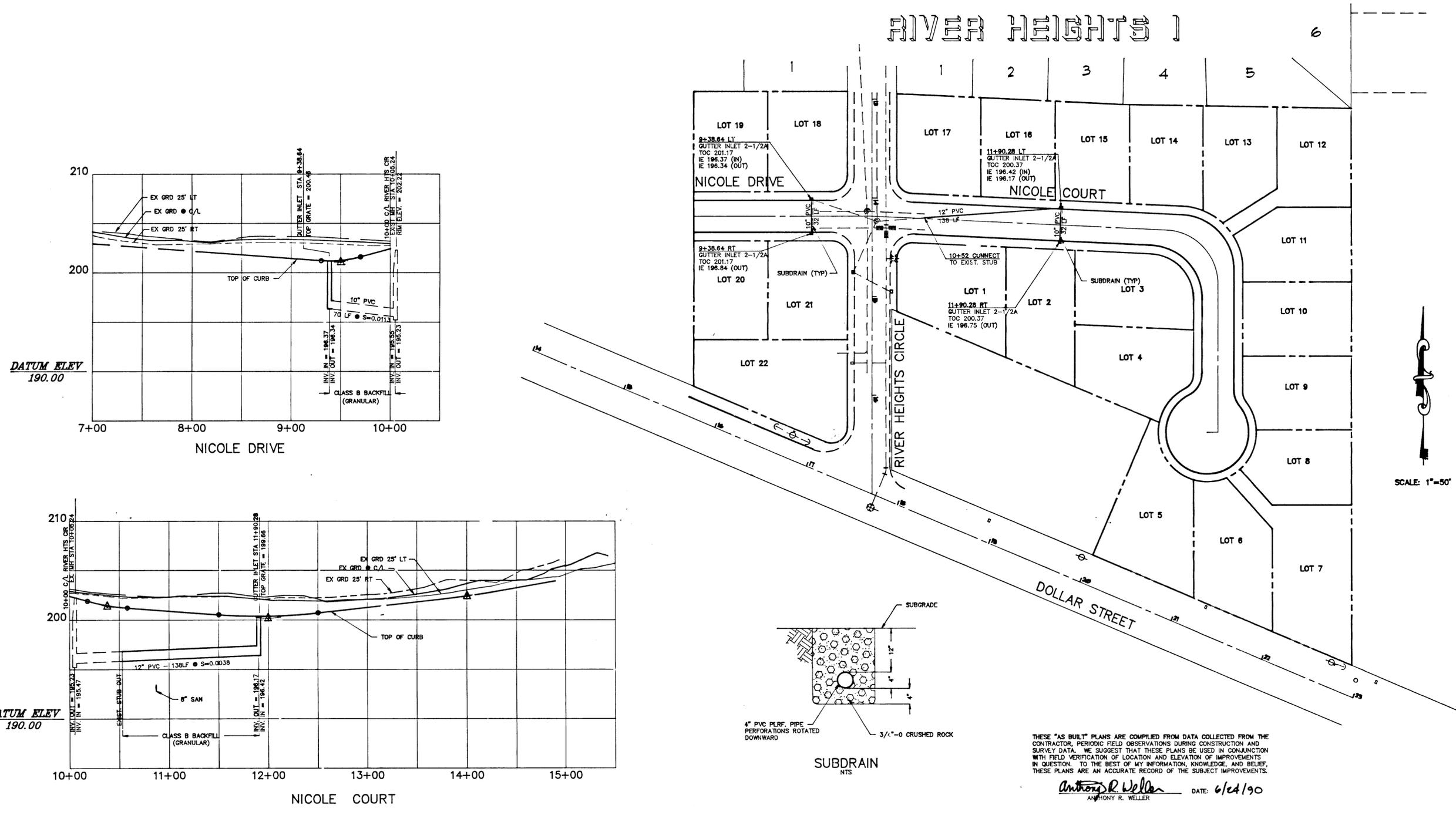
REVISIONS: 1. AS BUILT

SHEET

3

0

**STORM SEWER
 PLAN & PROFILE**



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Anthony R. Weller
 ANTHONY R. WELLER
 DATE: 6/24/90





RIVER HEIGHTS 2
 RIVER HEIGHTS JOINT VENTURE
 P.O. BOX 758
 BORING, OR 97201
 (503) 658-6440

CONSULTING ENGINEERING SERVICES
 1000 S.W. CENTER ST. - PORTLAND, OR 97205-1401

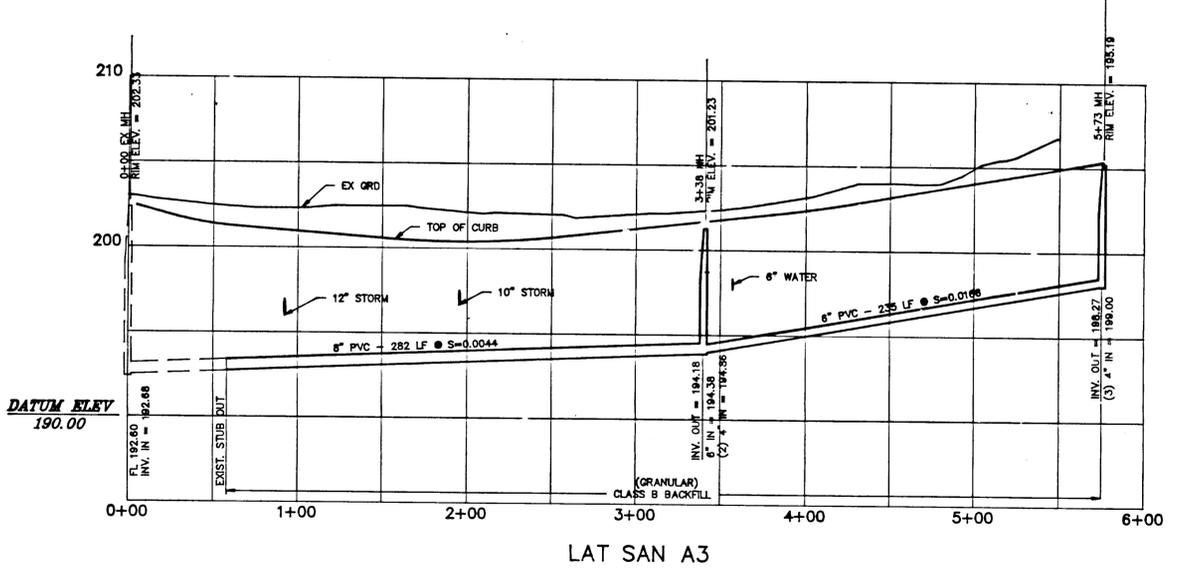
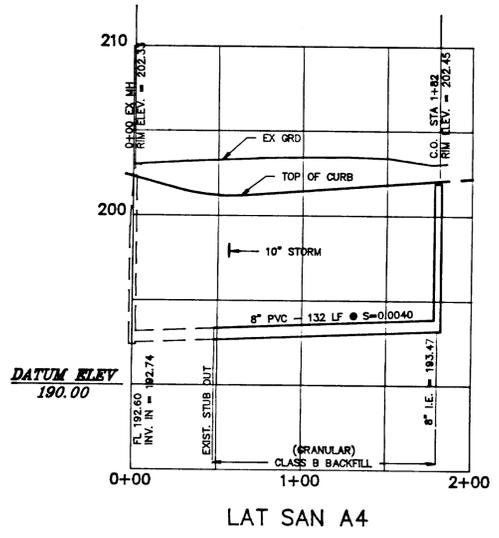
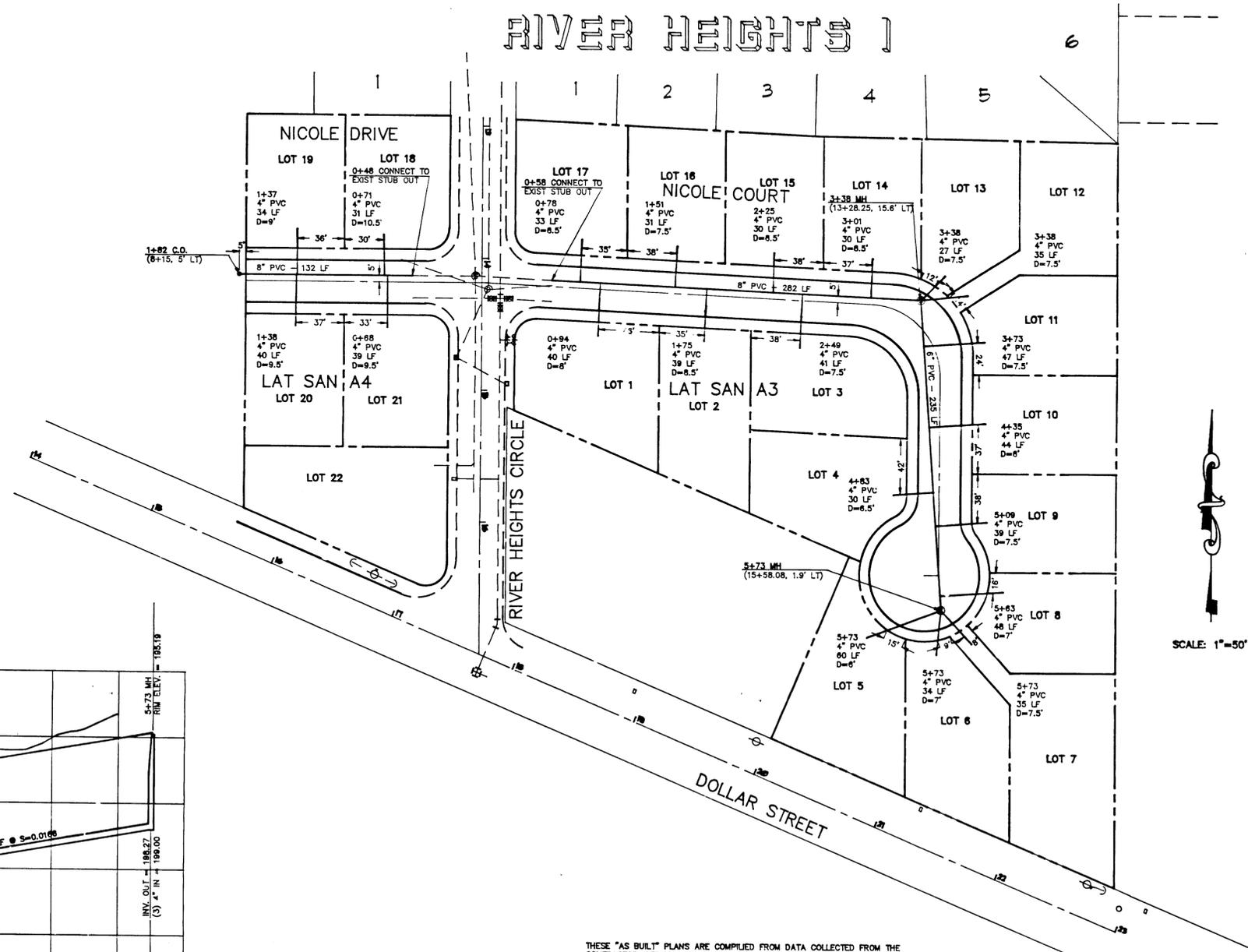


DATE:	MAR 7, 1990
DESIGNED BY:	ARW
DRAWN BY:	ARW
REVISIONS:	1. ASBUILT
A.R.W.	6/90

**SANITARY SEWER
 PLAN & PROFILE**

PROJECT NO. 90-367
 SHEET
 4
 OF
 6

RIVER HEIGHTS 1



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Anthony R. Weller
 ANTHONY R. WELLER DATE: 6/24/90



RIVER HEIGHTS 2
 RIVER HEIGHTS JOINT VENTURE
 P.O. BOX 758
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 (503) 658-6440

CONSULTING ENGINEERING SERVICES
 CENTER PLAZA WEST BAYVIEW, SUITE 200 (P.O. BOX 144)
 12400 N.E. CENTER ST. SEASIDE, OR 97138-1001



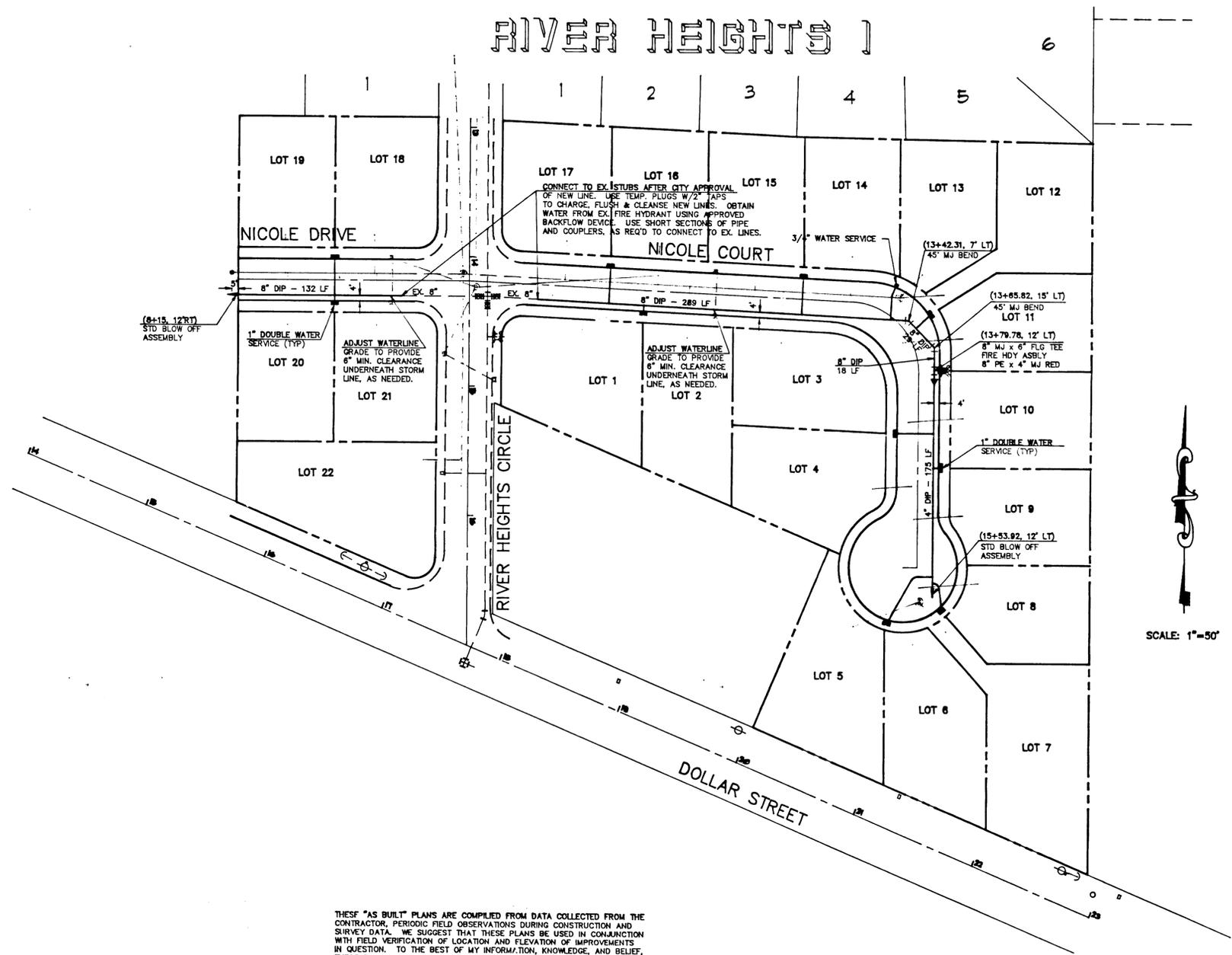
REVISIONS
 1. AS BUILT AR.W. 6/90

PROJECT NO. 90-367
 DESIGNED BY AR.W.
 DATE: MAR 7, 1990
 DRAWN BY AR.W.

WATERLINE PLAN

SHEET
 5
 6

RIVER HEIGHTS 1



SCALE: 1"=50'

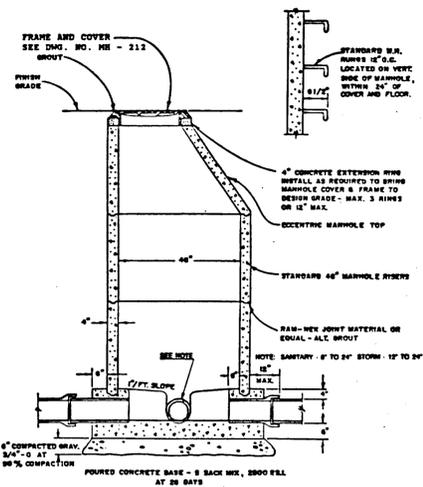
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 ANTHONY R. WELLER DATE: 6/24/90

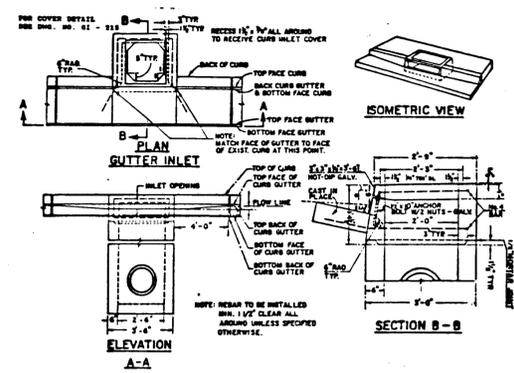


RIVER HEIGHTS 2
 RIVER HEIGHTS JOINT VENTURE
 P.O. BOX 758
 BORING, OR 97201
 (503) 658-6440

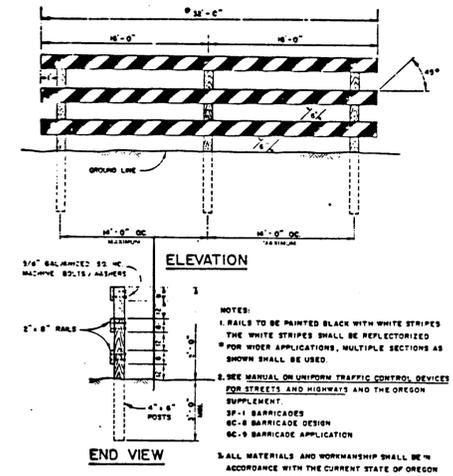
CONSULTING ENGINEERING SERVICES
 1700 N. CENTRAL ST. SUITE 100
 PORTLAND, OR 97208-1001



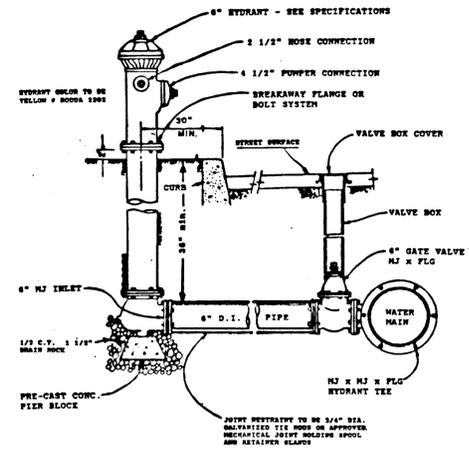
STANDARD MANHOLE
 CITY OF WEST LINN DWG NO MH-209
 NTS



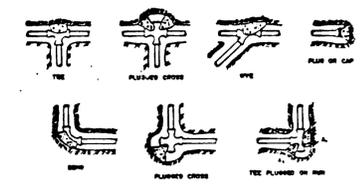
GUTTER INLET 2-1/2A
 CITY OF WEST LINN DWG NO GI-214
 NTS



STREET BARRICADE - TYPE III
 CITY OF WEST LINN DWG NO SB-276
 NTS



FIRE HYDRANT
 CITY OF WEST LINN DWG NO FH-300
 NTS

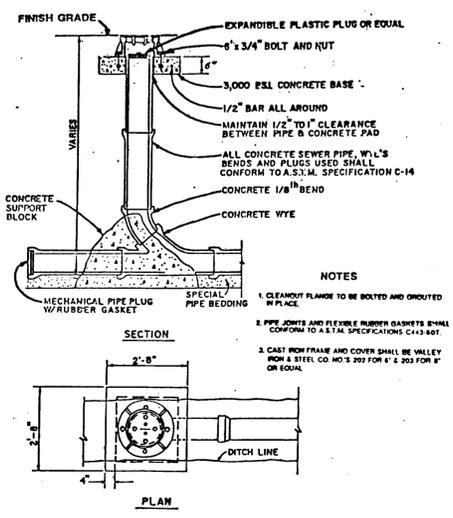


BEARING AREA OF THRUST BLOCK (in sq. ft.)

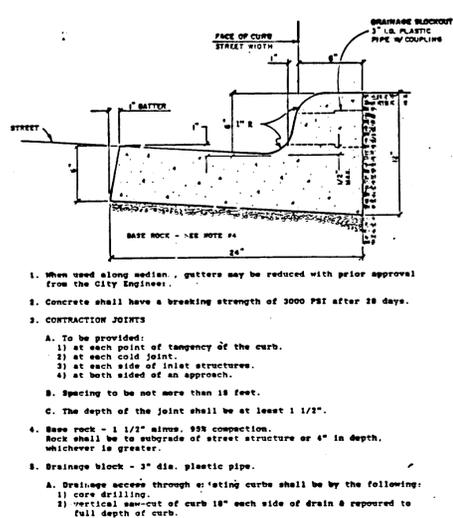
PIPE SIZE (IN)	PIPE WEIGHT (LBS/FT)	PIPE SPACING (IN)	THRUST (LBS)	BEARING AREA (SQ. FT.)
4	1.4	12	16.8	1.4
6	2.0	12	24.0	2.0
8	2.8	12	33.6	2.8
10	3.8	12	45.6	3.8
12	5.0	12	60.0	5.0
14	6.4	12	76.8	6.4
16	8.0	12	96.0	8.0
18	9.8	12	117.6	9.8
20	11.8	12	141.6	11.8
24	16.0	12	192.0	16.0

NOTES:
 1. Thrust blocking shall be installed on both sides of the pipe.
 2. Thrust blocking shall be installed on both sides of the pipe.
 3. Thrust blocking shall be installed on both sides of the pipe.
 4. Thrust blocking shall be installed on both sides of the pipe.
 5. Thrust blocking shall be installed on both sides of the pipe.

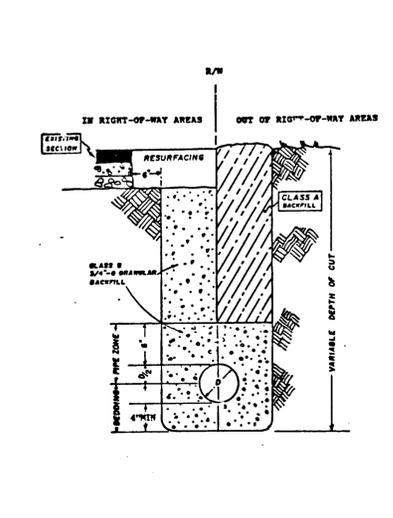
THRUST BLOCKING
 CITY OF WEST LINN DWG NO TB-302
 NTS



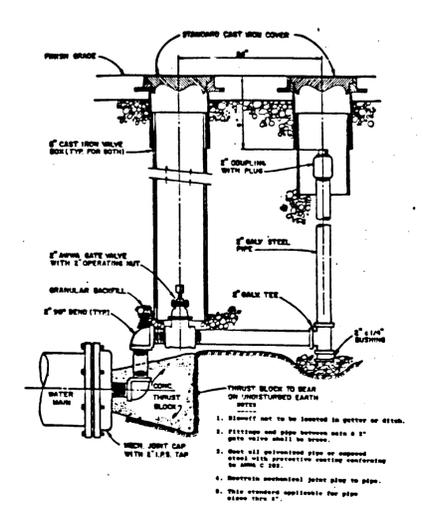
SANITARY SEWER CLEANOUT
 CITY OF WEST LINN DWG NO SS-4
 NTS



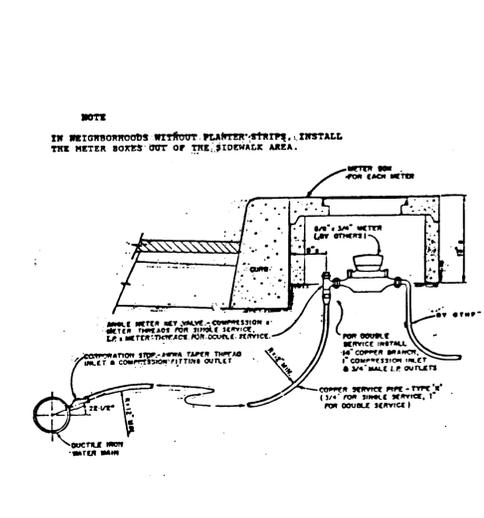
CURB & GUTTER
 CITY OF WEST LINN DWG NO CG-265
 NTS



PIPE BEDDING & BACKFILL
 CITY OF WEST LINN DWG NO PB-280
 NTS



BLOWOFF
 CITY OF WEST LINN DWG NO BO-301
 NTS



WATER METER
 CITY OF WEST LINN DWG NO WM-304
 NTS

REVISIONS
 DATE: MAR. 6, 1990
 DRAWN BY: ARW
 PROJECT NO. 90-367
 DESIGNED BY: ARW

DETAILS

SHEET 6 OF 6