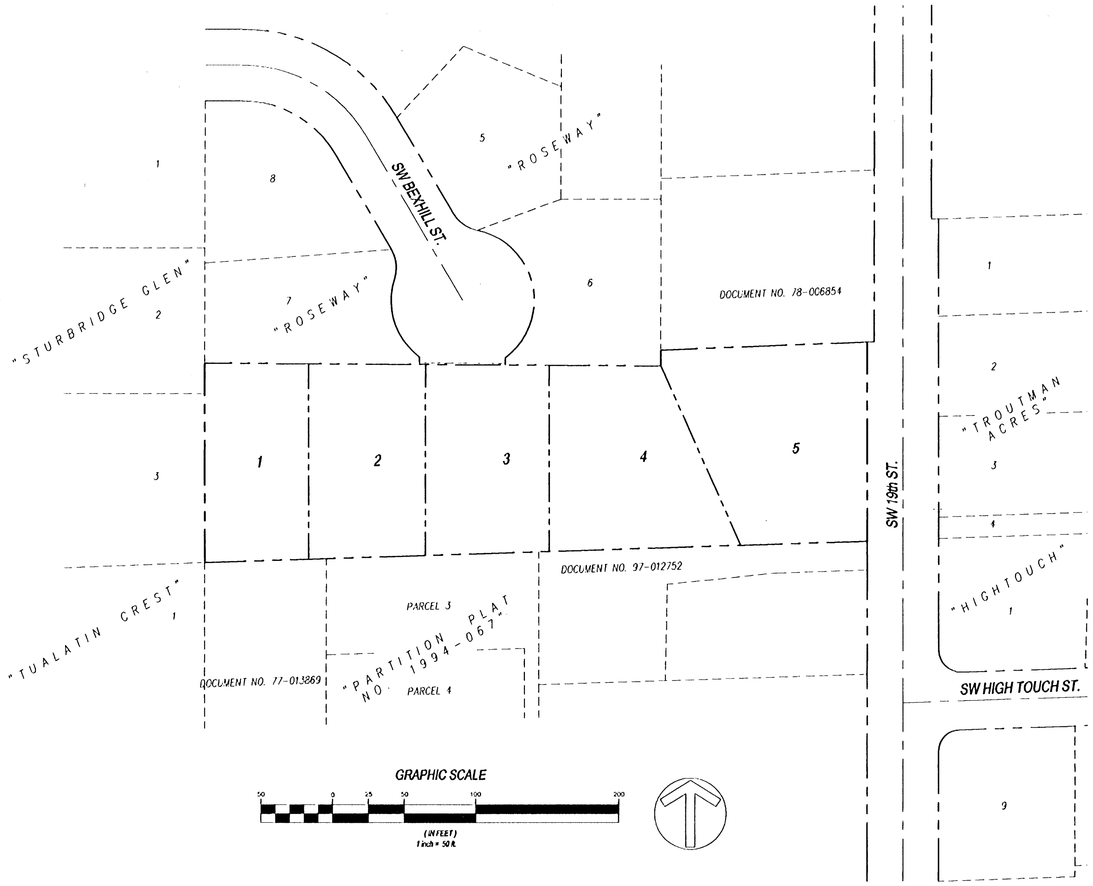
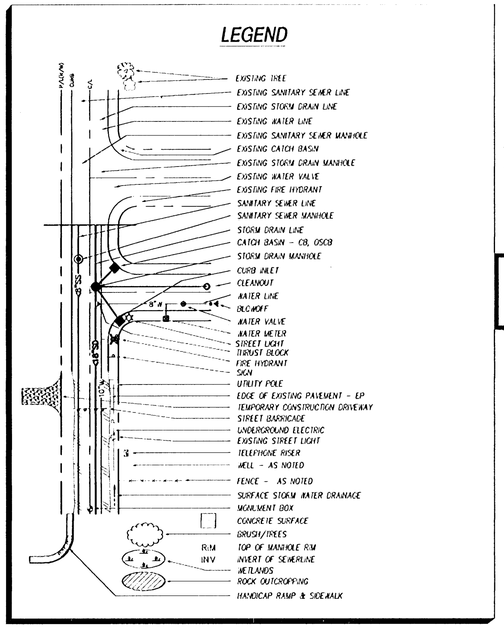
19th ST. SUBDIVISION
Miller's Crossing

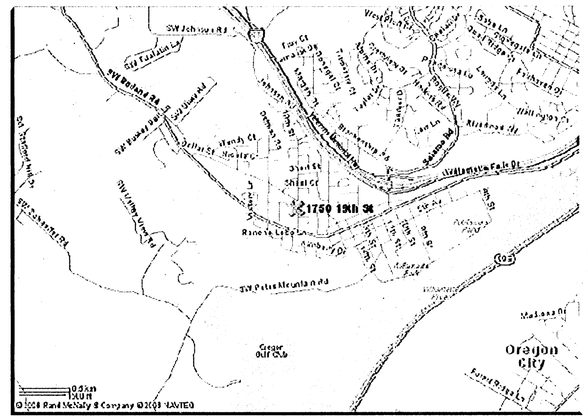




ABBREVIATIONS

AC	ASPHALT CONCRETE	PC	POINT OF CURVATURE
ACP	ASBESTOS CEMENT PIPE	PCC	POINT OF COMPOUND CURVATURE
AB	AGGREGATE BASE	PI	POINT OF INTERSECTION
BCR	BEGIN CURB RETURN	P	PROPERTY LINE
BM	BENCH MARK	PRC	POINT OF REVERSE CURVATURE
BVC	BEGIN VERTICAL CURVE	PT	POINT OF TANGENCY
CIP	CAST IRON PIPE	PVC	POLY-VINYL CHLORIDE
CJ	CONTROL JOINT	R	RADIUS
CL	CLASS	RCP	REINFORCED CONCRETE PIPE
℄	CENTERLINE	R/W	RIGHT-OF-WAY
CMP	CORRUGATED METAL PIPE	S	SEWER
CMU	CONCRETE MASONARY UNIT	SD	STORM DRAIN
CO	CLEANOUT	SL	SEWER LATERAL
CTV	CABLE TELEVISION	STA	STATION
DI	DROP INLET	STD. DTL.	STANDARD DETAIL
DIP	DUCTILE IRON PIPE	T	TELEPHONE
E	ELECTRICAL	TB	THRUST BLOCK
ECR	END CURB RETURN	TC	TOP OF CURB
EJ	EXPANSION JOINT	TCN	TOP OF CONCRETE
EL	ELEVATION	TD	TOP OF DIKE
EVC	END VERTICAL CURVE	TF	TOP OF FOOTING
EX	EXISTING	TG	TOP OF GRATE
FF	FINISH FLOOR	TI	TRAFFIC INDEX
FG	FINISH GRADE	TL	TRAFFIC LIGHT
FH	FIRE HYDRANT	TP	TOP OF PAVEMENT
FL	FLOWLINE	TYP.	TYPICAL
FLG	FLANGE	TW	TOP OF WALL
G	GAS	VCP	VITRIFIED CLAY PIPE
GM	GAS METER	VPI	VERTICAL POINT OF INTERSECTION
GB	GRADE BREAK	W	WATER
GSP	GALVANIZED STEEL PIPE	WM	WATER METER
HP	HIGH POINT	WV	WATER VALVE
L	CURVE LENGTH	Δ	DELTA (CURVE CENTRAL ANGLE)
LF	LINEAL FEET	±	APPROXIMATELY
MH	MANHOLE	%	PERCENT
MJ	MECHANICAL JOINT	<	LESS THAN
N.I.C.	NOT INCLUDED IN CONTRACT	>	GREATER THAN
OCEW	ON CENTER EACH WAY		

SHEET INDEX



VICINITY MAP
N.T.S.

AS-BUILT
DATE JDF 3-8-07

WEST LINN PLANNING COMMISSION
FINAL DECISION NOTICE
FILE NO. MISC-05-53

IN THE MATTER OF AMENDING CONDITIONS OF APPROVAL FOR A PROPOSED FIVE-LOT SUBDIVISION AT 1750 19th ST.

At a meeting held on February 9, 2006, the Planning Commission considered the request of Joe Monahan to amend five of the eight conditions of approval as allowed by CDC 99.120. The criteria for approval of a subdivision are in community development code (CDC), Chapter 85. The hearing was conducted pursuant to the provisions of CDC, Chapter 99. The site is at Tax Lot 2200 of Assessor's Map 3-1E-3 AA.

The Planning Commission revisited the concepts of "nexus" and "proportionality" with staff and the City Attorney. It is on these grounds that the applicant contended that the conditions of approval or exactions failed to meet the test. Review of findings in the staff report and written rebuttals from the applicant and his consultants showed that while some of the conditions clearly had a nexus to the anticipated impacts of the subdivision and that they were proportionate; others were deficient in both nexus and/or proportionality. After public testimony the hearing was closed.

DECISION

Commissioner Babbit proposed a motion, which was seconded, that the following conditions shall apply:

1. To compensate for the significant trees to be removed, the applicant will plant two trees (1.5" caliper each) for every tree removed and submit a tree-planting plan for approval by the City Arborist. The applicant shall construct the access driveway to the rear lots with appropriate measures to allow protection of the roots and drip line of significant trees within Lots 4 and 5. A sound attenuating and visual buffer shall be established with the planting of replacement trees and/or shrubs to help mitigate the negative impacts that will result from the planned removal of trees along the common property boundary. The significant deciduous tree on lot 3 shall be preserved. The applicant shall consult with the City Arborist to determine the best method available to accomplish that.
2. Applicant shall grant an easement for, and construct, a 12-inch storm water drain line in the vicinity of the lots along the northern boundary of the site so that it will serve the lots upon which new homes will be constructed.
4. All public improvements must be in accordance with the City of West Linn design and construction standards, professional engineering standards, and accepted industry standard construction practice. Where conflict between standards exists, the most stringent will apply unless allowed by the City Engineer.
5. An eight-foot wide access easement shall be provided to the city to allow for future construction and use of a connective trail between 19th Street and Bexhill Street. The applicant shall only be responsible for providing the easement.
6. The $22,358 fees in lieu of for 19th Street half-street improvements shall improve Bexhill Street cul de sac with curb and sidewalk improvements. The surplus, if any, will go towards the construction of sidewalk improvements on Willamette Falls Drive between 19th Street and Bolton Street.
7. Vehicular access to this site via Bexhill Street is prohibited unless amended through public hearing.

The West Linn Planning Commission, on a vote of 4 to 1, approved the motion with the conditions listed above.

NOTICE

This decision will become effective 14 days from the date of mailing of this final decision as identified below. Those parties with standing (i.e., those individuals who submitted letters into the record, or provided oral or written testimony during the course of the hearing, or signed in on the attendance sheet at the hearing, or who have contacted City Planning staff and made their identities known to staff) may appeal this decision to the West Linn City Council within 14 days of the mailing of this decision pursuant to the provisions of Chapter 99 of the Community Development Code. Such appeals would require a fee of $400 and a completed appeal application form together with the specific grounds for appeal to the Planning Director prior to the appeal-filing deadline.

JOHN KOVASH, CHAIR
WEST LINN PLANNING COMMISSION
DATE 2/16/2006

Mailed this 23rd day of February, 2006.

Therefore, this decision becomes final at 5 p.m., March 9, 2006.

DEVELOPER:

ICON CONSTRUCTION AND DEVELOPMENT, LLC
1980 WILLAMETIE FALLS DR., SUITE 200
WEST LINN, OR 97068
PHONE (503)657-1094 / FAX (503)655-6026
CONTACT: MARK HANDRIS

ENGINEERING/SURVEYING:

SFA DESIGN GROUP, LLC.
9020 SW WASHINGTON SQUARE RD., SUITE 350
PORTLAND, OR 97223
PH. (503) 641-8311
FAX (503) 643-7905
CONTACT: BRENT FITCH/JOHN WADE

IMPERVIOUS AREA

PUBLIC ROADS =
PRIVATE PROPERTY =
TOTAL =

UTILITY COMPANIES

WATER	-	CITY OF WEST LINN
SEWER	-	CITY OF WEST LINN
STORM	-	CITY OF WEST LINN
GAS	-	NORTHWEST NATURAL GAS
ELECTRIC	-	PORTLAND GENERAL ELECTRIC
TELEPHONE	-	U.S. WEST
CABLE TV	-	COMCAST

BENCH MARK

CITY OF WEST LINN BENCH MARK REFERENCE NUMBER 9, BEING A BRASS DISC STAMPED "2450" AT WEST OF EAST END OF FIELDS BRIDGE OVER TUALATIN RIVER ON SOUTH SIDEWALK.
ELEVATION = 116.58'

LOCATION

12S RIE SEC 34DD TAX LOTS 2300 & 2400

REPAIR EMERGENCIES

NORTHWEST NATURAL GAS	- 800-882-3377
PORTLAND GENERAL ELECTRIC	- 503-464-7750
QWEST	- 800-573-1311
VERIZON	- 800-483-1000
CITY OF WEST LINN	- 503-722-5501
CITY OPERATIONS	- 503-656-6081

THE CONTRACTOR, IN LOCATION AND PROTECTING UNDERGROUND UTILITIES, MUST COMPLY WITH THE REGULATIONS OF O.R.S. 757.541 TO 757.571.

LOCATES (48 HOURS NOTICE REQUIRED)

ONE CALL SYSTEM - 246-6699
(GENERAL TELEPHONE, NORTHWEST NATURAL GAS, PORTLAND GENERAL ELECTRIC)
CABLE TELEVISION - TCI - 246-6699

CALL BEFORE YOU DIG 1-800-332-2344

SFA Design Group, LLC
STRUCTURAL | CIVIL | LAND USE PLANNING
9020 SW Washington Square Dr. Suite 350
Portland, Oregon 97223
p: (503) 641-8311 f: (503)-643-7905
sfadesigngroup.com

TITLE SHEET
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 12, 2005 BRENT E. FITCH
EXPIRES: 12-31-07
VALID THROUGH 12-31-07

8/1/07

NO.	DATE	REVISION	BY
0	10/23/06	INITIAL SUBMITTAL	
1	12/12/06	REVISED PER CITY COMMENTS	
2	12/22/06	REVISED PER CITY COMMENTS	
1	3-8-07	As-Built	JDF
1	4-17-07	As-Built	JDF

DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF.
SCALE 1"=20' N/A

SHEET 1 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

jfcen, Plotted: May 02, 2007 - 10:28am, B:\Land Projects 2004\105-025\dwg\As-Built\105025_01cover.dwg

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE CITY OF WEST LINN CONSTRUCTION STANDARDS.
2. THE DESIGN ENGINEER WILL BE RESPONSIBLE FOR INSPECTION OF THE PROPOSED IMPROVEMENTS WITH OVER SIGHT FROM CITY'S PUBLIC WORKS AND ENGINEERING STAFF.
3. A WORK SCHEDULE WILL BE REQUIRED FROM THE CONTRACTOR SO THAT THE ENGINEER CAN HAVE AN INSPECTOR ONSITE AT THE APPROPRIATE TIMES. IF THE WORK SCHEDULE IS REVISED THE CONTRACTOR IS TO NOTIFY THE ENGINEER OF THE CHANGES. ADDITIONALLY THE CONTRACTOR IS TO GIVE THE ENGINEER AT LEAST 24 HOURS NOTICE OF ANY TESTING REQUIRING THE PRESENCE OF THE ENGINEER AND/OR CITY STAFF.
4. THE CONTRACTOR IS TO RECEIVE THE APPROVAL OF THE ENGINEER OF ANY PROPOSED CHANGES TO THE PLANS OR STANDARD REQUIREMENTS.
5. A BUILDING DEPARTMENT PLUMBING PERMIT IS REQUIRED FOR UTILITIES BEYOND THE FIRST CLEANOUT OR METER ON PRIVATE PROPERTY.
6. A PRE-CONSTRUCTION MEETING WITH THE CITY OF WEST LINN IS REQUIRED PRIOR TO BEGINNING CONSTRUCTION. PRIOR TO SITE CLEARING, CONSTRUCTION "SNOW" FENCING SHALL BE PLACED AROUND TREES TO BE PRESERVED 10 FEET BEYOND THE DRIPLINE OF THE TREES AND SHALL REMAIN IN PLACE THROUGHOUT THE INFRASTRUCTURE IMPROVEMENTS.
7. ALL PUBLIC IMPROVEMENTS SHALL BE IN PLACE AND ACCEPTED BY THE CITY PRIOR TO ANY FINAL PLAT RECORDING AND ISSUANCE OF BUILDING PERMITS.
8. ALL PEDESTRIAN RAMPS SHALL MEET ADA REQUIRMENTS.

WATER SUPPLY:

1. WATER MAINS SHALL BE DUCTILE IRON PIPE CONFORMING TO AWWA C151 CLASS 52. PIPE IS TO HAVE CEMENT MORTAR LINING AND BITUMINOUS SEAL COAT CONFORMING TO AWWA C104. JOINTS ARE TO BE PUSH-ON JOINT. PIPE FITTINGS ARE TO BE OF THE SAME MATERIAL AND CLASS AS PIPE AND OF DOMESTIC ORIGIN.
2. WATER MAINS TO HAVE A MINIMUM COVER OF 36".
3. THRUST BLOCKS ARE TO BE PROVIDED AT FIRE HYDRANT AND TIE-IN AT 19TH ST. THRUST BLOCKING CONCRETE STRENGTH IS TO BE 3000 PSI MIN. SEE DETAILS FOR THRUST BLOCK SIZING. POUR THRUST BLOCKS AGAINST UNDISTURBED EARTH. ALL THRUSTS BLOCKS SHALL BE INSPECTED BY THE CITY PRIOR TO POURING AND PRIOR TO BACKFILLING. *USE FIELD LOCKS AT ALL OTHER CHANGES IN DIRECTION AND BRANCHES.
4. GATE VALVES SHALL BE A DOUBLE DISC TYPE CONFORMING TO AWWA C500. BUTTERFLY VALVES SHALL BE CLASS 150 B SHORT BODY TYPE IN CONFORMANCE WITH AWWA C504. VALVE BOXES SHALL BE RICH MODEL 925 OR EQUAL.
5. FIRE HYDRANTS SHALL CONFORM TO AND SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARDS. PUMPER OUTLET IS TO FACE THE DIRECTION OF ACCESS.
6. GRANULAR BACKFILL IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 85% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL. BACKFILL UNDER STREETS SHALL BE IN ACCORDANCE WITH CLASS 'B' BACKFILL AS INDICATED ON THE DETAIL SHEET OF THE PLANS. EXCAVATION, BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH APWA DIVISION IV, SECTION 401.
7. SERVICE LATERALS SHALL BE TYPE K. LATERAL SIZES SHALL BE 1". FOR DOUBLE SERVICES TWO 1" WATER SERVICE SHALL BE LAID SIDE BY SIDE. CORPORATION STOPS SHALL BE FORD OR APPROVED EQUAL. CURB STOP SHALL BE 1" FORD METER STOP. METER BOXES SHALL BE EQUAL TO BROOKS #31. METER BOXES ARE TO BE INSTALLED 3/4" ABOVE FINISH GRADE. REFER TO STANDARD DETAIL WL-402.
8. ALL WATERLINES SHALL PASS ALL TESTS PER CITY OF WEST LINN CONSTRUCTION STANDARDS PRIOR TO ACCEPTANCE. PRESSURE TEST SHALL BE CONDUCTED AT 180psi FOR 1 HOUR WITH NO LOSS.
9. (NOT USED)
10. DO NOT CONNECT NEW PIPE TO EXISTING PIPE PRIOR TO TESTING. THE CITY OF WEST LINN REQUIRES ACCEPTANCE OF NEW WATERLINE PRIOR TO CONNECTION TO EXISTING WATER SYSTEM.
11. A PLUMBING PERMIT FROM THE CITY OF WEST LINN BUILDING DEPARTMENT IS REQUIRED FOR SERVICE LATERAL INSTALLATIONS BEYOND THE WATER METER.
12. ALL MATERIALS, INSTALLATION, TESTS, AND CHLORINATION TO BE IN STRICT ACCORDANCE WITH APWA'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE SUPPLEMENTAL STANDARDS AND CODES OF THE CITY OF WEST LINN, AND THE OREGON STATE HEALTH DIVISION ADMINISTRATIVE RULES, CHAPTER 333.

STREETS:

1. NEW STREET SECTIONS ARE TO BE CLEARED OF ALL SURFACE VEGETATION AND OTHER MISCELLANEOUS STRUCTURES OR MATERIALS. GRUB IMPROVEMENT AREAS TO REMOVE ALL BURIED VEGETATIVE MATTER AND DEBRIS TO A DEPTH OF 8" BELOW SUBGRADE. PROPERLY DISPOSE OF ALL WASTE MATERIAL.
2. STREET SUBGRADE SHALL CONFORM TO APWA DIVISION II, SECTION 206. AREAS TO RECEIVE FILL ARE TO BE INSPECTED BY CITY OF WEST LINN PERSONNEL PRIOR TO PLACEMENT OF THE FILL. THE CONTRACTOR SHALL HAVE FILL AREAS TESTED FOR COMPACTION BY A CERTIFIED TESTING LAB IN ACCORDANCE WITH APWA DIVISION II, SECTION 206.3.05. SUCH TESTING WILL BE AT THE CONTRACTOR'S EXPENSE.
3. AGGREGATE BASE ROCK SHALL CONFORM TO THE REQUIREMENTS OF APWA DIVISION II, SECTION 207. BASE COURSE SHALL BE (1 1/2"-0) CRUSHED ROCK AND LEVELING COURSE SHALL BE (3/4"-0). CITY OF WEST LINN REQUIRES A PROOF ROLL WITH A LOADED 10 YARD DUMP TRUCK OF THE SUBGRADE PRIOR PLACEMENT OF THE ROCK AND AGAIN AFTER PLACEMENT OF THE BASE ROCK AND PRIOR TO PAVING. ALL UNDERGROUND UTILITIES INCLUDING LATERALS, SERVICES AND POWER OR GAS CONDUITS WILL BE IN PLACE BEFORE SUBGRADE PROOF ROLL WILL TAKE PLACE.
4. ASPHALT CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF APWA DIVISION II, SECTION 211. 2" BASE LIFT SHALL BE CLASS 'B' A.C. AND THE FINAL LIFT SHALL BE 1 1/2" OR 2" CLASS 'C' A.C. AS PER APWA DIVISION II, SECTION 211.2.01 AND AS SPECIFIED ON SHEET #4. THE TOP LIFT OF ASPHALT CONCRETE SHALL NOT BE PLACED PRIOR TO RECEIVING PERMISSION FROM THE CITY OF WEST LINN ENGINEERING DEPARTMENT.
5. ALL MATERIALS, INSTALLATION, TESTS, AND INSPECTIONS TO BE IN STRICT ACCORDANCE WITH APWA'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE SUPPLEMENTAL STANDARDS AND SPECIFICATIONS OF THE CITY OF WEST LINN STREET/UTILITY DESIGN AND CONSTRUCTION STANDARDS.
6. A STREET CONSTRUCTION ENCROACHMENT PERMIT OR SIMILAR PERMIT MAY BE REQUIRED FROM THE CITY OF WEST LINN. CONSTRUCTION PERMIT FEES OR OTHER SIMILAR FEES OR BONDING REQUIRED OF THE CONTRACTOR WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN.

UTILITIES:

1. IF NOT NOTED ON THE PLANS UTILITY INFORMATION AND CROSSING LOCATIONS WILL HAVE TO BE OBTAINED FROM THE UTILITIES.
2. UTILITY CONTACTS ARE AS FOLLOWS:

   PGE – CINDY MANSELLE, 650-1411;
   COMCAST – JAMIE STENCIL, 243-7497,
   U.S. WEST COMMUNICATIONS – JACKIE LOLLAR 242-8496.

SANITARY SEWER:

1. PIPE SHALL BE PVC SEWER PIPE CONFORMING TO ASTM D-3034-SDR 35. MINIMUM STIFFNESS SHALL BE 46 PSI AND JOINT TYPE SHALL BE ELASTOMERIC GASKET CONFORMING TO ASTM D-3212.
2. MANHOLE BASE SHALL BE PRECAST CONCRETE BASE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478. THE BASE RISER SECTION SHALL BE INTEGRAL WITH THE BASE SLAB. MANHOLE RISERS AND TOPS SHALL BE PRECAST SECTIONS WITH MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. TOPS SHALL BE ECCENTRIC CONES EXCEPT WHERE INSUFFICIENT HEADROOM REQUIRES FLAT TOPS. INVERTS SHALL BE CONSTRUCTED SO AS TO PROVIDE SMOOTH FLOW-THROUGH CHARACTERISTICS. PVC PIPE SHALL BE CONNECTED TO MANHOLE BY MEANS OF AN ELASTOMERIC GASKET, AN APPROVED WATERSTOP, OR FLEXIBLE SLEEVE. CEMENT GROUT FOR CONNECTING PVC SEWER PIPE TO MANHOLE WILL NOT BE PERMITTED.
3. ALL MANHOLES LOCATED IN EASEMENT AREAS REQUIRE TAMPER PROOF LIDS. ALL MANHOLE RIMS NOT IN PAVEMENT AREA TO BE SET 12 INCHES ABOVE PROPOSED GRADE.
4. CLEANOUT PIPE, FITTINGS, AND JOINTS SHALL BE THE SAME SPECIFICATIONS AS FOR PIPE. CASTINGS ARE AS SHOWN ON DETAIL AND SHALL CONFORM TO ASTM A48 (GRADE 30). CLEANOUT RISER SHALL MATCH DOWNSTREAM PIPE DIAMETER.
5. GRANULAR BACKFILL IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 85% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL.
6. PVC SERVICE LATERALS SHALL BE 4" PIPE CONFORMING TO THE SAME SPECIFICATIONS AS THE SEWER MAINS. SERVICE LATERALS SHALL BE INSTALLED TO A POINT BEYOND THE LINE OF THE SEWER OR UTILITY EASEMENT AS SHOWN ON THE PLAN. THE SERVICE LATERAL SHALL BE PLUGGED WITH A 4" RUBBER RING PLUG, AND THE LOCATION OF THE LATERAL'S END MARKED WITH A 2" X 4" STAKE PAINTED GREEN AND MARKED WITH THE DEPTH OF THE LATERAL.
7. SANITARY SEWER PIPE AN APPURTENANCES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH APWA DIVISION III REQUIREMENTS. LEAKAGE TESTS WILL INCLUDE REQUIRED APWA AIR PRESSURE TEST FOR SEWER LINES AND REQUIRED APWA VACUUM TEST OF MANHOLES. ALL PVC PIPE SHALL BE TESTED FOR DEFLECTION. DEFLECTION SHALL BE TESTED WITH A MANDREL EQUAL TO 95% OF THE PIPE SIZE BEING TESTED. IN ADDITION, SEWER LINES SHALL BE VIDEO INSPECTED BY THE CONTRACTOR PER APWA, DIVISION III, SECTION 303.3.11. ALL TESTS SHALL BE WITNESSED BY THE ENGINEER AND THE CITY OF WEST LINN.
8. A PLUMBING PERMIT FROM THE CITY OF WEST LINN BUILDING DEPARTMENT IS REQUIRED FOR SANITARY SEWER LATERALS BEYOND THE FIRST CLEANOUT.
9. ALL MATERIALS, INSTALLATION, TESTS, AND INSPECTIONS TO BE MADE IN STRICT ACCORDANCE WITH CITY OF WEST LINN'S STREET/UTILITY CONSTRUCTION STANDARDS, WITH APWA'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND WITH THE UNIFORM PLUMBING CODE.

STORM SEWER:

1. PIPE 24" OR LESS, SHALL BE SEAMLESS PVC D-3034.
2. GUTTER INLETS SHALL BE POURED IN-PLACE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. FRAME SHALL BE FABRICATED OF STRUCTURAL STEEL, ASTM A-7, A-36, A-273.
3. MANHOLE BASE MAY BE POURED IN-PLACE CONCRETE OR PRECAST. MANHOLE RISERS AND TOPS SHALL BE PRECAST SECTIONS WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. TOPS SHALL BE ECCENTRIC CONES EXCEPT WHERE INSUFFICIENT HEADROOM REQUIRES FLAT TOPS. SOME OR ALL OF THE STORM DRAIN MANHOLES REQUIRED WILL BE OVERSIZED MANHOLES. INTERIOR DIMENSIONS NOTED ON THE PLANS ARE MINIMUMS. CHECK WITH MANHOLE MANUFACTURER FOR ACTUAL SIZE NEEDED FOR TYPE OF PIPE TO BE USED.
4. ALL MANHOLES LOCATED IN EASEMENT AREAS REQUIRE TAMPER PROOF LIDS. ALL MANHOLE RIMS NOT IN PAVEMENT AREA TO BE SET 12 INCHES ABOVE PROPOSED GRADE.
5. CLEANOUT PIPE, FITTINGS AND JOINTS SHALL BE THE SAME SPECIFICATION AS FOR PIPE. CASTINGS ARE SHOWN ON DETAIL AND SHALL CONFORM TO ASTM A 48 (GRADE 30). CLEANOUT RISER SHALL MATCH DOWNSTREAM PIPE DIAMETER.
6. GRANULAR BACKFILL IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 85% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL.
7. RIPRAP WHERE NOTED ON THE PLANS IS TO BE CLASS 50 IN ACCORDANCE WITH OREGON STATE HIGHWAY DIVISION SPECIFICATION 714.
8. STORM DRAINS SHALL BE TESTED FOR DEFLECTION WITH A MANDREL EQUAL TO 95% OF THE PIPE SIZE BEING TESTED. IN ADDITION, STORM LINES SHALL BE VIDEO INSPECTED BY THE CONTRACTOR PER APWA, DIVISION III, SECTION 303.3.11. ALL TESTS SHALL BE WITNESSED BY THE ENGINEER.
9. A PLUMBING PERMIT FROM THE CITY OF WEST LINN BUILDING DEPARTMENT IS REQUIRED FOR STORM DRAINS BEYOND THE FIRST CLEANOUT.
10. A BACKWATER CHECK VALVE SHALL BE INSTALLED ON THE 4" ROOF DRAIN SERVICE TO ANY LOT THE HAS THE END OF ITS ROOF DRAIN STUB LOCATED BELOW THE DETENTION OVERFLOW ELEVATION. THESE CHECK VALVES SHALL BE A CANPLAS 3284 4" ABS VALVE OR OTHER EQUAL LOW PRESSURE VALVE.
11. ALL MATERIALS, INSTALLATION, TESTS, AND INSPECTIONS TO BE IN STRICT ACCORDANCE WITH APWA'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE SUPPLEMENTAL STANDARDS AND SPECIFICATION OF THE CITY OF WEST LINN STREET/UTILITY DESIGN AND CONSTRUCTION STANDARDS.

AS-BUILT
DATE JDF 2-27-07

EROSION CONTROL SUMMARY:

1. THE INTENT OF THE REQUIREMENT IS TO PREVENT SILTATION FROM REACHING STORM DRAIN SYSTEMS AND DRAINAGE WAYS.
2. THE MINIMUM MEASURES NEED TO BE MADE ON ALL PROJECTS.
   A) A GRAVEL PAD, AT LEAST 50 FEET LONG, IS REQUIRED WHERE VEHICLES WILL LEAVE THE CONSTRUCTION SITE.
   B) A SEDIMENT BARRIER IS TO BE CONSTRUCTED OF STRAW BALES OR A SEDIMENT FENCE WHERE NOTED IN THE DETAILS OR WHERE SEDIMENT WILL CROSS OUTSIDE THE WORK AREA.
   C) WHERE EXCAVATED MATERIAL IS PLACED ON HARD SURFACES (SUCH AS STREETS) MATERIAL MUST BE BROOMED OR SCRAPED CLEAN AS SOON AS POSSIBLE.
   D) RIPRAP EXITS FROM ALL CULVERTS AND STORM DRAIN PIPES DRAINING INTO THE DITCHES OR SWALES. RIPRAP IS TO BE CLASS 50 RIPRAP OR LARGER OR AS NOTED ELSEWHERE IN THE PLANS.
   E) RESEED OR COVER DISTURBED AREAS AS SOON AS IS POSSIBLE AND PRACTICAL BUT NO LATER THAN THE COMPLETION OF CONSTRUCTION ON THE OTHER PHASES OF WORK. EROSION CONTROL MEASURES SUCH AS HAY BALES AND SILT FENCES MUST REMAIN IN PLACE UNTIL SEEDED AREAS SHOW GROWTH SUBSTANTIAL TO PREVENT EROSION.

GENERAL:

1. APPROVAL OF THIS EROSION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED, AND VEGETATION OF LANDSCAPING IS ESTABLISHED.
3. THE ESC FACILITIES ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
4. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
5. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
6. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH, OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
7. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
8. 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 ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

GENERAL GRADING AND EROSION CONTROL:

1. CLEAN WASTE MATERIAL EXCAVATED FROM ROAD CUT OR TRENCHING AREAS NOT USED IN STREET FILL AREAS MAY BE SPREAD EVENLY ACROSS LOT AREAS IN DEPTHS NOT TO EXCEED SIX INCHES, EXCEPT WHERE NOTED OTHERWISE ON THE PLANS.
2. DURING CONSTRUCTION, STRAW BALES, CUTOFF TRENCHES OR SOME OTHER METHOD OF RUNOFF CONTROL SHALL BE USED TO PREVENT EROSION AND/OR SILTATION FROM CROSSING OUTSIDE THE WORK AREA BOUNDARIES.
3. LARGE ORGANIC MATERIAL, MISCELLANEOUS PIPE OR CONSTRUCTION MATERIAL MUST BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
4. NO FILLING OR CUTTING SHALL BE DONE OUTSIDE OF APPROVED GRADING AREAS.
5. ALL EROSION CONTROL FACILITIES SHALL MEET THE REQUIREMENTS OF THE CLACKAMAS COUNTY DEPARTMENT OF UTILITIES, EROSION PREVENTION AND SEDIMENT CONTROL PLANS TECHNICAL GUIDANCE HANDBOOK (ECTGH), REVISED AUGUST, 1994; CHAPTER 31 OF THE COMMUNITY DEVELOPMENT CODE; AND THE OREGON ADMINISTRATIVE RULES.

SEEDING/MULCHING:

1. ALL AREAS DISTURBED DURING CONSTRUCTION TO BE GRADED TO DRAIN AND COMPACTED TO A MINIMUM OF 90% OF AASHTO T-99 IMMEDIATELY AFTER INSTALLATION OF UTILITIES OR GRADING.
2. RECOMMENDED SEED MIXTURE: 80% ELKA DWARF PERENNIAL RYEGRASS AND 20% CREEPING RED FESCUE, BY WEIGHT. APPLICATION RATE SHALL BE 100 POUNDS MINIMUM PER ACRE.
3. FERTILIZER SHALL BE 12-16-8 WITH 50% OF THE NITROGEN DERIVED FROM UREA FORMALDEHYDE, AND APPLIED AT A RATE OF 400 POUNDS PER ACRE.
4. SEED AND MULCH AT A RATE OF 2000 LBS/AC WITH HEAVY BONDING AGENT OR NETTING AND ANCHORS. MULCH SHALL BE A WOOD CELLULOSE FIBER OR OTHER MATERIAL SUITABLE FOR HYDROMULCHING.
5. TEMPORARY OR PERMANENT HYDROSEEDING ARE ACCEPTABLE SEEDING AND MULCHING MUST BE PROVIDED WHENEVER PERENNIAL COVER CANNOT BE ESTABLISHED ON SITES WHICH WILL BE EXPOSED FOR 60 DAYS OR MORE.

SEDIMENT FENCE:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS, WHERE FEASIBLE. THEN FENCE POSTS SHALL BE SPACED A MAXIMUM OF SIX FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 18 INCHES.
3. A TRENCH SHALL BE EXCAVATED, ROUGHLY 6 INCHES WIDE BY 6 INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED. BURY THE BOTTOM OF THE FABRIC 6" VERTICALLY BELOW FINISHED GRADE. ALL AREAS OF FILTER FABRIC TRENCH SHALL BE COMPACTED.
4. THE FILTER FABRIC SHALL BE INSTALLED WITH STITCHED LOOPS OVER FENCE POSTS. THE FENCE POST SHALL BE CONSTRUCTED OF 2" X 2" FIR, PINE, OR STEEL. THE FENCE POST MUST BE A MINIMUM OF 48" LONG. THE FILTER FABRIC SHALL NOT BE STAPLED OR ATTACHED TO EXISTING TREES.
5. SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
6. SEDIMENT FENCES SHALL BE INSPECTED BY APPLICANT/CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

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CONSTRUCTION NOTES
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER 54627PE OREGON MAR. 12, 2002 BRENT E. FITCH
VALID THROUGH 12-31-07

NO.	DATE	REVISION	BY
0	10/23/06	INITIAL SUBMITTAL	
1	12/12/06	REVISED PER CITY COMMENTS	
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1	3-8-07	As-Built	JDF
1	4-17-07	As-Built	JDF
1	4-30-07	As-Built	JDF

DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF.
SCALE 1" = 20'
N/A

SHEET 2 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

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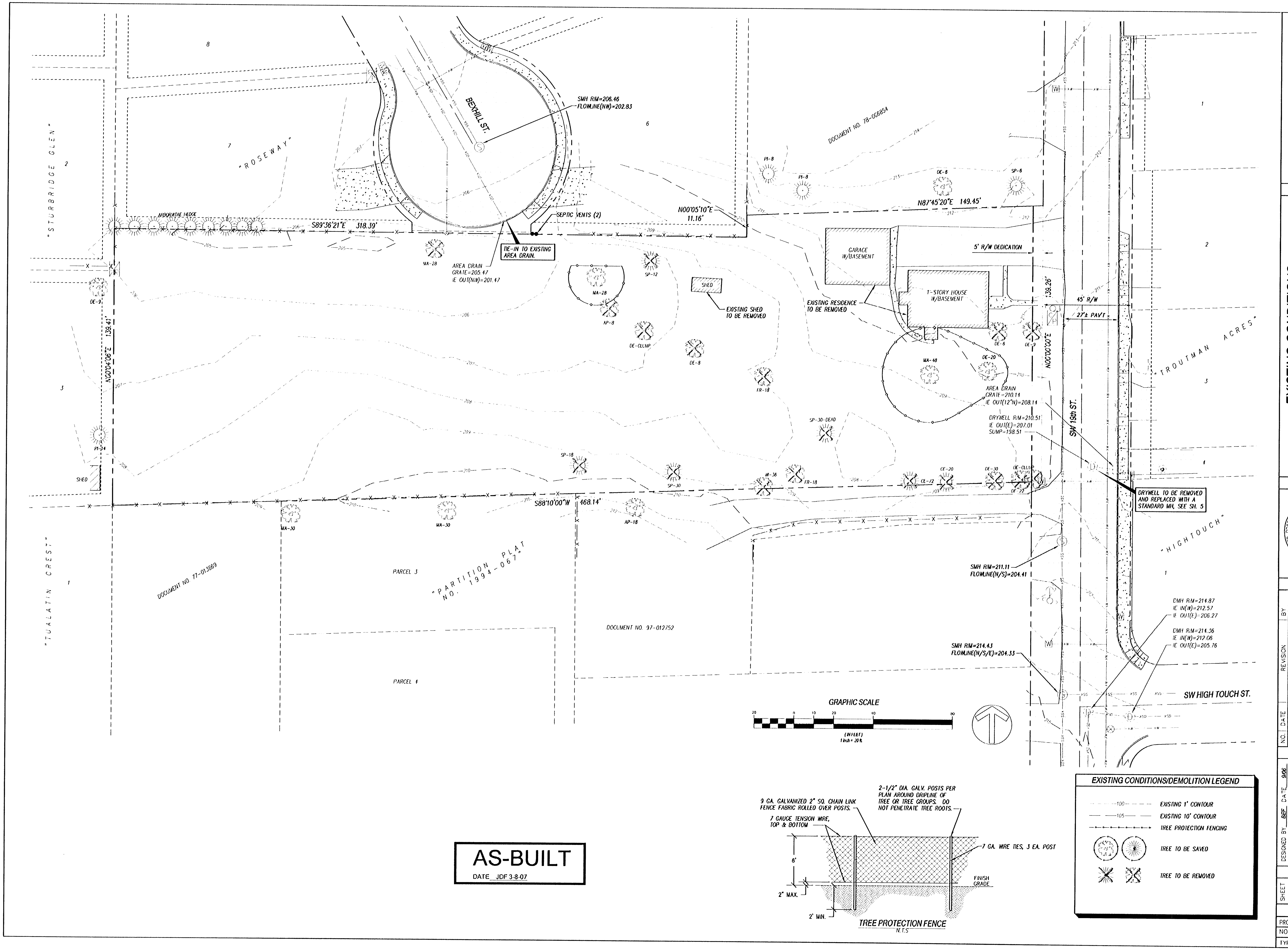

"STURBRIDGE GLEN"
2
3
8
7
"ROSEWAY"
ARBORVITAE HEDGE
S89°36'21"E 318.39'
N00°04'06"E 139.41'
DE-9
P1-14
SHED
"TUALATIN CREST"
1
DOCUMENT NO. 77-013869
MA-30
PARCEL 3
PARCEL 4
"PARTITION PLAT NO. 1994-067"
BEXHILL ST.
SMH RIM=206.46
FLOWLINE(NW)=202.83
6
SEPTIC VENTS (2)
TIE-IN TO EXISTING AREA DRAIN.
MA-28
AREA DRAIN
GRATE=205.47
IE OUT(NW)=201.47
SP-12
AP-8
DE-CLUMP
DE-8
SHED
EXISTING SHED TO BE REMOVED
N00°05'10"E
11.16'
DOCUMENT NO. 78-006854
P1-8
DE-6
SP-6
N87°45'20"E 149.45'
GARAGE W/BASEMENT
1-STORY HOUSE W/BASEMENT
EXISTING RESIDENCE TO BE REMOVED
FR-18
SP-30-DEAD
SP-18
SP-30
M-36
CE-72
CE-20
DE-30
DE-CLUMP
DF-22
S88°10'00"W
468.14'
AP-18
DOCUMENT NO. 97-012752
5' R/W DEDICATION
139.26'
N00°00'00"E
45' R/W
27'± PAV'T
DE-9
MA-48
DE-20
AREA DRAIN
GRATE=210.14
IE OUT(12"N)=208.14
DRYWELL RIM=210.51
IE OUT(E)=207.01
SUMP=198.51
SW 19th ST.
DRYWELL TO BE REMOVED AND REPLACED WITH A STANDARD MH, SEE SH. 5
"TROUTMAN ACRES"
1
2
3
4
"HIGHTOUCH"
SMH RIM=211.11
FLOWLINE(N/S)=204.41
DMH RIM=214.87
IE IN(W)=212.57
IE OUT(E)=206.27
DMH RIM=214.36
IE IN(W)=212.06
IE OUT(E)=205.76
SMH RIM=214.43
FLOWLINE(N/S/E)=204.33
SW HIGH TOUCH ST.
GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.
9 GA. GALVANIZED 2" SQ. CHAIN LINK FENCE FABRIC ROLLED OVER POSTS.
7 GAUGE TENSION WIRE, TOP & BOTTOM
2-1/2" DIA. GALV. POSTS PER PLAN AROUND DRIPLINE OF TREE OR TREE GROUPS. DO NOT PENETRATE TREE ROOTS.
7 GA. WIRE TIES, 3 EA. POST
6'
2" MAX.
2' MIN.
FINISH GRADE
TREE PROTECTION FENCE
N.T.S
EXISTING CONDITIONS/DEMOLITION LEGEND
100 EXISTING 1' CONTOUR
105 EXISTING 10' CONTOUR
TREE PROTECTION FENCING
TREE TO BE SAVED
TREE TO BE REMOVED
AS-BUILT
DATE JDF 3-8-07

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EXISTING CONDITIONS AND DEMOLITION PLAN
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER 54627PE OREGON MAR. 12, 2002 BRENT E. FITCH
VALID THROUGH 12-31-07

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DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF.
SCALE 1"=20'
N/A

SHEET 3 OF 11

PROJECT	19th STREET
NO.	105-025
TYPE	ENGINEERING

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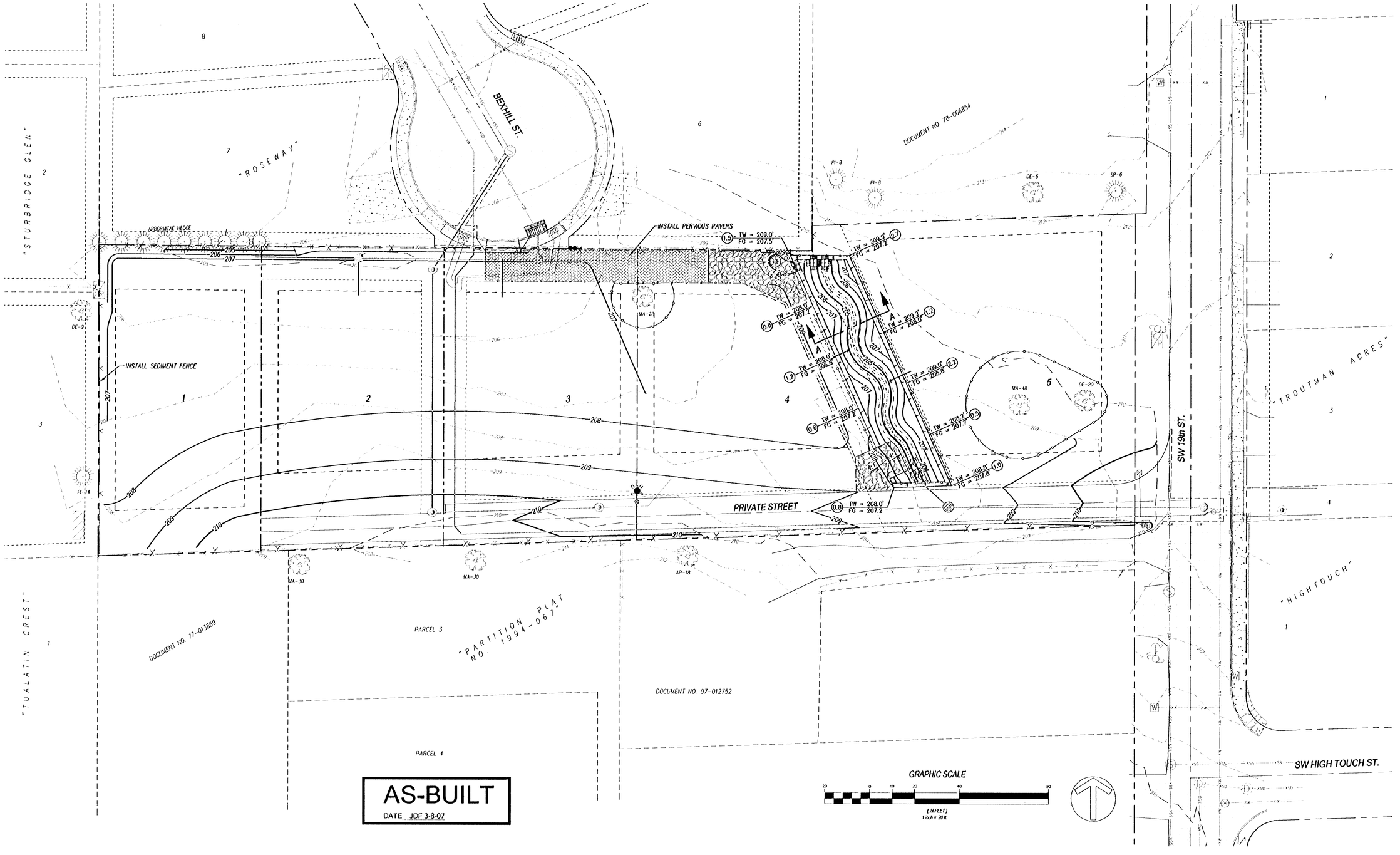


AS-BUILT

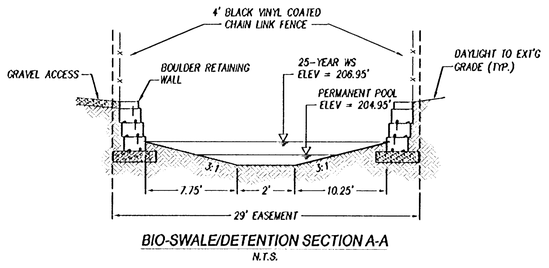
DATE JDF 3-8-07

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.



BIO-SWALE/DETENTION SECTION A-A

N.T.S.

GRADING AND EROSION CONTROL LEGEND

- 100 — EXISTING 1' CONTOUR
- 105 — EXISTING 10' CONTOUR
- 201 — PROPOSED 1' CONTOUR
- 205 — PROPOSED 5' CONTOUR
- TREE PROTECTION FENCING
- TREE TO BE SAVED
- TREE TO BE REMOVED
- 12" — PROPOSED STORM DRAIN LINE
- PROPOSED BIOBAG BARRIER
- X — PROPOSED SEDIMENT CONTROL FENCE
- PROPOSED CONSTRUCTION ENTRANCE

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GRADING AND EROSION CONTROL PLAN

19th STREET SUBDIVISION

WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER — OREGON JULY 12, 2005 — BRENT E. FLETCH

VALID THROUGH 12-31-07

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DESIGNED BY BEF DATE 9/06

DRAWN BY RMW DATE 9/06

REVIEWED BY BEF DATE 9/06

PROJECT NO. 105-025 REF.

SCALE 1"=20' N/A

SHEET 4 OF 11

PROJECT 19th STREET

NO. 105-025

TYPE ENGINEERING

mmonnault, Plotted: Jul 25, 2007 - 4:16pm, B:\Land Projects 2004\105-025\dwg\As-Built\10525_04proc.dwg

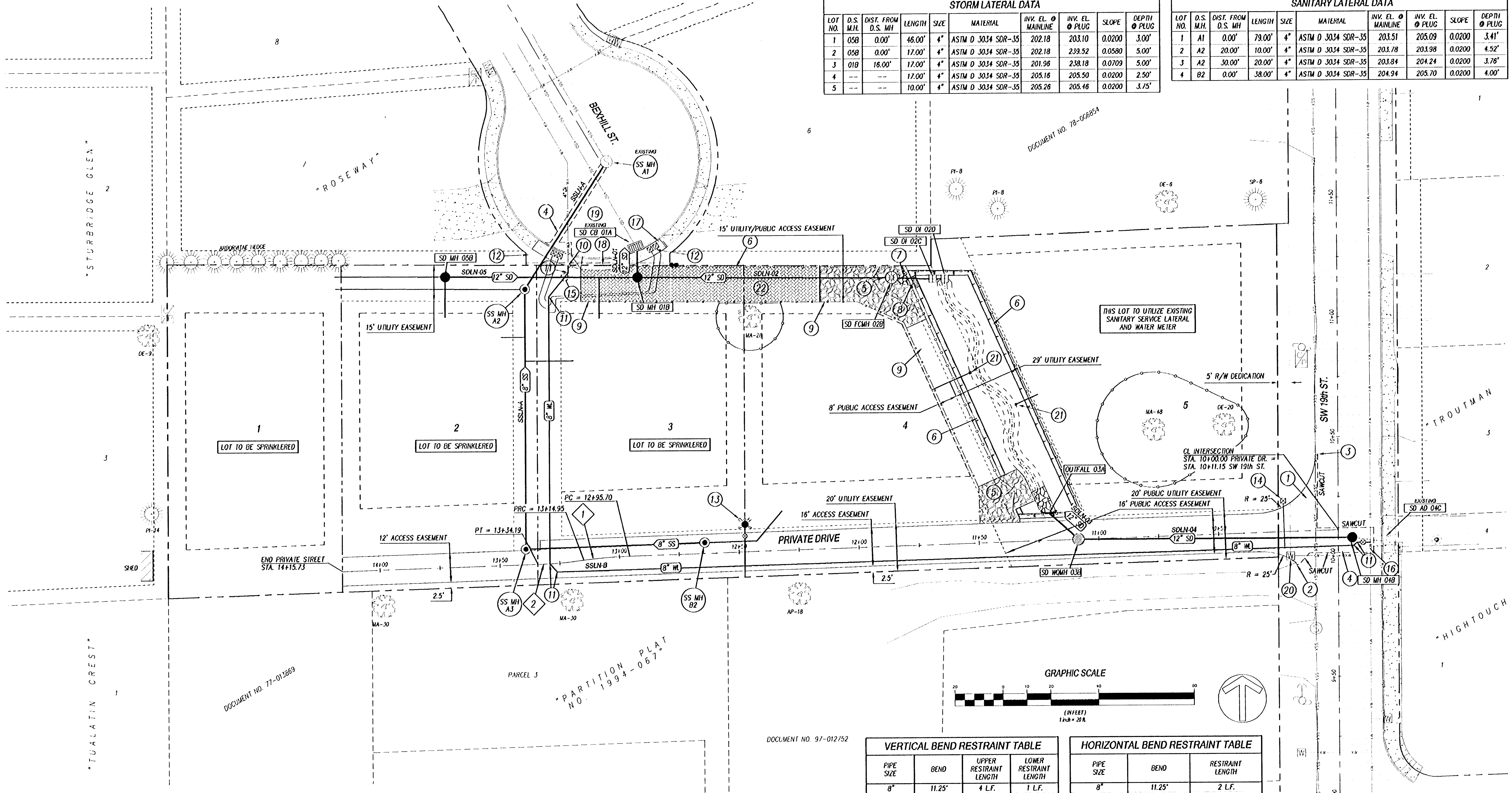
STREET AND UTILITY PLAN
19th STREET SUBDIVISION
WEST LINN, OREGON

STORM LATERAL DATA

LOT NO.	D.S. M.H.	DIST. FROM D.S. MH	LENGTH	SIZE	MATERIAL	INV. EL. @ MAINLINE	INV. EL. @ PLUG	SLOPE	DEPTH @ PLUG
1	05B	0.00'	46.00'	4"	ASTM D 3034 SDR-35	202.18	203.10	0.0200	3.00'
2	05B	0.00'	17.00'	4"	ASTM D 3034 SDR-35	202.18	239.52	0.0580	5.00'
3	01B	16.00'	17.00'	4"	ASTM D 3034 SDR-35	201.96	238.18	0.0709	5.00'
4	--	--	17.00'	4"	ASTM D 3034 SDR-35	205.16	205.50	0.0200	2.50'
5	--	--	10.00'	4"	ASTM D 3034 SDR-35	205.26	205.46	0.0200	3.75'

SANITARY LATERAL DATA

LOT NO.	D.S. M.H.	DIST. FROM D.S. MH	LENGTH	SIZE	MATERIAL	INV. EL. @ MAINLINE	INV. EL. @ PLUG	SLOPE	DEPTH @ PLUG
1	A1	0.00'	79.00'	4"	ASTM D 3034 SDR-35	203.51	205.09	0.0200	3.41'
2	A2	20.00'	10.00'	4"	ASTM D 3034 SDR-35	203.78	203.98	0.0200	4.52'
3	A2	30.00'	20.00'	4"	ASTM D 3034 SDR-35	203.84	204.24	0.0200	3.76'
4	B2	0.00'	38.00'	4"	ASTM D 3034 SDR-35	204.94	205.70	0.0200	4.00'

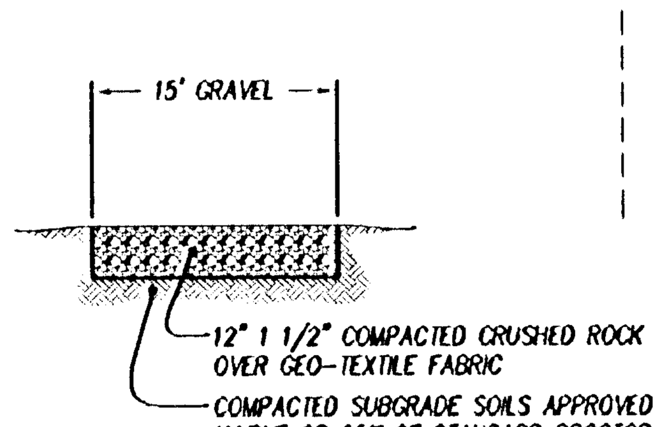


CONSTRUCTION NOTES

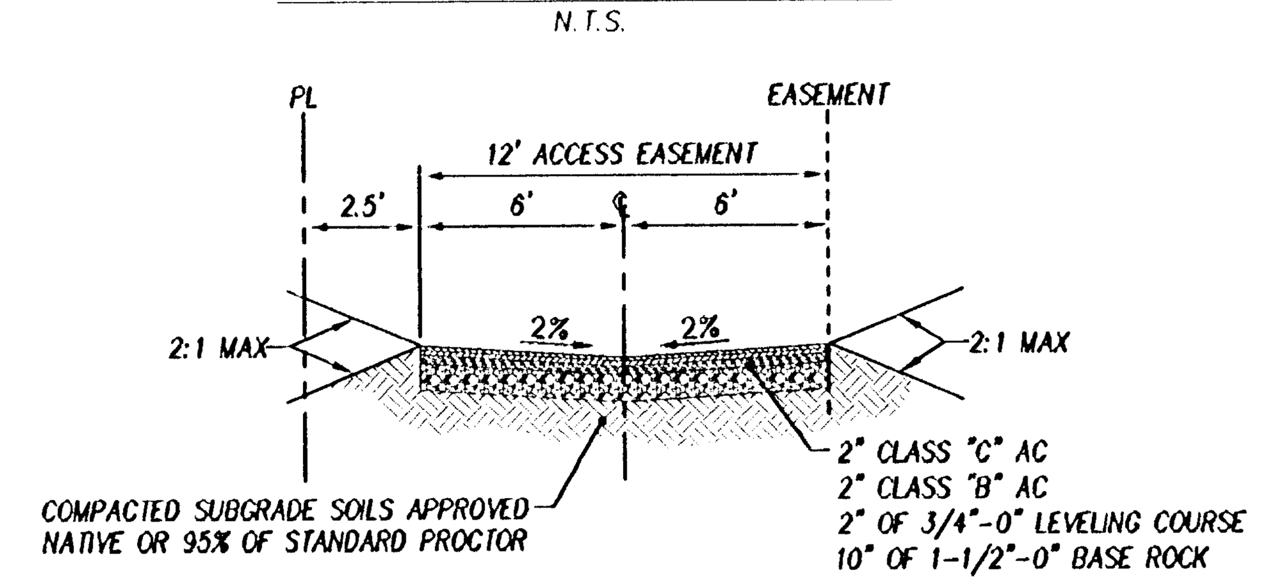
1. CONSTRUCT ASPHALT DRIVEWAY APPROACH TO DIMENSIONS SHOWN.
2. STA. 9+96.47, 17.37' LT, BEGIN SAWCUT. MATCH EXISTING CONDITIONS.
3. STA. 10+42.72, 8.42' LT, END SAWCUT. MATCH EXISTING CONDITIONS.
4. RESTORE PAVEMENT TO CITY OF WEST LINN STANDARDS
5. 15' WIDE COMPACTED GRAVEL ACCESS ROAD FOR CITY USE.
6. INSTALL WATER QUALITY FENCE PER WL-616.
7. CONSTRUCT RIP RAP PATH TO POND OVERFLOW STRUCTURE.
8. CONSTRUCT BROAD-CRESTED OVERFLOW 5' WIDE
9. CONSTRUCT 6' WOOD FENCE PER OWNERS SPECIFICATIONS.
10. CITY RECORDS INDICATE THAT THE EXT'G WATERLINE IS 4" DI, CONTRACTOR TO VERIFY SIZE & LOCATION PRIOR TO CONNECTION. CONNECT TO EXISTING WATERLINE WITH 8"x4" REDUCER & 4" GATE VALVE.
11. INSTALL 8" 45° BENDS W/ RESTRAINT JOINTS AS NECESSARY.
12. BANK WATER METERS FOR LOTS 1-4, RUN 2" SCHEDULE 40 PVC FROM EACH METER TO LOT SERVICED. 18" MIN. SEPARATION REQUIRED ON 1" TAPS.
13. STA. 12+47.18, 12.50' RT, INSTALL FIRE HYDRANT ASSEMBLEY.
14. INSTALL IRRIGATION METER FOR WATER QUALITY FACILITY, WITH APPROVED BACKFLOW PREVENTION.
15. CRITICAL CROSSING, DEFLECT WATERLINE OVER/UNDER STORM/SANITARY SEWER IN THESE AREAS, MAXIMUM 3° PER JOINT.
16. STA. 10+16.07, 13.21' LT (19TH), LIVE TAP EXT'G WATERLINE INSTALL (1) 8" GATE VALVE, CONTRACTOR TO VERIFY PIPE SIZE AND LOCATION. NOTIFY ENGINEER OF ANY DISCREPANCY PRIOR TO LIVE TAP.
17. CONSTRUCT SIDEWALK PER CITY OF WEST LINN STANDARDS, MEET AND MATCH EXT'G
18. CONSTRUCT COMMERCIAL DRIVEWAY APPROACH PER CITY OF WEST LINN STANDARDS.
19. CONNECT TO EXISTING CATCH BASIN.
20. RELOCATE EXISTING WATER METER AS NECESSARY, CONTRACTOR TO CO-ORDINATE WITH CITY STAFF FOR RELOCATION AND TO MAINTAIN UNINTERRUPTED SERVICE.
21. CONSTRUCT 1'x1' ODOT CLASS 50 SPLASH PAD.
22. INSTALL PERVIOUS PAVERS.

CENTERLINE CURVE DATA

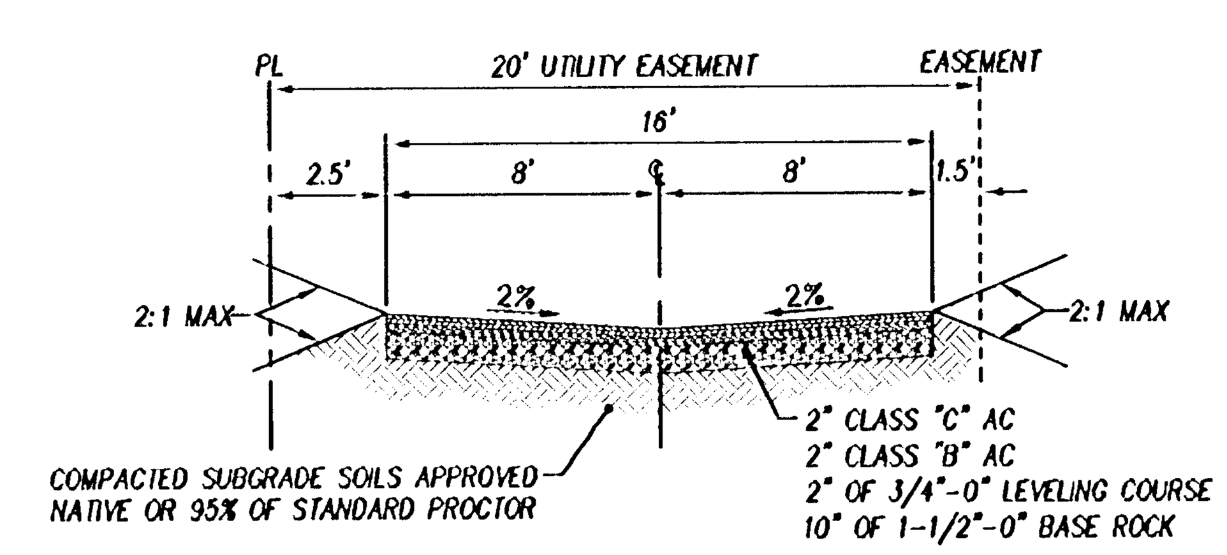
1	2
Δ = 5°57'36"	Δ = 5°57'36"
R = 185.00	R = 185.00
T = 9.63	T = 9.63
L = 19.24	L = 19.24



POND ACCESS - TYPICAL SECTION
N.T.S.



PRIVATE DRIVE - STA. 13+32.95 TO STA. 14+15.73
N.T.S.



PRIVATE DRIVE - STA. 10+00.00 TO STA. 13+32.95
N.T.S.

VERTICAL BEND RESTRAINT TABLE

PIPE SIZE	BEND	UPPER RESTRAINT LENGTH	LOWER RESTRAINT LENGTH
8"	11.25°	4 L.F.	1 L.F.
8"	22.5°	8 L.F.	2 L.F.
8"	45°	16 L.F.	5 L.F.
–	–	–	–
–	–	–	–
–	–	–	–

PIPE MATERIAL – DUCTILE IRON
SOIL TYPE BACKFILL – WELL GRADED GRAVELS
FACTOR OF SAFETY – 1.5:1
TRENCH TYPE – COMPACTED GRANULAR MATERIAL 90% T-99
TEST PRESSURE – 150 PSI
DEPTH OF BURY ON UPPER RUN IS 3'
DEPTH OF BURY ON LOWER RUN IS 5'

HORIZONTAL BEND RESTRAINT TABLE

PIPE SIZE	BEND	RESTRAINT LENGTH
8"	11.25°	2 L.F.
8"	22.5°	4 L.F.
8"	45°	7 L.F.
8"	90°	16 L.F.
8"	REDUCER 8"x6"	16 L.F.
8"	DEAD END	37 L.F.

PIPE MATERIAL – DUCTILE IRON
SOIL TYPE BACKFILL – WELL GRADED GRAVELS
FACTOR OF SAFETY – 1.5:1
TRENCH TYPE – COMPACTED GRANULAR MATERIAL 90% T-99
TEST PRESSURE – 150 PSI
DEPTH OF BURY ON PIPE IS 3'

STREET AND UTILITY LEGEND

EXISTING SIDEWALK	PROPOSED STORM LINE & MANHOLE (SD)
PROPOSED SIDEWALK	PROPOSED SANITARY LINE & MANHOLE (SS)
PROPOSED CURB	PROPOSED WATERLINE & VALVE (WTR)
SAWCUT LINE	
EXISTING PAVEMENT	
PROPOSED PAVEMENT	

AS-BUILT
DATE JDF 3-8-07

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REGISTERED PROFESSIONAL ENGINEER 54627PE OREGON MAR. 12, 2002 BRENT E. FITCH
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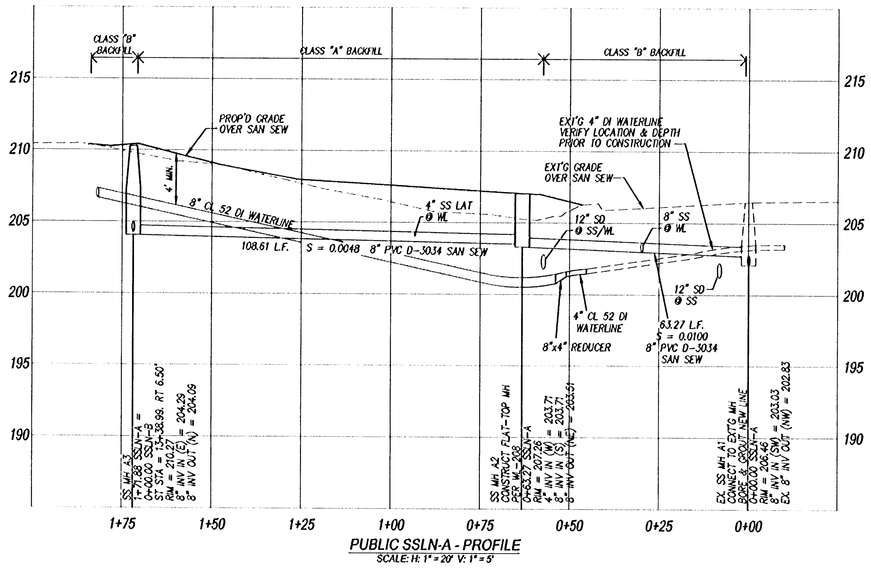
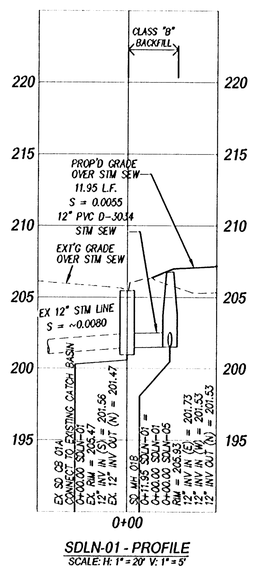
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF.
SCALE 1"=20' N/A

SHEET 5 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING



PUBLIC SSLN-A - PROFILE
SCALE: H: 1" = 20' V: 1" = 5'



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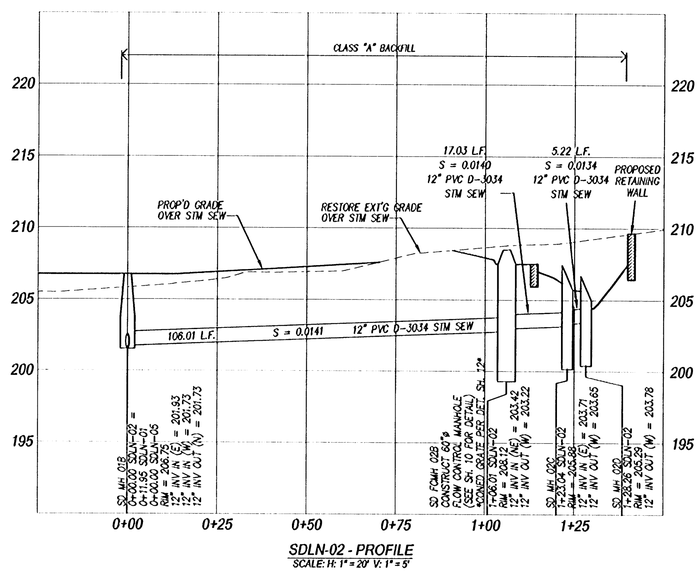

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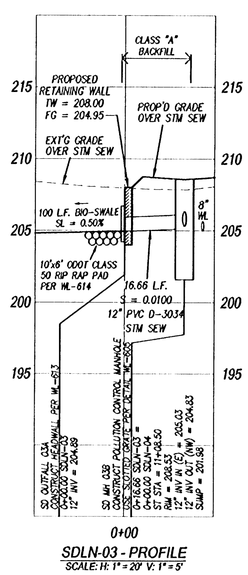

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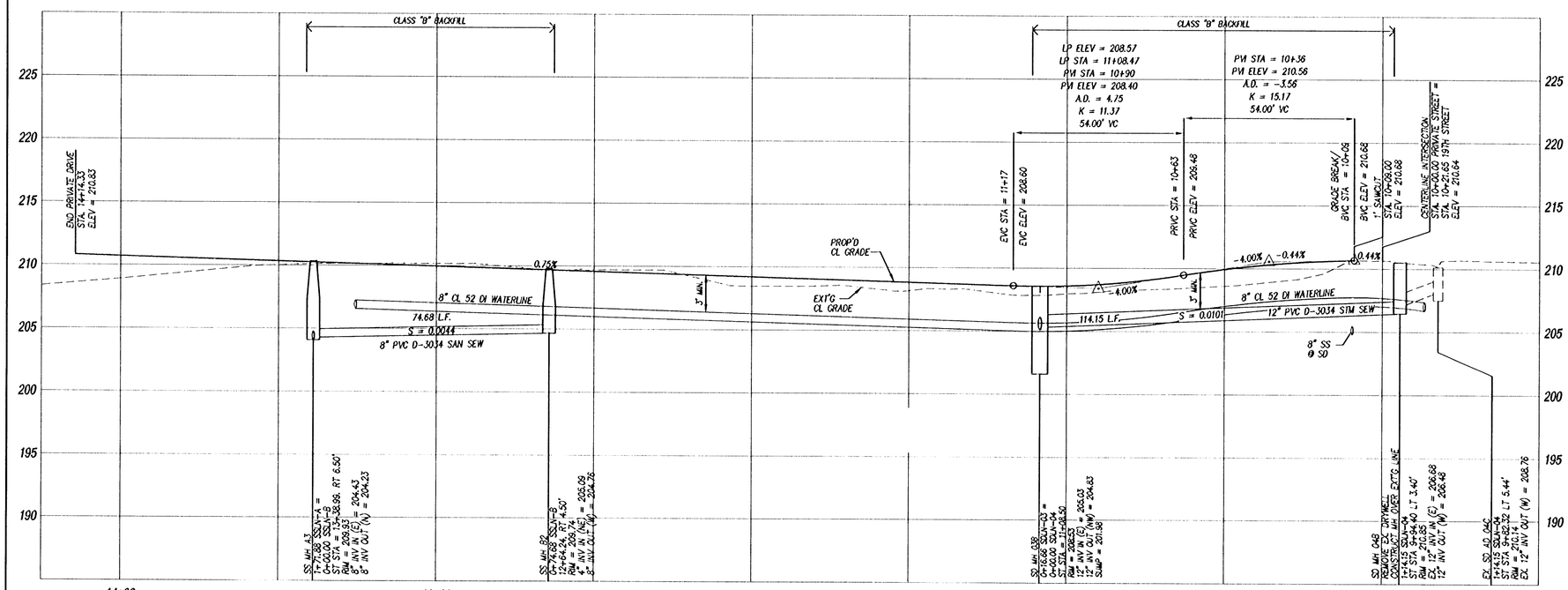
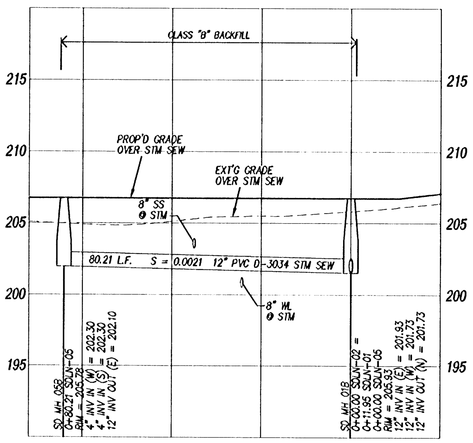


PRIVATE DRIVE, PUBLIC SDLN-04, SSLN-B & WATERLINE - PROFILE
SCALE: H: 1" = 20' V: 1" = 5'

AS-BUILT
DATE JDF 3-8-07



SDLN-05 - PROFILE
SCALE: H: 1" = 20' V: 1" = 5'

STREET AND UTILITY PROFILES
19th STREET SUBDIVISION
WEST LINN, OREGON

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REGISTERED PROFESSIONAL ENGINEER
OREGON JULY 25, 2003 BRENT E. FOLTZ
RENEWAL: 12-31-07
VALID THROUGH

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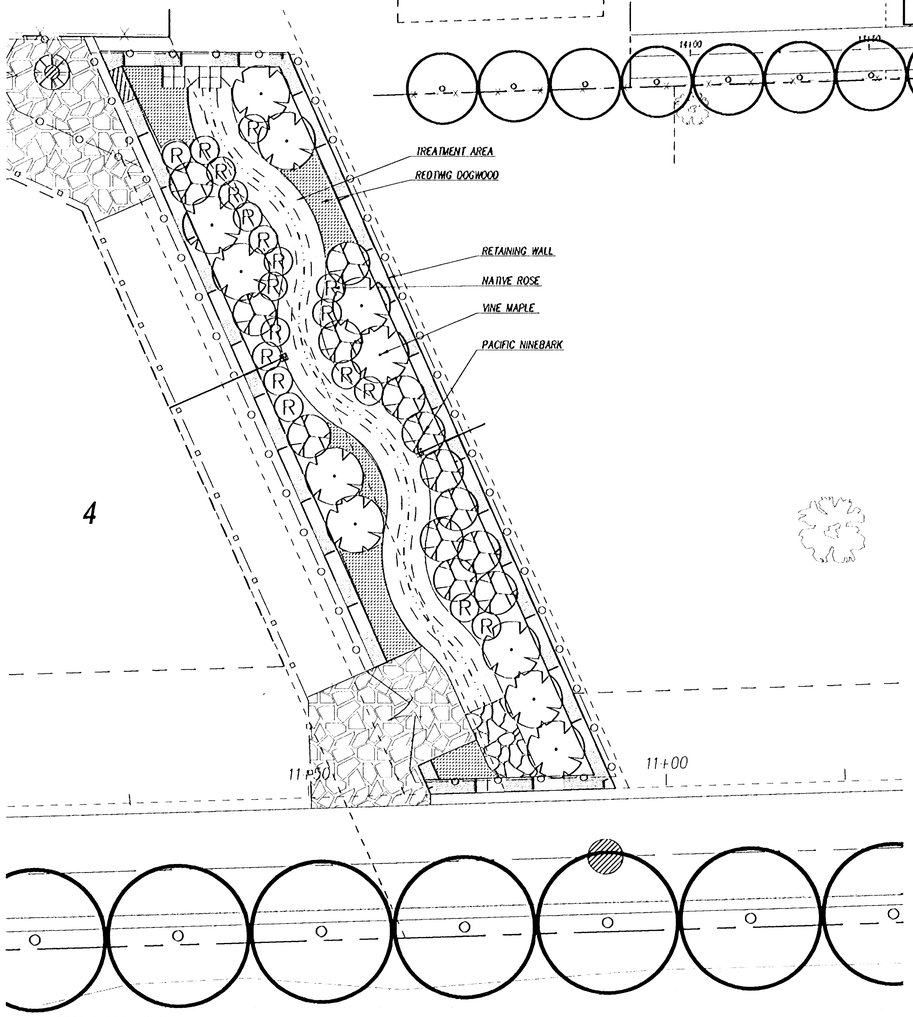
PROJECT NO. 105-025 REF. ____
SCALE 1"= 20' 1"= 5'
N/A

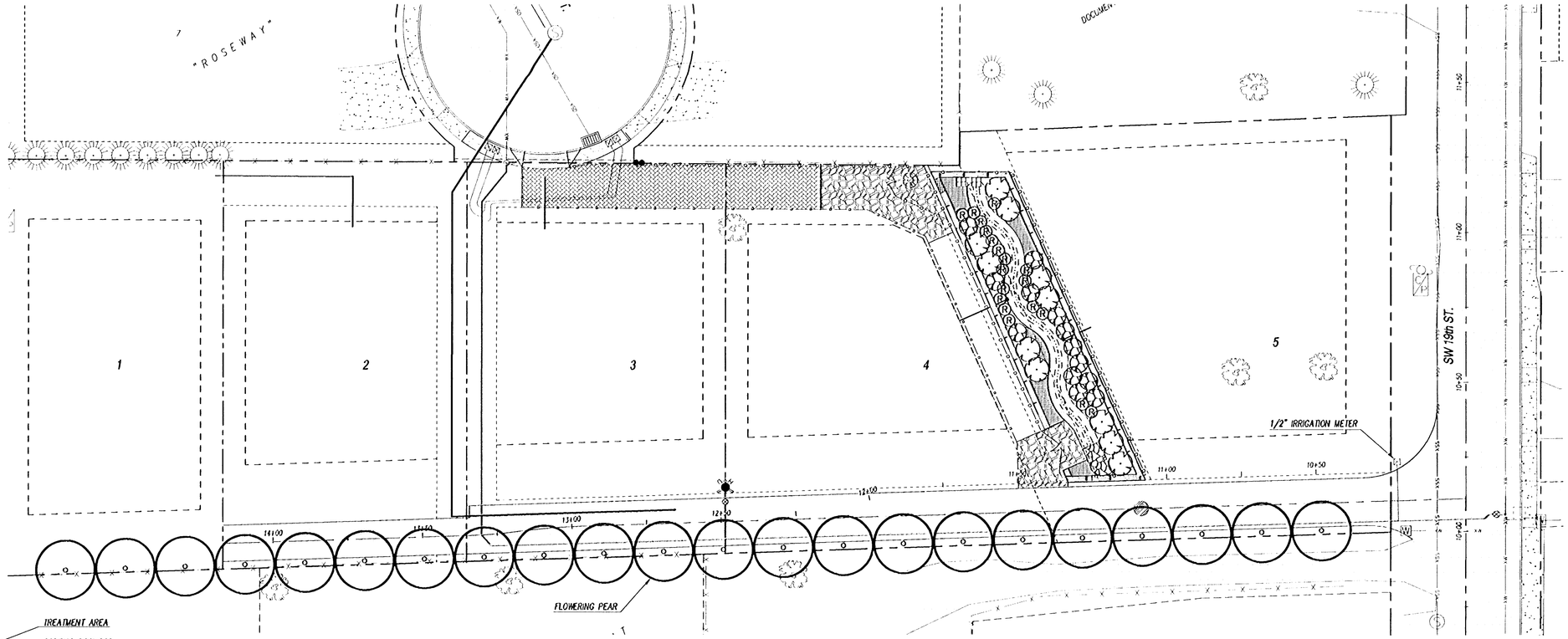
SHEET 6 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING



DETAIL LANDSCAPE PLAN

SCALE: 1"=10'



NOTE:
CONTRACTOR IS RESPONSIBLE FOR PLANT QUANTITIES. IF THERE IS A DISCREPANCY BETWEEN WHAT IS SHOWN AND THE QUANTITY LISTED, DESIGN INTENT PREVAILS.

PLANTING SHOULD BE DONE IN NATURAL-LOOKING CLUSTERS. PLANT ALL CLUSTERS IN UNEVEN NUMBERS (GROUP OF 3, 5, 7, ETC.)

GRADING, SOIL PREPARATION, AND SEEDING SHALL BE PERFORMED DURING OPTIMAL WEATHER CONDITIONS AND AT LOW FLOW LEVELS TO MINIMIZE SEDIMENT IMPACTS.

TEMPORARY IRRIGATION IS REQUIRED FOR A TWO YEAR PLANT ESTABLISHMENT PERIOD. WATERING SHOULD BE PROVIDED AT A RATE OF AT LEAST ONE INCH PER WEEK BETWEEN JUNE 15 AND OCTOBER 15.

IRRIGATION NEEDS ARE TO BE MET USING A TEMPORARY IRRIGATION SYSTEM WITH A TIMER DURING THE DRY SEASON. SYSTEMS SHOULD BE WINTERIZED DURING THE WET SEASON TO ASSURE LONGEVITY AND GUARD AGAINST DAMAGE FROM FREEZING TEMPERATURES. WATER SOURCE SHALL BE AS SHOWN ON THE APPROVED PLANS.

MULCHING: ALL UPLAND PLANTS SHALL HAVE A MINIMUM OF THREE INCHES OF MULCH 18 INCHES IN DIAMETER FROM THE BASE. MULCH SHALL BE COMPOSED OF COMPOSTED BARK OR LEAVES THAT ARE NOT CHEMICALLY TREATED. MULCH SHOULD NOT BE USED IN FREQUENTLY INUNDATED AREAS.

TOPSOIL: WITHIN THE SWALE PLANTING AREA REPLACE SOIL ONE FOOT DEEP WITH NEW TOPSOIL, OR LANDSCAPERS RECOMMENDATION.

WEED CONTROL: INVASIVE SPECIES CONTROL SHALL BE DONE TWICE PER YEAR; BY JUNE 1st AND BY SEPTEMBER 30th BASED UPON THE SITE INSPECTION. THE RESPONSIBLE PARTY CONTACT FOR INSPECTIONS IS JEFF ROBERTS, 503/ 349-5279

SEEDING: SEEDING SHALL COVER THE ENTIRE SITE, EXCEPT TREATMENT AREA, AS PER CLEAN WATER SERVICES. PLANT MATERIALS SHALL BE PLACED IN ACCORDANCE WITH THE PLAN AND PLANT TABLE.

SWALE BOTTOM: PLEASE FOLLOW CWS STANDARDS FOR MATTING AND RIVER ROCK

THE WATER QUALITY SWALE TREATMENT AREA PLANTING CAN BE DEEMED "SUBSTANTIALLY COMPLETE" ONCE ACTIVE GREEN GROWTH HAS OCCURED TO AN AVERAGE GROWTH OF 3" AND PLANT DENSITY IS AN AVERAGE OF APPROXIMATE 6 PLANTS (MIN. 1 INCH PLUGS OR EQUIVALENT) PER SQUARE FOOT.

THE FACILITY SHALL BE DEEMED ACCEPTABLE TO BEGIN THE MAINTENANCE PERIOD WHEN PLANT GROWTH AND DENSITY MATCHES THE DESIGN SHOWN ON THE APPROVED PLAN AND ALL OTHER REQUIREMENTS HAVE BEEN MET. THE ENGINEER MUST CERTIFY THE FACILITY TO BE FUNCTIONAL, IN ACCORDANCE WITH THE APPROVED PLAN DESIGN TO BEGIN THE TWO-YEAR MAINTENANCE PERIOD.

THE PERMITEE IS RESPONSIBLE FOR THE MAINTENANCE OF THIS FACILITY FOR A MINIMUM OF TWO YEARS FOLLOWING CONSTRUCTION AND ACCEPTANCE OF THIS FACILITY PER REQUIREMENTS.

THE FACILITY SHALL BE RE-EXCAVATED AND PLANTED IF SILTATION GREATER THAN 3" IN DEPTH OCCURS WITHIN THE TWO-YEAR MAINTENANCE PERIOD.

SEEDING: SEEDING TO COVER WATER QUALITY TRACT ABOVE THE TREATMENT AREA USING THE FOLLOWING SEED MIX: HOBBS & HOPKINS COMPANION MIX

AS-BUILT

DATE JDF 3-8-07

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

WATER QUALITY SWALE PLANT LIST

		COMMON TREE NAME SCIENTIFIC NAME	SIZE/COND.	SPACING
	11	VINE MAPLE ACER CIRCINATUM	3'-4' MULTI-STEMMED	4'-5' O.C.
	13	PACIFIC NINEBARK PYSOCARPUS CAPITATUS	1 GAL. CONT.	4'-5' O.C.
R	19	NATIVE ROSE ROSA PISOCARPA OR GYMNOCARPA	1 GAL. CONT.	4'-5' O.C.
	18	REDTWG DOGWOOD CORNUS SERICEA	1 GAL. CONT.	4' O.C.
	607 SF	WATER QUALITY PLUGS (1" x 6" MIN.) = 3,642 PLUGS 40% -SLOUGH SEDGE-CAREX OBNUPTA 35% -SPREADING RUSH-JUNCUS PATENS 25% -SMALL-FRUITED BULRUSH-SCIRPUS MICROCARPUS		
ABOVE TREATMENT AREA	1,569 SF	UPLAND SEED MIX = HOBBS AND HOPKINS COMPANION MIX		
⊠		1/2" IRRIGATION METER		

STREET TREE LIST

		COMMON TREE NAME SCIENTIFIC NAME	SIZE/COND.	SPACING
o	22	PYRUS CALLERYANA 'CHANTICLEER' FLOWERING COLUMNAR PEAR	1 1/2" CAL./B&B	20' O.C.

NOTE: THE 32 TREE QUOTA FOR THIS SITE IS THE SUM OF THE 22 TREES TO THE SOUTH OF THE SITE THAT COMPRISE THE NOISE MITIGATION AND BUFFER, AND THE 10 TREES THAT WILL BE PLANTED BY THE DEVELOPER AFTER HOME CONSTRUCTION. THE HOMES WILL BE PROVIDED WITH 2 TREES PER LOT.

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LANDSCAPE PLAN
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
OREGON
JULY 12, 2005
BRENT E. FITH
VALID THROUGH 12-31-07

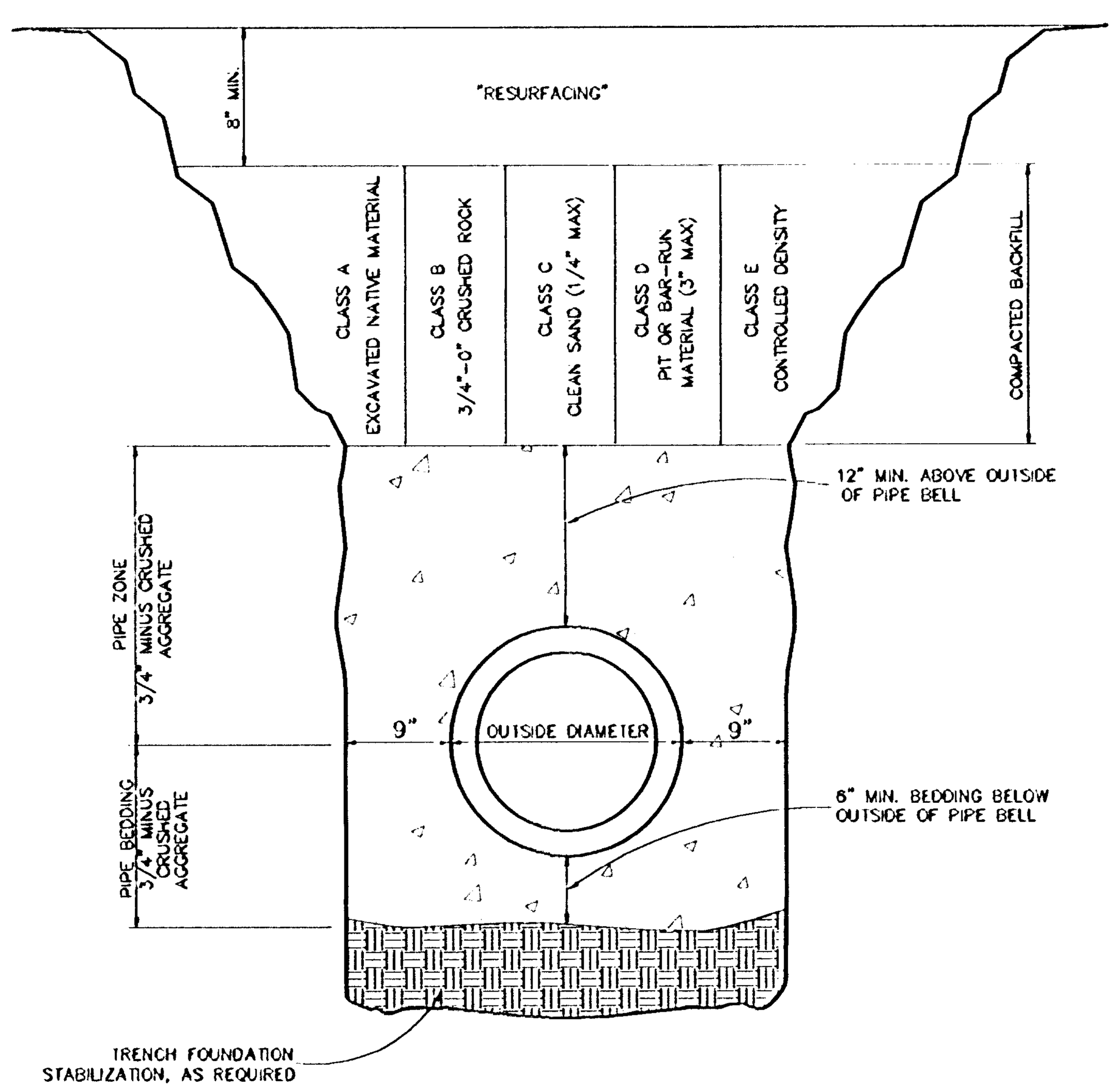
NO.	DATE	REVISION	BY
0	10/23/06	INITIAL SUBMITTAL	
1	12/12/06	REVISED PER CITY COMMENTS	JDF
2	12/22/06	REVISED PER CITY COMMENTS	JDF
1	3-8-07	As-Built	JDF
1	4-17-07	As-Built	JDF

DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO 105-025 REF. ——
SCALE 1"=20' N/A

SHEET 7 OF 11

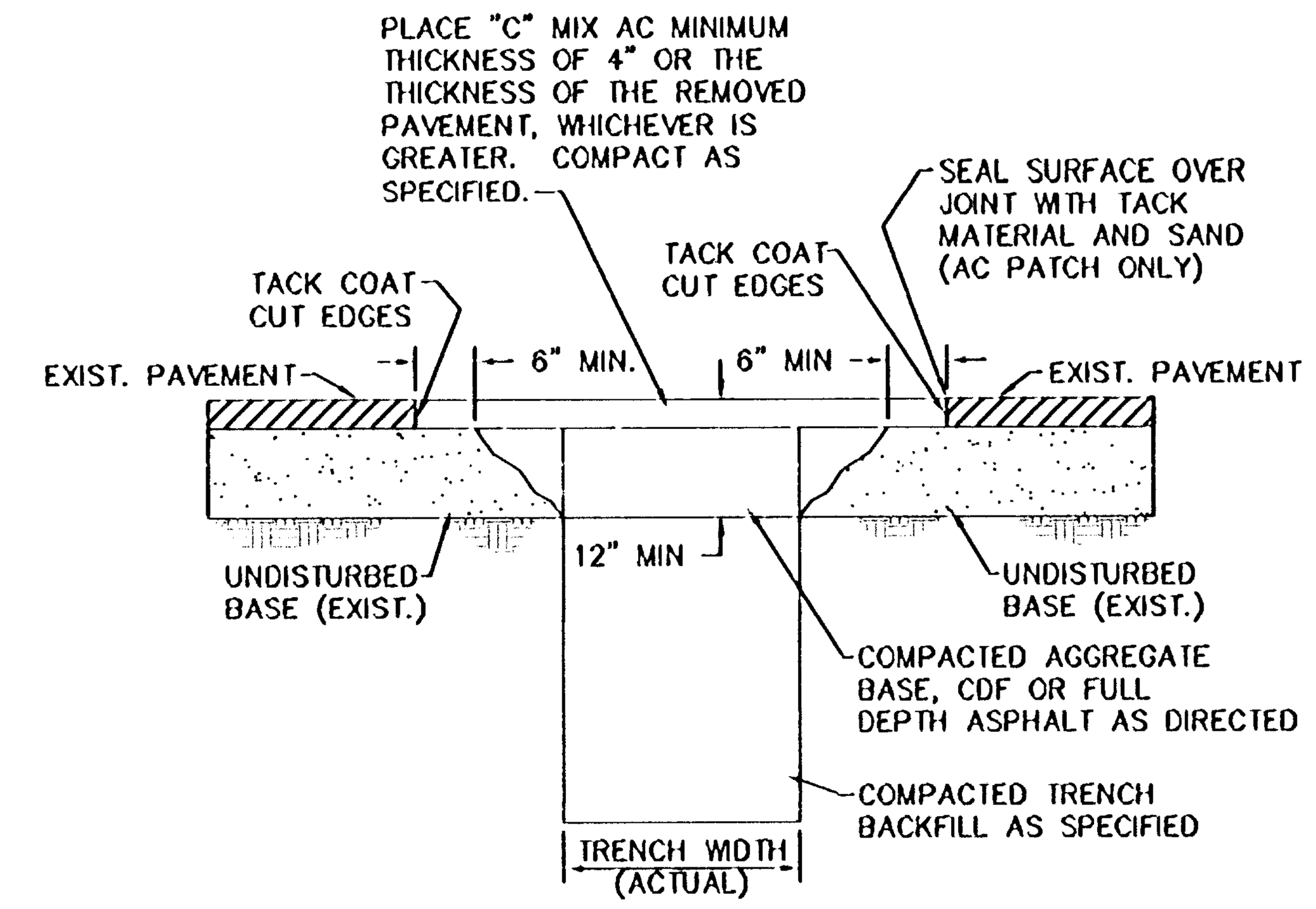
PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

jfoex, Plotted: May 02, 2007 - 10:31am, G:\Land Projects 2004\105-025\dwg\As-Built\10525_07land.dwg



Trench Backfill, Bedding and Pipe Zone

DATE: JAN 2000
DRAWING NO. WL-200
FILE NO. 00-200



NOTES:

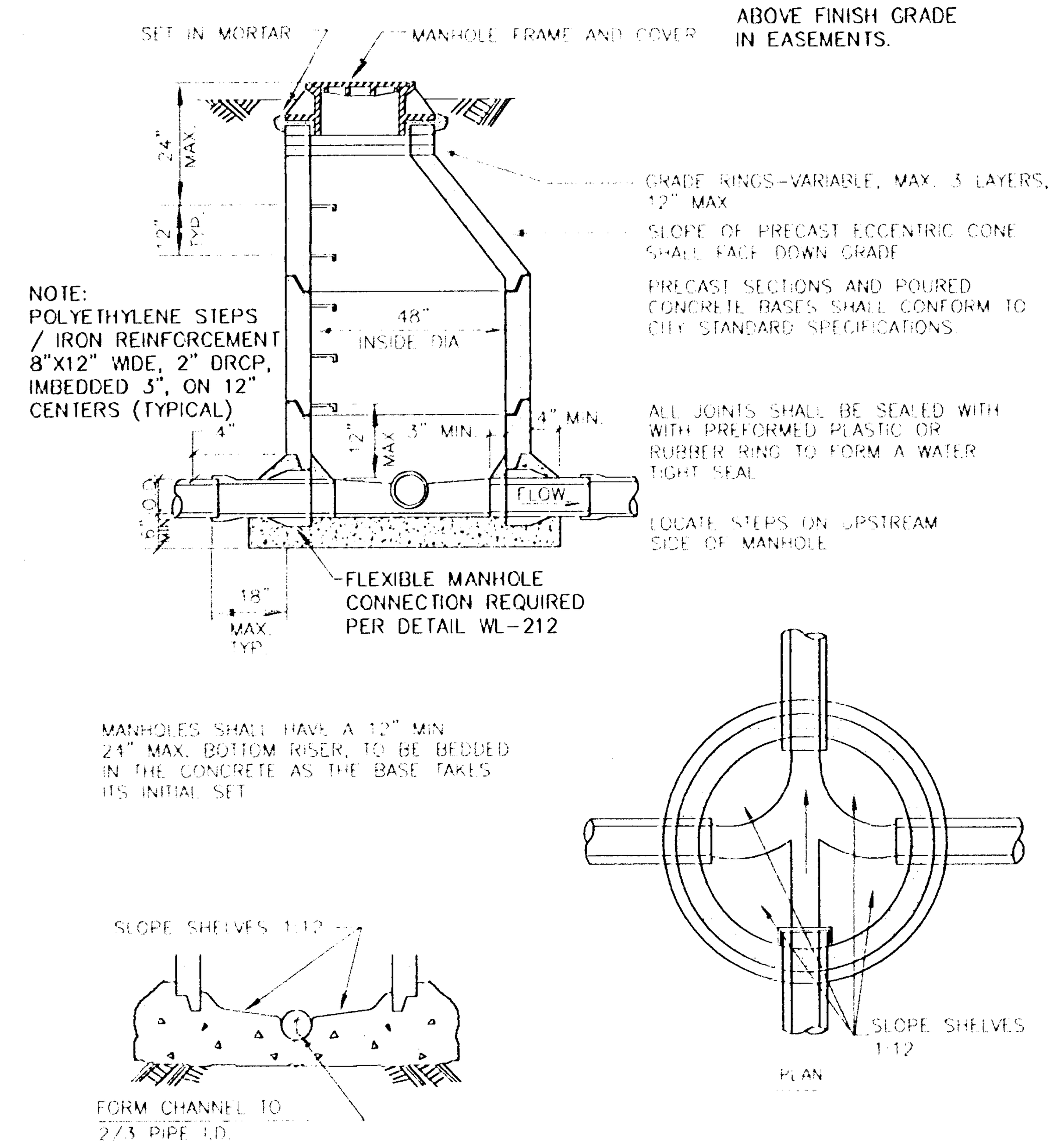
1. ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT TO NEAT, STRAIGHT LINES PRIOR TO REPAVING.
2. CONCRETE PAVEMENT SHALL BE REPLACED WITH CONCRETE TO A MINIMUM THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER.
3. IF EXISTING BASE MATERIAL IS CTB OR ATB, THEN REPLACEMENT BASE MATERIAL SHALL MATCH EXISTING.
4. ALL UTILITIES SHALL HAVE A MINIMUM COVER OF 36"
5. ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-180 OR AS SPECIFIED IN THE CONTRACT DOCUMENTS.
6. ALL TRENCH BACKFILL AND PATCHING SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF WEST LINN.
7. BACKFILL SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 6" LIFTS.

Street T-Cut

DATE: JAN 2000
DRAWING NO. WL-203
FILE NO. 00-203

NOTE:
MANHOLE LID TO BE 1' ABOVE FINISH GRADE IN EASEMENTS.

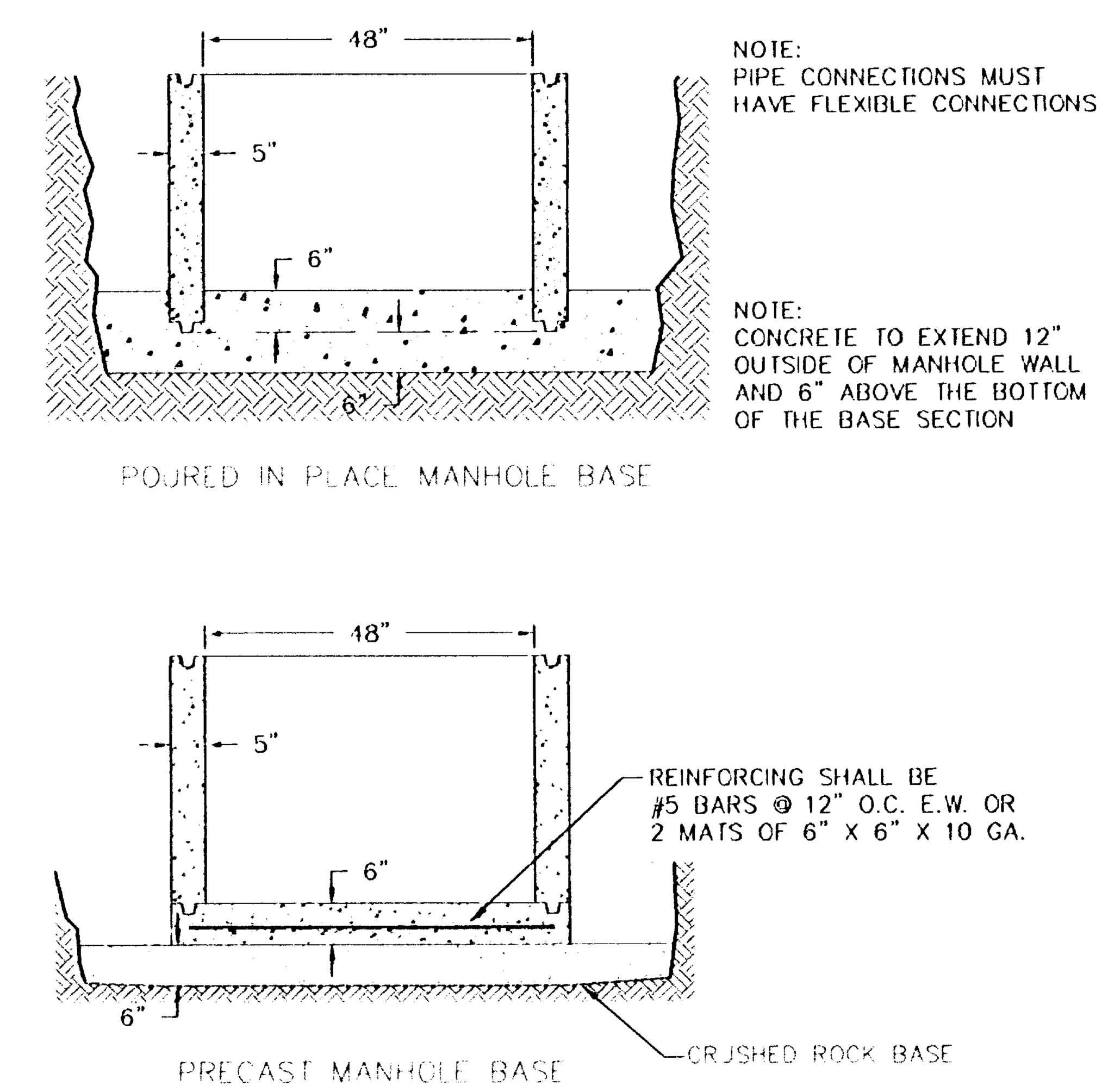
NOTE:
POLYETHYLENE STEPS / IRON REINFORCEMENT 8"X12" WIDE, 2" DRCP, IMBEDDED 3", ON 12" CENTERS (TYPICAL)



NOTE:
CHANNELS MUST BE ABLE TO PASS A 7"X30" CYLINDER INTO PIPES. SHELF SHALL NOT BE BELOW THE TOP OF THE PIPE.

Standard Manhole for Less than 36" Pipe

DATE: JAN 2000
DRAWING NO. WL-207
FILE NO. 00-207



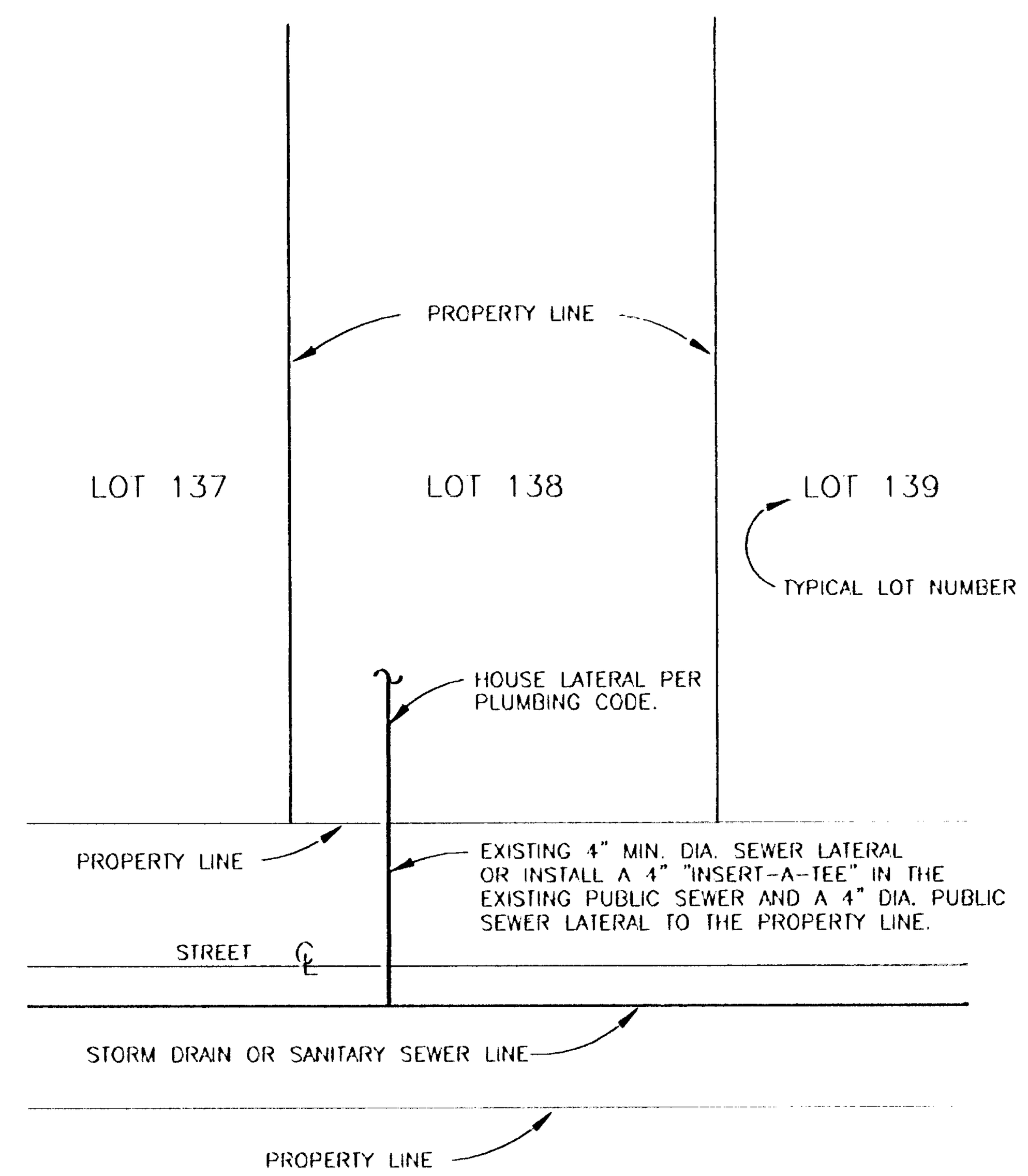
NOTE:
PIPE CONNECTIONS MUST HAVE FLEXIBLE CONNECTIONS

NOTE:
CONCRETE TO EXTEND 12" OUTSIDE OF MANHOLE WALL AND 6" ABOVE THE BOTTOM OF THE BASE SECTION

NOTE:
USE 3300 PSI CONCRETE FOR EITHER MANHOLE BASE.

Manhole Base

DATE: JAN 2000
DRAWING NO. WL-211
FILE NO. 00-211



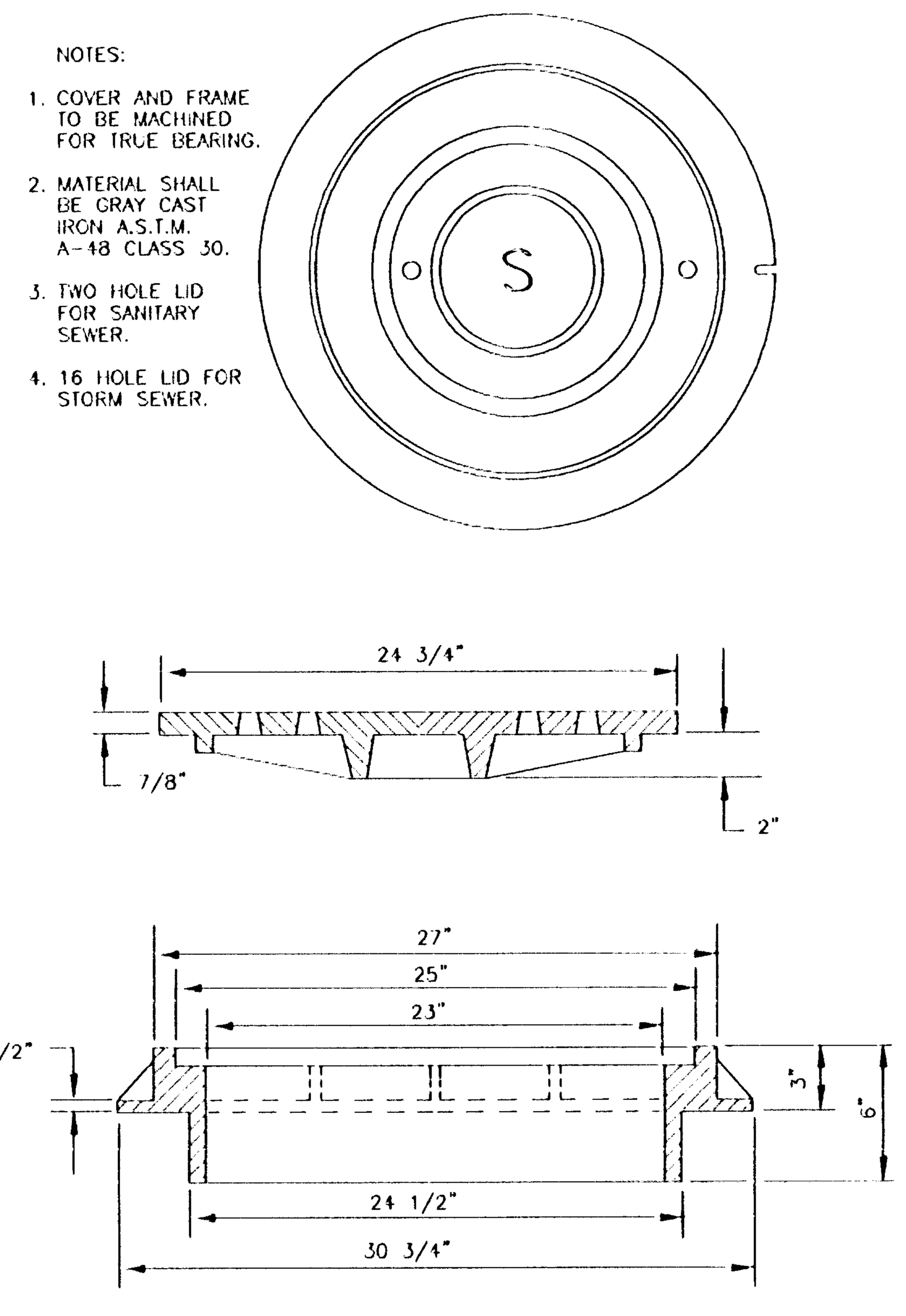
TYPICAL CONNECTION FOR SINGLE FAMILY RESIDENCE.

Sewer Connection Single Family

DATE: JAN 2000
DRAWING NO. WL-216
FILE NO. 00-216

NOTES:

1. COVER AND FRAME TO BE MACHINED FOR TRUE BEARING.
2. MATERIAL SHALL BE GRAY CAST IRON A.S.T.M. A-48 CLASS 30.
3. TWO HOLE LID FOR SANITARY SEWER.
4. 16 HOLE LID FOR STORM SEWER.

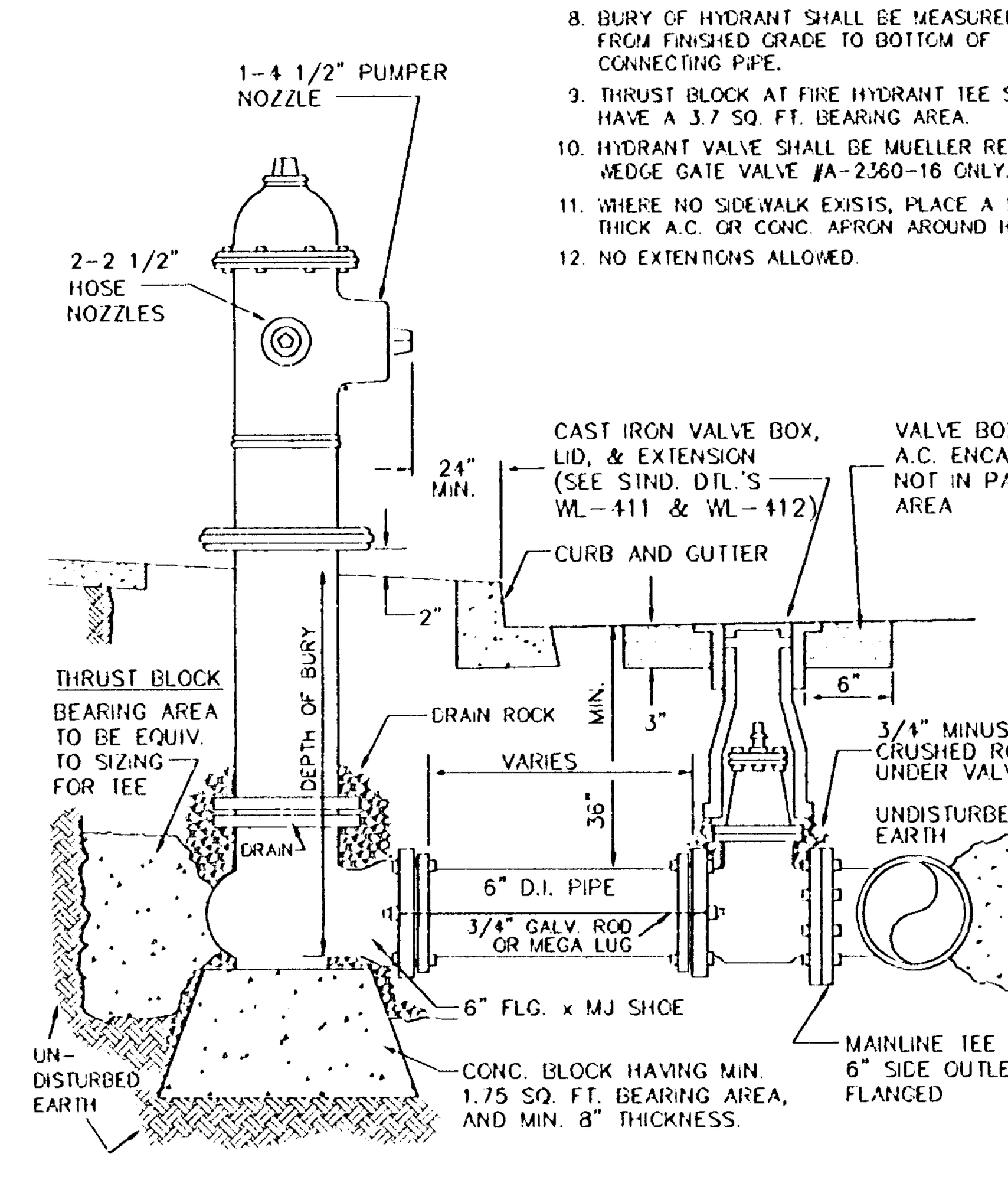


Suburban Manhole Frame and Cover 3" Depth

DATE: JAN 2000
DRAWING NO. WL-300
FILE NO. 00-300

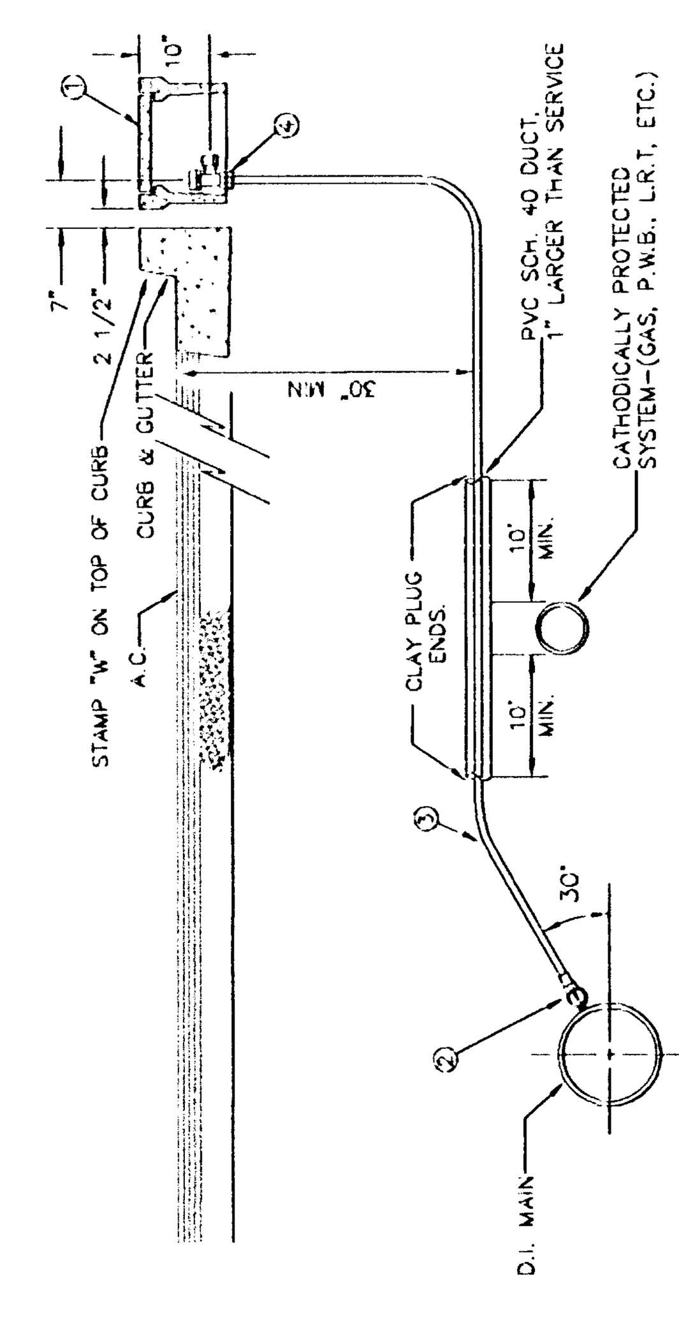
NOTES:

1. HYDRANTS TO BE MUELLER CENTURION MDL A-423 ONLY WITH 1 1/2" OPER. NUTS OR CLOW MEDDALION F-2545.
2. HYDRANT COLOR TO BE MILLER EQUIP. ENAMEL O E 40 (SAFETY YELLOW).
3. JOINTS TO BE RESTRAINED BY 3/4" DIA. GALVANIZED STEEL RODS AND THRUST BLOCKS OR MEGA LUGS AND THRUST BLOCKS.
4. ALL FITTINGS IN CONTACT W/CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
5. MIN. 4 CU. FT. OF 1 1/2"-3/4" CLEAN DRAIN ROCK SHALL BE PLACED AROUND SHOE UP TO A MIN. OF 6" ABOVE DRAIN OUTLETS.
6. WHERE PLANTER STRIP EXISTS, HYDRANT SHALL BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
7. WHERE INTEGRAL S/W & CURB EXISTS, HYD. SHALL BE PLACED AT BACK OF SIDEWALK, OR AS DIRECTED BY ENGINEER.
8. BURY OF HYDRANT SHALL BE MEASURED FROM FINISHED GRADE TO BOTTOM OF CONNECTING PIPE.
9. THRUST BLOCK AT FIRE HYDRANT TEE SHALL HAVE A 3.7 SQ. FT. BEARING AREA.
10. HYDRANT VALVE SHALL BE MUELLER RESILIENT WEDGE GATE VALVE #A-2360-16 ONLY.
11. WHERE NO SIDEWALK EXISTS, PLACE A 5'x 5'x 4" THICK A.C. OR CONC. APRON AROUND HYDRANT.
12. NO EXTENTIONS ALLOWED.



Standard Fire Hydrant Assembly

DATE: JAN 2000
DRAWING NO. WL-401
FILE NO. 00-401



MATERIALS:

1. BROOKS METER BOX, BODY NO. 37, LID AND COVER NO. 37-S.
2. MUELLER CORP. STOP NO. H-15008 OR FORD F1000-4Q SET CORP. STOP WITH OPERATING NUT AT 3 OR 9 O'CLOCK.
3. 1" SOFT TEMPER, TYPE 'K' COPPER TUBING COMPLYING WITH ASTM B-88.
4. MUELLER ANGLE METER STOP NO. H-14258 (FORD NO. KV43-444W-Q).

NOTES:

1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" MINUS CRUSHED AGG. AND COMPACTED TO 95% MAX DENSITY AS DETERMINED BY AASHTO T-180.
3. WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCH. 40 PVC SHALL BE INSTALLED AS SHOWN ABOVE WITH CLAY PLUG.
4. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY.
5. FOR VACANT RESIDENTIAL LOTS, LOCATE SINGLE SERVICE 18" INSIDE SIDE LOT LINE.
6. TAPS INTO MAIN TO BE AT 18" CENTERLINE MIN.
7. ANGLE METER STOPS TO BE 18" FROM PROPERTY LINE AND NOT IN DRIVEWAY APPROACH.

Standard 1" Water Service

DATE: JAN 2000
DRAWING NO. WL-402
FILE NO. 00-402

AS-BUILT
DATE JDF 3-8-07

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CONSTRUCTION DETAILS
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER 54627PE OREGON MAR. 12, 2002 BRENT E. FITCH
VALID THROUGH 12-31-07

NO.	DATE	REVISION	BY
0	10/23/06	INITIAL SUBMITTAL	
1	12/12/06	REVISED PER CITY COMMENTS	
2	12/22/06	REVISED PER CITY COMMENTS	
1	3-8-07	As-Built	JDF
1	4-17-07	As-Built	JDF

DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF.
SCALE N/A N/A

SHEET 8 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

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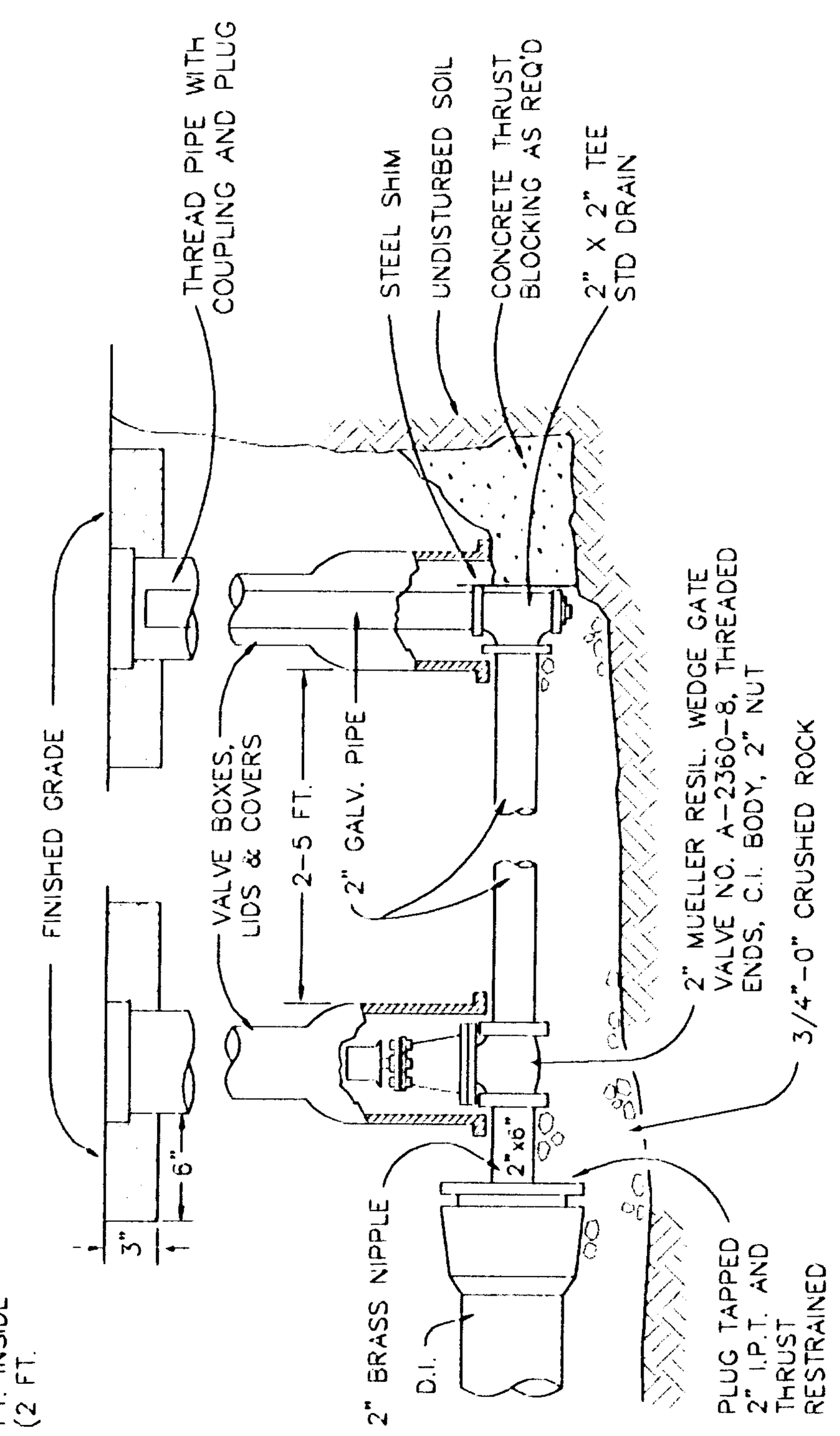
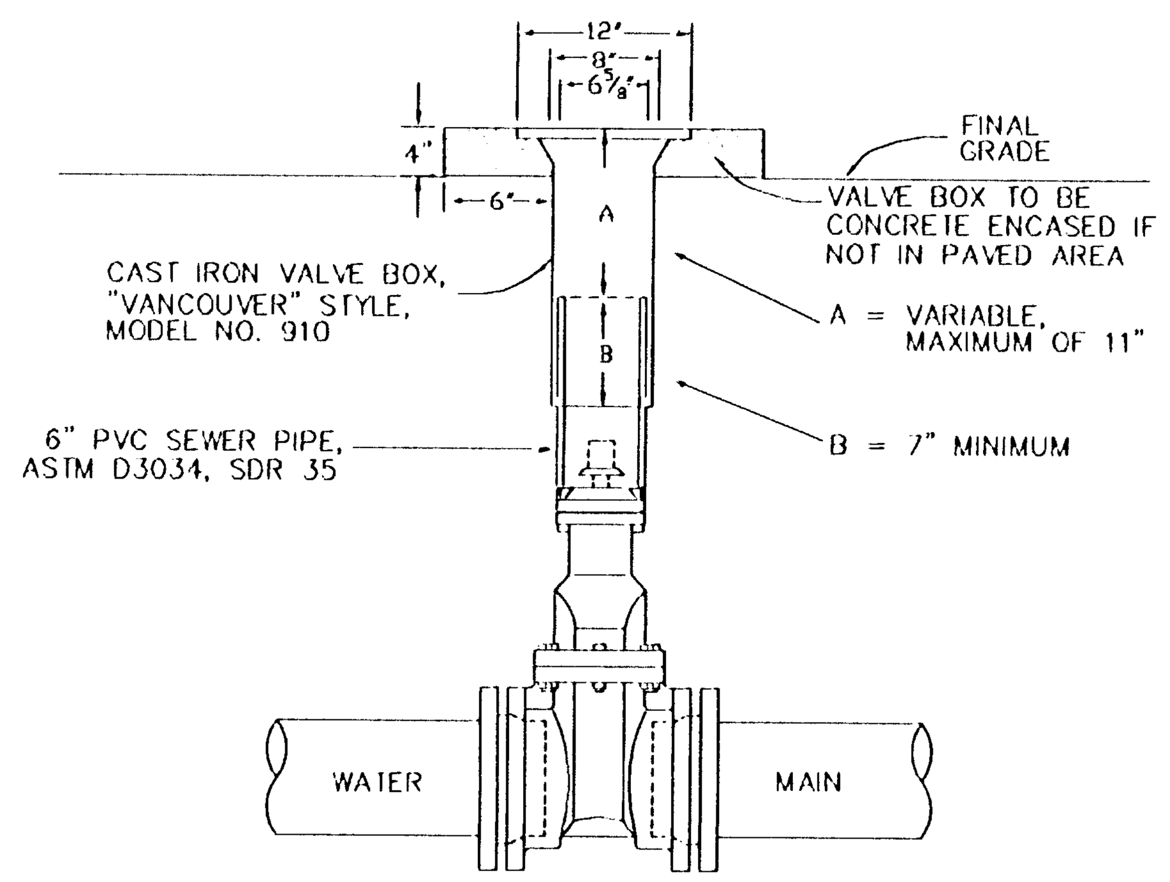


NOTES:

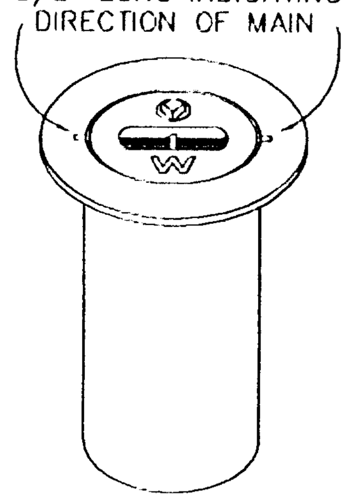
1. VALVE BOX SHALL BE PER STANDARD DETAIL WL-411.
2. VALVE BOX TO BE ASPHALT ENCASED AS SHOWN, IF NOT IN PAVED AREA.
3. BLOW-OFF UNIT SHALL BE BACKFILLED WITH 3/4"-0" CRUSHED ROCK AND COMPACTED TO 95% OF MAX. DENSITY DETERMINED BY AASHTO T-180.
4. PLACE BLOW-OFF STANDPIPE 3 FT. INSIDE R.O.W. LINE AT END OF STREET (2 FT. FROM BARRICADE).

Standard 2" Blow-off Assembly

West Linn
DATE: JAN 2000
DRAWING NO. WL-404A
FILE NO. 00-404A



NOTCH 1/16" DEEP AND 3/8" LONG INDICATING DIRECTION OF MAIN



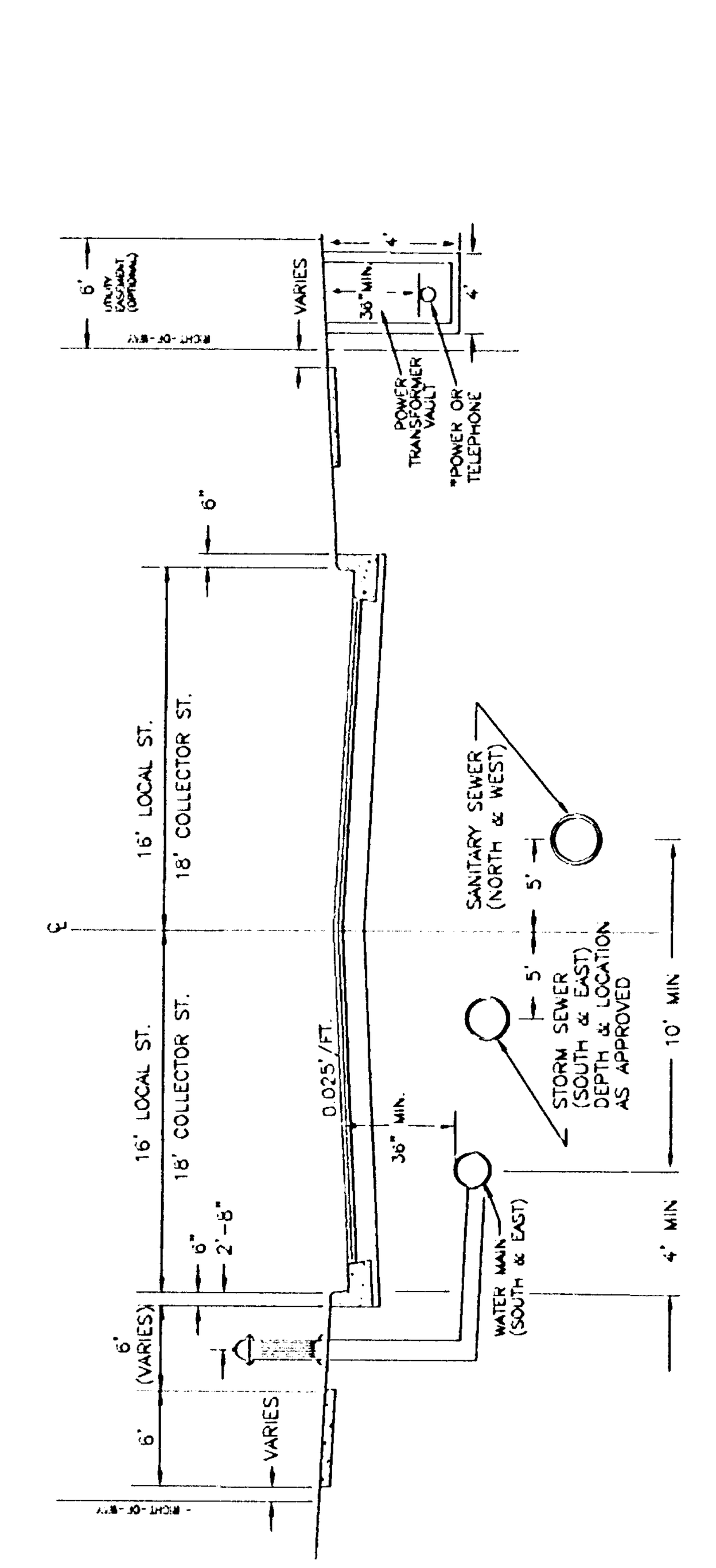
"VANCOUVER"
18" TALL VALVE BOX

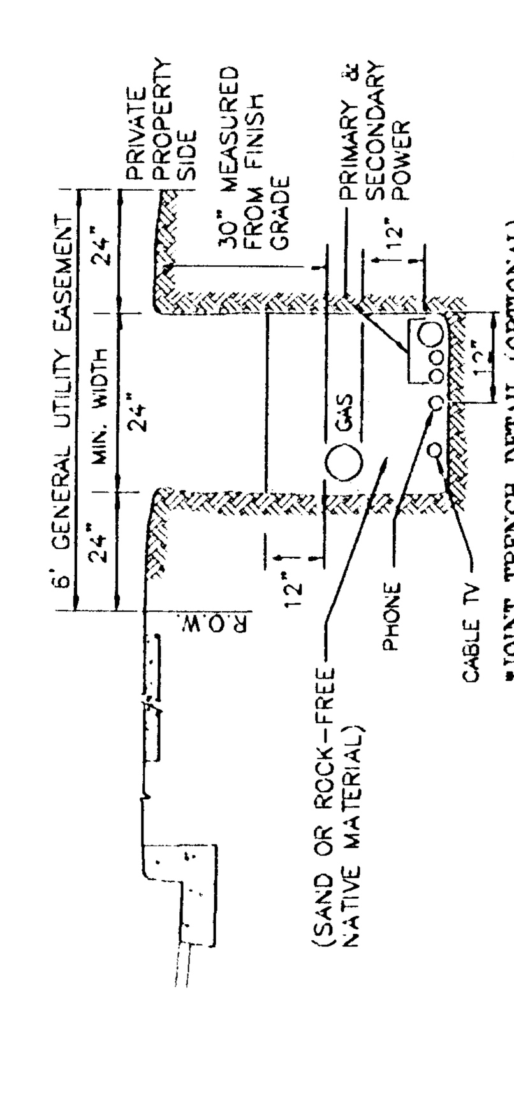
NOTES:

1. VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
2. VALVE BOX TOP SHALL BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC SHALL BE ONE CONTINUOUS PIECE- NO BELLS OR COUPLERS.
4. ON VALVES 8" AND LARGER, PVC SHALL BE NOTCHED OVER VALVE PACKING BOLTS SO PVC SITS ON BONNET.

Standard Valve Box Detail

West Linn
DATE: JAN 2000
DRAWING NO. WL-411
FILE NO. 00-411



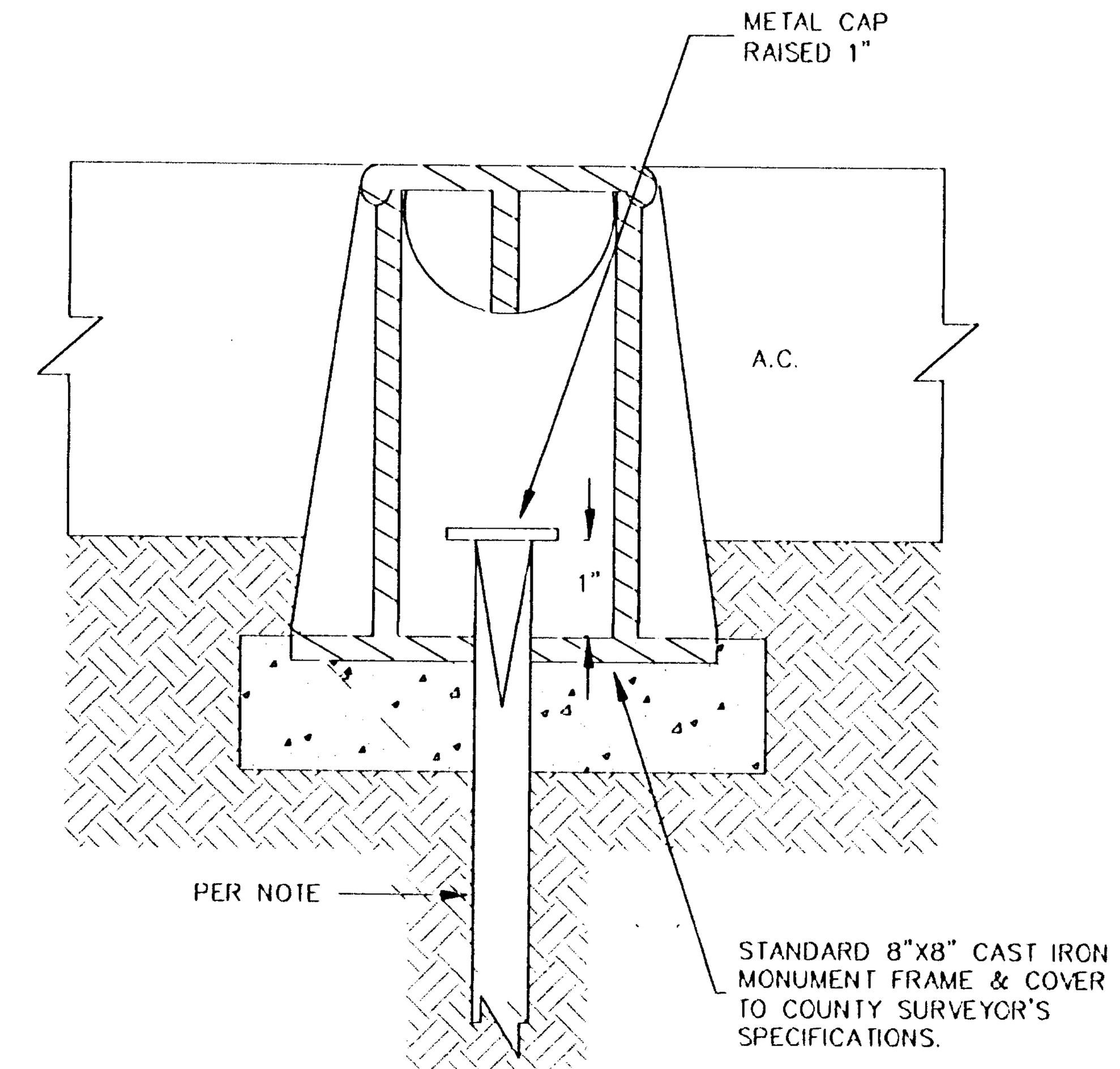


*NOTE: IF SIX FOOT UTILITY EASEMENT IS PRESENT ALONG PROPERTY FRONTAGE PLACEMENT SHALL BE AT BACK OF SIDEWALK WITHIN UTILITY EASEMENT.

1. ON STREETS LESS THAN 18' IN WIDTH REFER TO DETAIL WL-409, FOR WATERLINE SANITARY SEWER LINE SEPARATION.
2. STORM DRAINAGE LINES ON ALL STREETS SHALL BE 5' SOUTH & EAST OF CENTER LINE. WHERE DESIGN CONSTRAINTS WILL NOT ALLOW PLACEMENT OF STORM LINE SURFACE DRAINAGE IS RECOMMENDED.
3. FIRE HYDRANTS ARE TO BE LOCATED OUTSIDE THE R.O.W. IN A 5' BY 5' EASEMENT ON ALLEY, LOCAL LANE, MINOR ACCESS, & QUEUING STREETS.

Typical Utility Placement Detail

West Linn
DATE: JAN 2000
DRAWING NO. WL-500
FILE NO. 00-500



NOTES: ALL MONUMENTS SHALL USE EITHER 5/8" DIA.X 30" LONG IRON ROD OR 3/4" DIA.X 30" LONG IRON PIPE.

ALL MONUMENTS SHALL BE IN ACCORDANCE WITH ORS 209.250(4).

CONCRETE SHALL BE CLASS 3300.

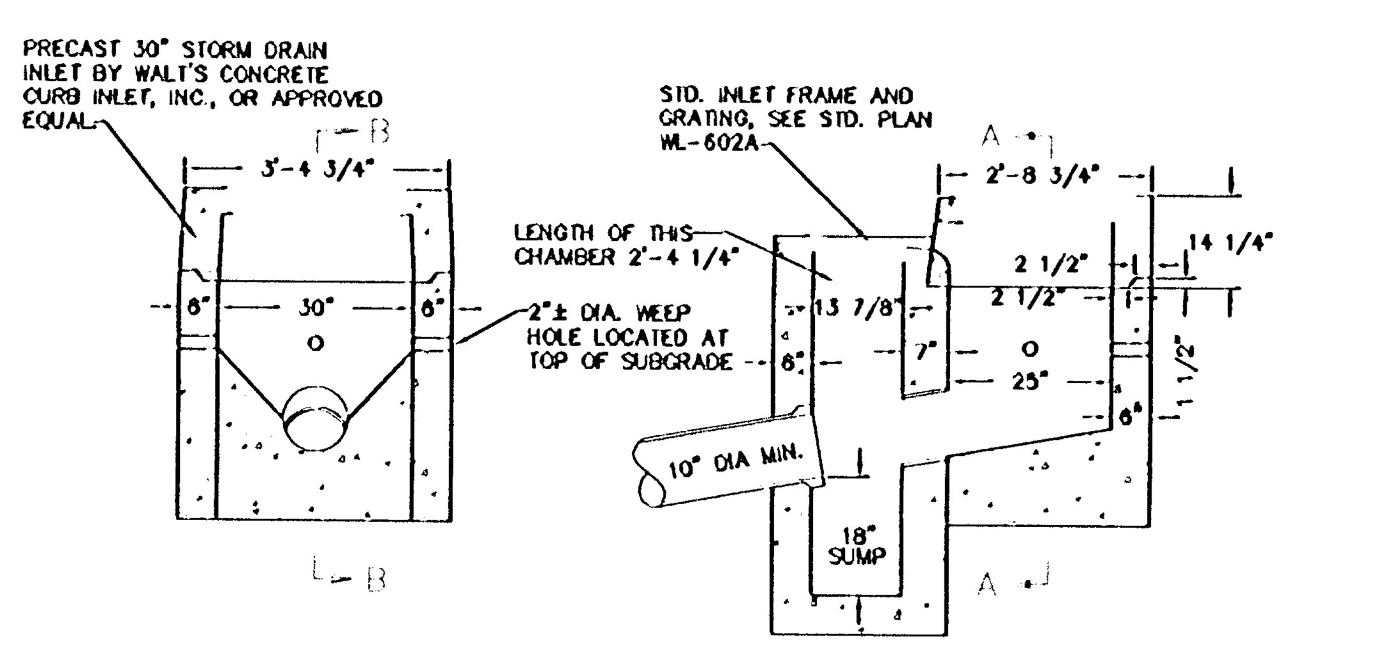
FRAME AND COVER SHALL BE CAST IRON OR ALUMINUM.

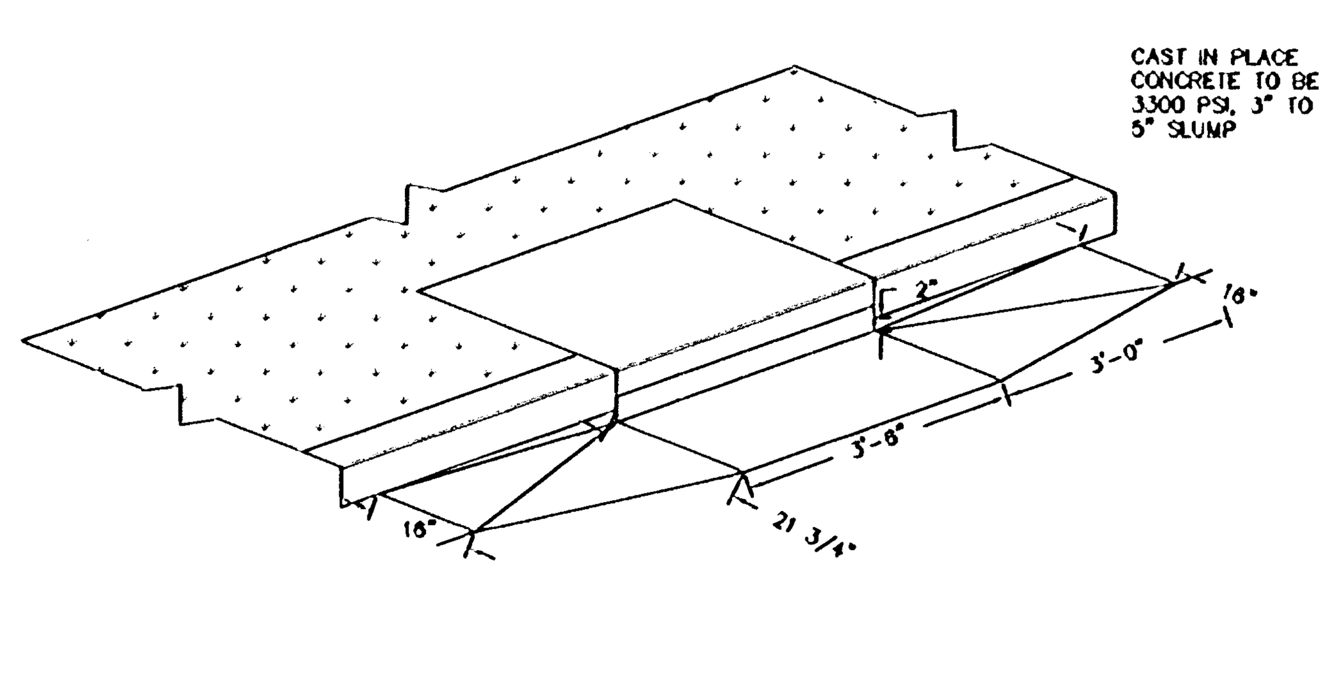
COVER SHALL HAVE "MONUMENT" CAST INTO TOP.

Centerline Survey Monuments

West Linn
DATE: JAN 2000
DRAWING NO. WL-513
FILE NO. 00-513

MANHOLE RIMS AND COVERS AS MANUFACTURED BY HERN IRON WORKS, COEUR D' ALENE, IDAHO. COVER PATTERN NO. 2312, RIM PATTERN NO. 2311 OR APPROVED EQUAL.

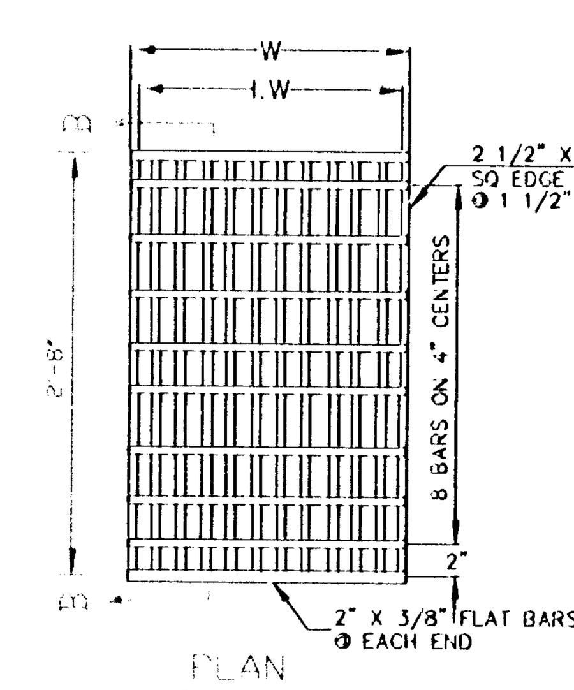




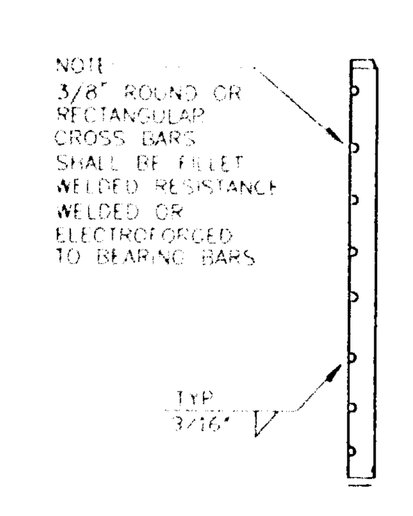
AS-BUILT
DATE JDF 3-8-07

Combination Curb Inlet

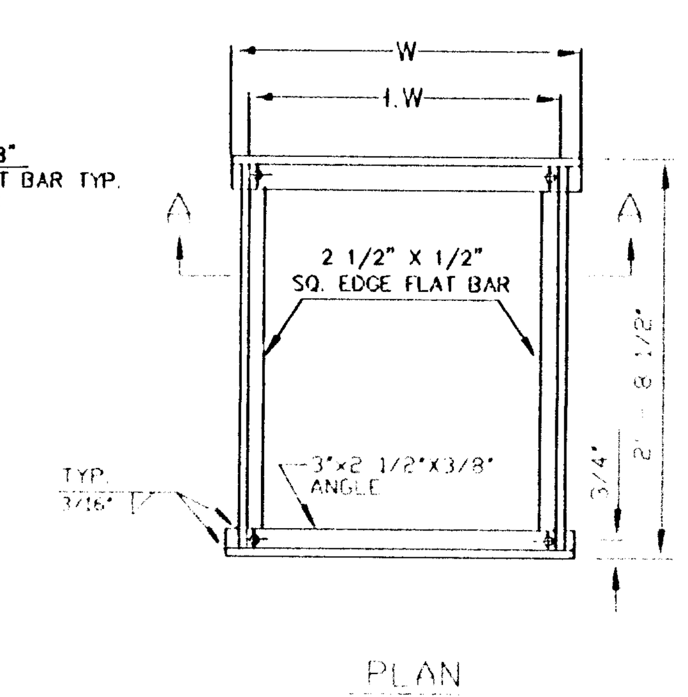
West Linn
DATE: JAN 2000
DRAWING NO. WL-601
FILE NO. 00-601



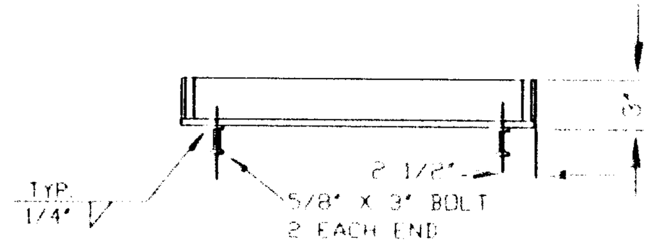
TYPE	W	I.W
STANDARD	1'-9"	1'-8 1/4"



NOTE:
USE VERTICAL BEADS IN CORNERS. FILLET WELD JOINT ON BOTOM OF FRAME. GRATE MUST REST FLAT ON FRAME SURFACE.

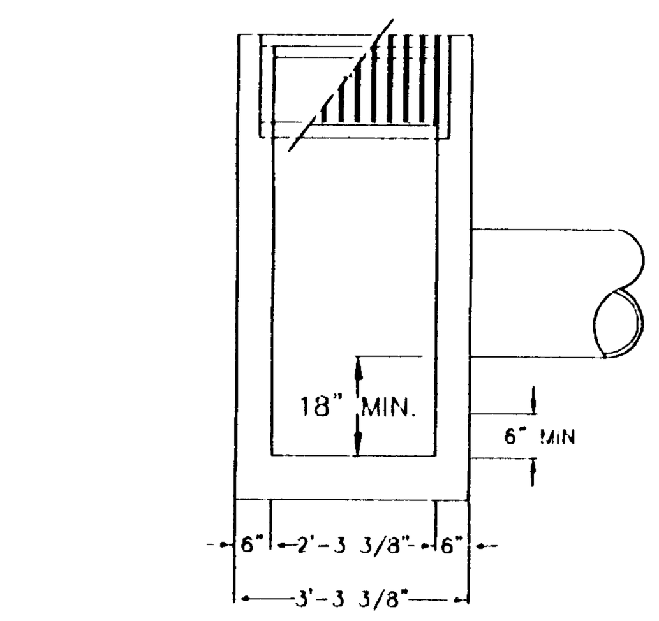


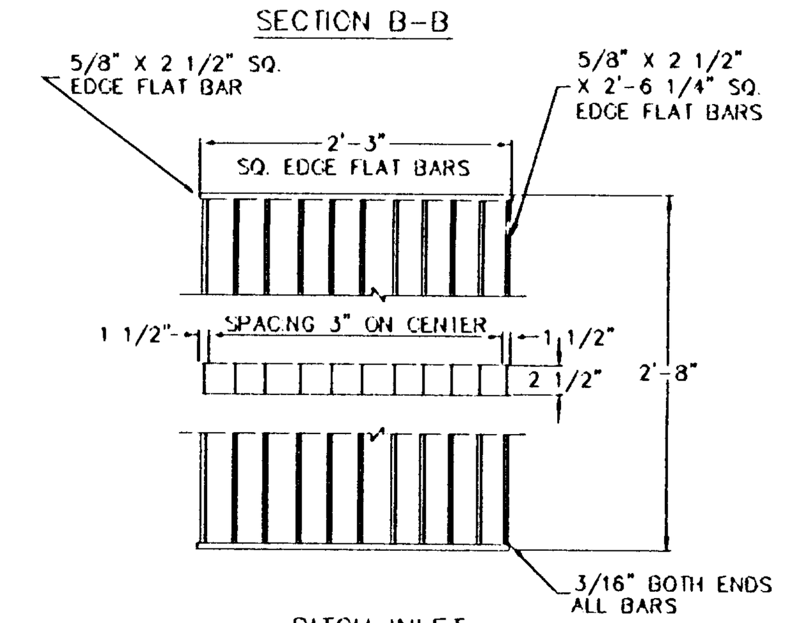
TYPE	DIA. PIPE	W	I.W
STANDARD	10"-12"	1'-10 3/4"	1'-9 3/8"

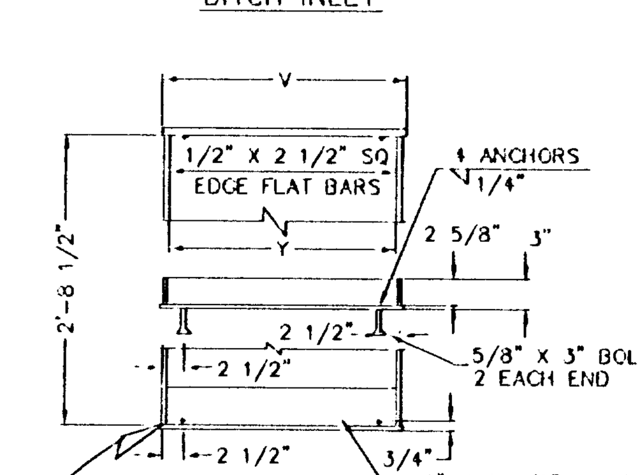


Frame & Grate
for Gutter & Curb Inlets

West Linn
DATE: JAN 2000
DRAWING NO. WL-602A
FILE NO. 00-602A



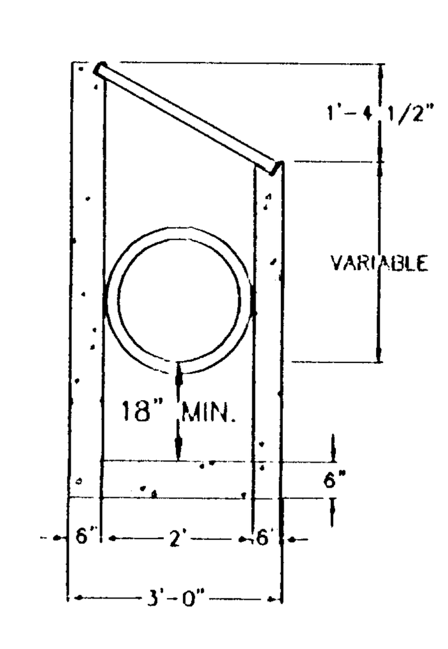


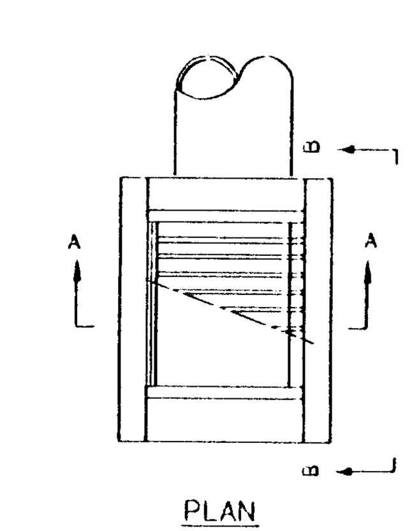


NOTE:
3/8" CROSS BARS SHALL BE FLUSH WITH THE GRATE SURFACE AND MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORCED TO BEARING BARS.

DITCH INLET FRAME

INLET TYPE	V	Y	Y1	NO. OF BARS	TYPE
D	2'-4 3/4"	2'-3 3/8"	2'-3"	9	1



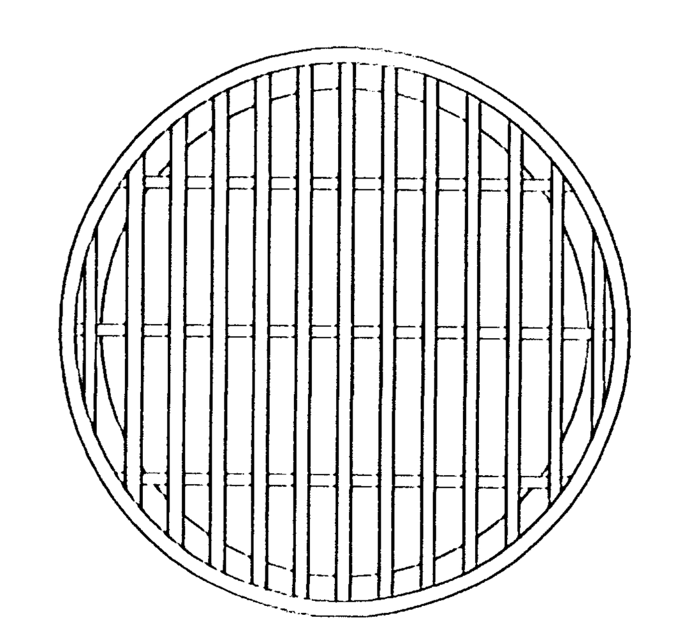


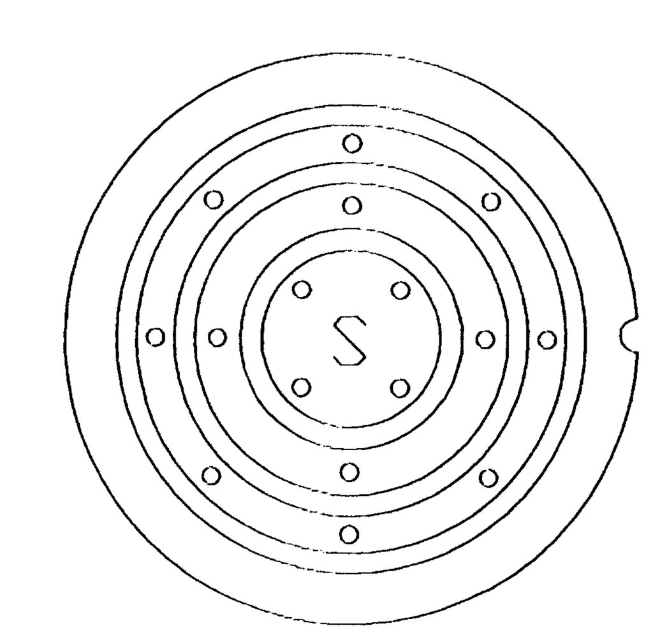
NOTES:

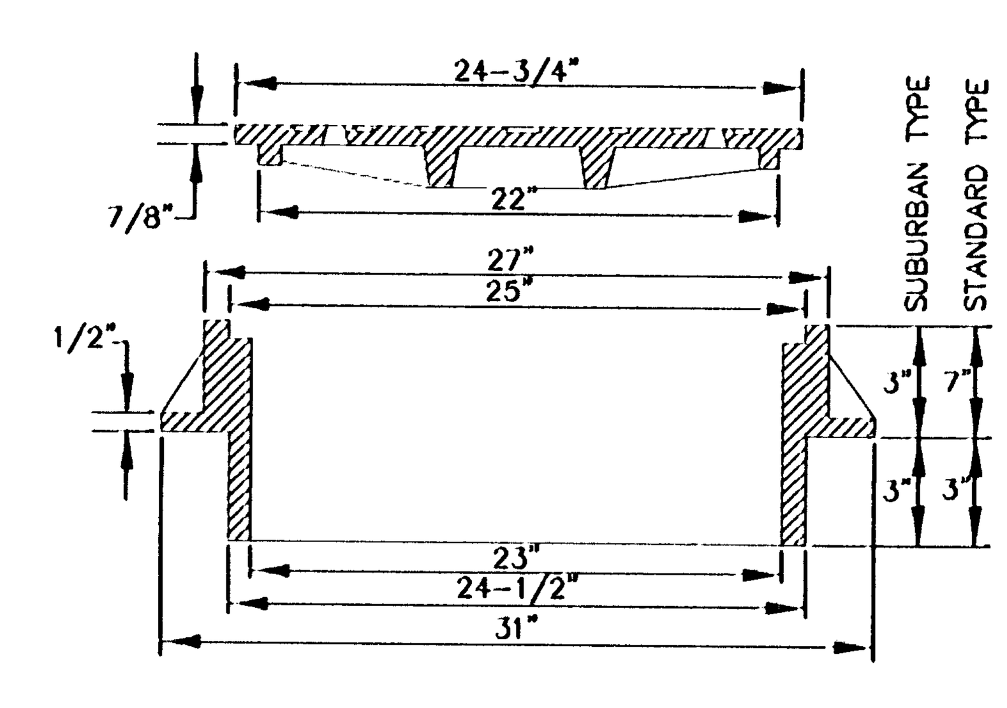
1. CONCRETE STRENGTH SHALL BE 3300 PSI.
2. CATCH BASIN, FRAME, AND GRATES SHALL MEET H20 LOADING.
3. INSIDE FRAME DIMENSIONS: 2'-3 3/8", 2'-8 1/2".

Standard Ditch Inlet

West Linn
DATE: JAN 2000
DRAWING NO. WL-603
FILE NO. 00-603







NOTES:

1. USE SUBURBAN TYPE ONLY IN NON TRAFFIC AREAS, AND ONLY WITH APPROVAL BY THE CITY.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48 CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
4. NOTCH LID FOR LIFTING HOOK.
5. OPEN GRATES REQUIRE APPROVAL BY CITY, AND MUST BE BICYCLE SAFE IF USED IN TRAFFIC AREAS.

SUBURBAN AND STANDARD MANHOLE FRAME AND COVER

Manhole Covers

West Linn
DATE: JAN 2000
DRAWING NO. WL-605
FILE NO. 00-605

SFA Design Group, LLC
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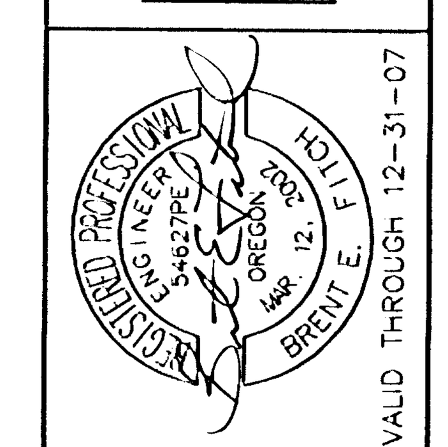
CONSTRUCTION DETAILS
19th STREET SUBDIVISION
WEST LINN, OREGON



VALID THROUGH 12-31-07

NO.	DATE	REVISION	BY
0	10/23/06	INITIAL SUBMITTAL	
1	12/12/06	REVISED PER CITY COMMENTS	
2	12/22/06	REVISED PER CITY COMMENTS	
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1	4-17-07	As-Built	JDF

DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF.
SCALE N/A
N/A

SHEET 9 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

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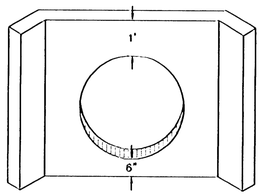
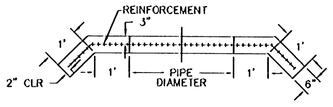




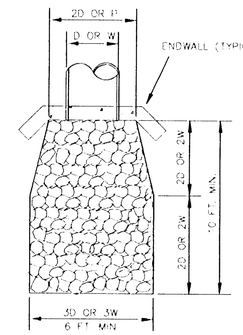
NOTES:
1. USE CONCRETE HAVING A 28 DAY DESIGN STRENGTH OF 3300 PSI.
2. OUTLET WING WALL SHALL BE USED FOR ALL OUTFALL PIPES FROM 10" TO 36".
3. THIS DETAIL REPRESENTS THE MINIMUM REQUIREMENT. THE NEED FOR ADDITIONAL STEEL, A FOOTING AND DRAINAGE BEHIND THE WALL SHALL BE INVESTIGATED BY THE DESIGN ENGINEER.
4. FOR PIPES LARGER THAN 36" OR MULTIPLE PIPE OUTLETS, USE DETAIL WL-612.
5. CONCRETE REINFORCEMENT SHALL CONSIST OF:
   A) ADDING A POLY-FIBER MESH TO THE CONCRETE MIX OR
   B) USE (2) #4 BARS ABOVE AND BELOW PIPE AND #4 BARS AT 6" O.C. VERTICALLY.

Outlet Headwall
(For Outlet Pipes of
10" to 36")

West Linn

DATE: JAN 2000
DRAWING NO. WL-613
FILE NO. 00-613

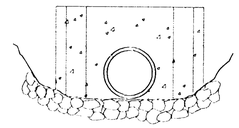
D = PIPE DIAMETER
W = BOTTOM WIDTH OF CHANNEL
P = WETTED PERIMETER OF CHANNEL



DESIGN VELOCITY FT./SEC	ROCK CLASSIFICATION BY WEIGHT
6 - 10	200 LBS
10 - 12	1/4 TON
12 - 14	1/2 TON
14 - 16	1 TON
16 - 18	2 TON

SELECTION OF RIP RAP
(SEE NOTE 1)

NOTES:
1. DIMENSIONS FOR RIP RAP APPLY TO FLOWS
   < 2 CFS: RIP RAP FOR FLOWS
   > 2 CFS: MUST BE DESIGNED BY AN ENGINEER
   FLOWS > 20 FTS: SHALL USE ENERGY DISSIPATOR
2. TYPE OF RIP RAP:
   A. REGULAR QUARRY STONE, CLASS 50-200
   B. COBBLESTONE
   C. CONCRETE (ONLY ALLOWED UPON APPROVAL OF THE DISTRICT)
3. PLACEMENT:
   A. MINIMUM DEPTH = 1 1/2 TIMES AVERAGE STONE SIZE
   B. ROCKS SHALL BE PLACED TO PROVIDE A MINIMUM OF VOIDS
   C. SURFACE ROCKS OR CONCRETE SHALL PROTRUDE AT LEAST 1/2 THEIR VERTICAL DIMENSION
   D. RIP RAP IS TO BE PLACED OVER A NATURAL BEDDING, OR IT MAY BE GROUTED OR PLACED OVER A GRAVEL BEDDING AS REQUIRED BY THE CITY.

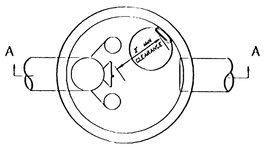


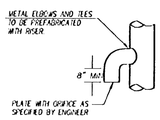
Storm Sewer Outfall

West Linn

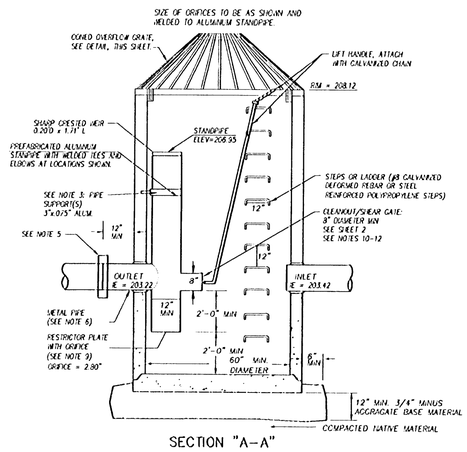
DATE: JAN 2000
DRAWING NO. WL-614
FILE NO. 00-614

AS-BUILT
DATE JDF 3-8-07





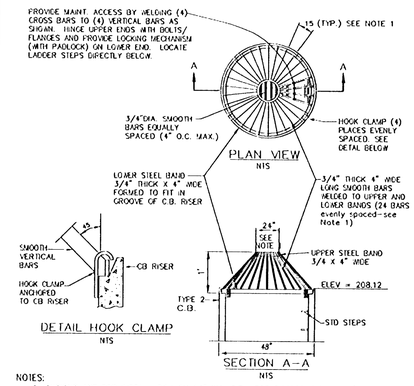
ELBOW DETAIL



SECTION "A-A"

FLOW CONTROL MANHOLE SD FCMH 02B
N.T.S.

NOTES
1. EXCEPT AS SHOWN OR NOTED, UNITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. FLAT TOP SHALL BE H-20 LOAD RATED WITH NO COVER.
3. PIPE SUPPORTS AND RESTRICTOR/SEPARATOR SHALL BE OF THE SAME MATERIAL, AND BE ANCHORED AT 3' MAX SPACING BY 5/8" DIA. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED 2" IN WALL.
4. THE RESTRICTOR/SEPARATOR SHALL BE FABRICATED FROM .060" (MIN) ALUMINUM, IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF AASHTO M 36, M 196, M197, AND M 274.
5. OUTLET SHALL BE CONNECTED TO CULVERT OR SEWER PIPE WITH A STANDARD COUPLING BAND FOR CORRUGATED METAL PIPE, OR GROUTED INTO THE BELL OF CONCRETE PIPE.
6. THE VERTICAL RISER STEM OF THE RESTRICTOR/SEPARATOR SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE, WITH A 12" MINIMUM DIAMETER.
7. FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT:
   A. CLEANOUT GATE IS VISIBLE FROM TOP.
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND GATE.
   C. FRAME IS CLEAR OF CURB (IF ANY EXISTS).
8. MULTI-ORIFICE ELBOWS MAY BE LOCATED AS SHOWN OR ALL ON ONE SIDE OF RISER TO ASSURE LADDER CLEARANCE. SIZE OF ELBOWS AND PLACEMENT TO BE DETERMINED BY THE ENGINEER.
9. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE CONTRACT PLANS. SPECIFIED OPENING TO BE CUT ROUND AND SMOOTH.
10. CLEANOUT/SHEAR GATE: ALUMINUM ALLOY PER ASTM B-26-2G-32o OR CAST IRON ASTM A48 CLASS 30B AS REQUIRED. LIFT HANDLE EITHER SOLID OR TUBING WITH ADJUSTABLE HOOK AS REQUIRED. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE. MATING SURFACES OF LID AND BODY TO BE MACHINED FOR PROPER FIT. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIA STAINLESS
11. ALTERNATE CLEANOUT/SHEAR GATES TO THE DESIGN SHOWN ON THIS SHEET ARE ACCEPTABLE, PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS ABOVE AND HAVE A SIX BOLT, TO 3/8" BOLT CIRCLE FOR BOLTING THE FLANGE CONNECTION.
12. GATE SHALL NOT OPEN BEYOND THE CLEAR OPENING BY LIMITED HINGE MOVEMENT, STOP TAB, OR SOME OTHER DEVICE.
13. PRECAST CONCRETE MANHOLE CONSTRUCTED IN ACCORDANCE WITH ASTM C478.
14. SEE THIS SHEET FOR DETAILS ON ELBOW AND FOR PLAN VIEW.



NOTES:
1. DIMENSIONS ARE FOR INSTALLATION ON 54" DIA. C.B. FOR DIFFERENT DIA. C.B.'S A DIMENSIONS TO MAINTAIN 45 ANGLE ON "VERTICAL" BARS AND 7" O.C. MAX. SPACING OF BARS AROUND LOWER STEEL BAND.
2. METAL PARTS: CORROSION RESISTANT.
3. THIS DEBRIS BARRIER IS ALSO RECOMMENDED FOR USE ON THE INLET TO ROADWAY CROSS-CULVERTS WITH HIGH POTENTIAL FOR DEBRIS COLLECTION (EXCEPT ON CLASS 2 S

OVERFLOW GRATE FOR FLOW CONTROL MANHOLE SD FCMH 02B
N.T.S.

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sfadesigngroup.com

CONSTRUCTION DETAILS
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 12, 2005
BRENT E. FERGUSON
VALID THROUGH 12-31-07

NO.	DATE	REVISION	BY
0	10/23/06	INITIAL SUBMITTAL	
1	12/12/06	REVISED PER CITY COMMENTS	
2	12/22/06	REVISED PER CITY COMMENTS	JDF
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1	4-17-07	As-Built	JDF

DESIGNED BY BEF DATE 9/06
DRAWN BY RMW DATE 9/06
REVIEWED BY BEF DATE 9/06
PROJECT NO. 105-025 REF. ____
SCALE ____ N/A ____ N/A

SHEET 10 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

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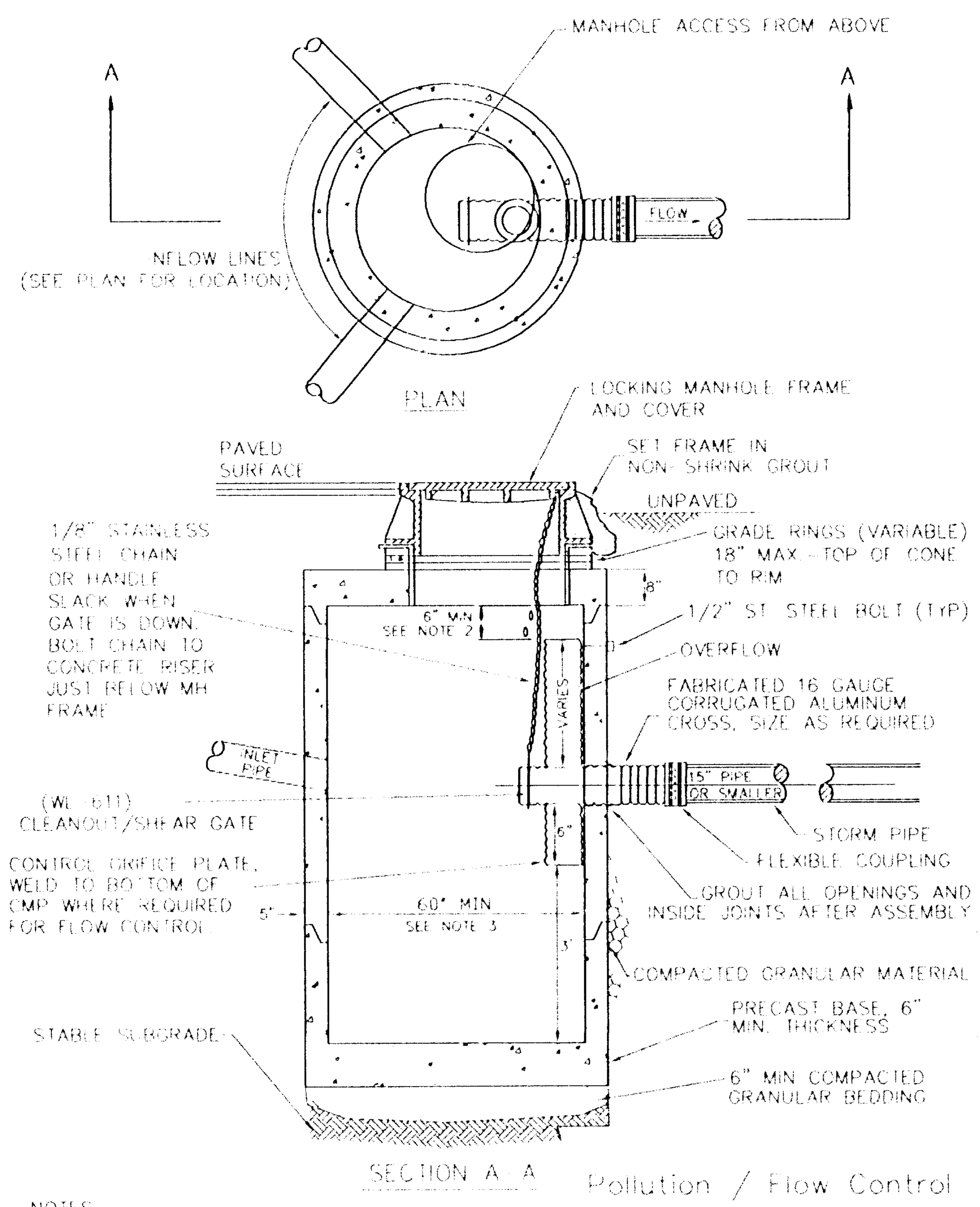
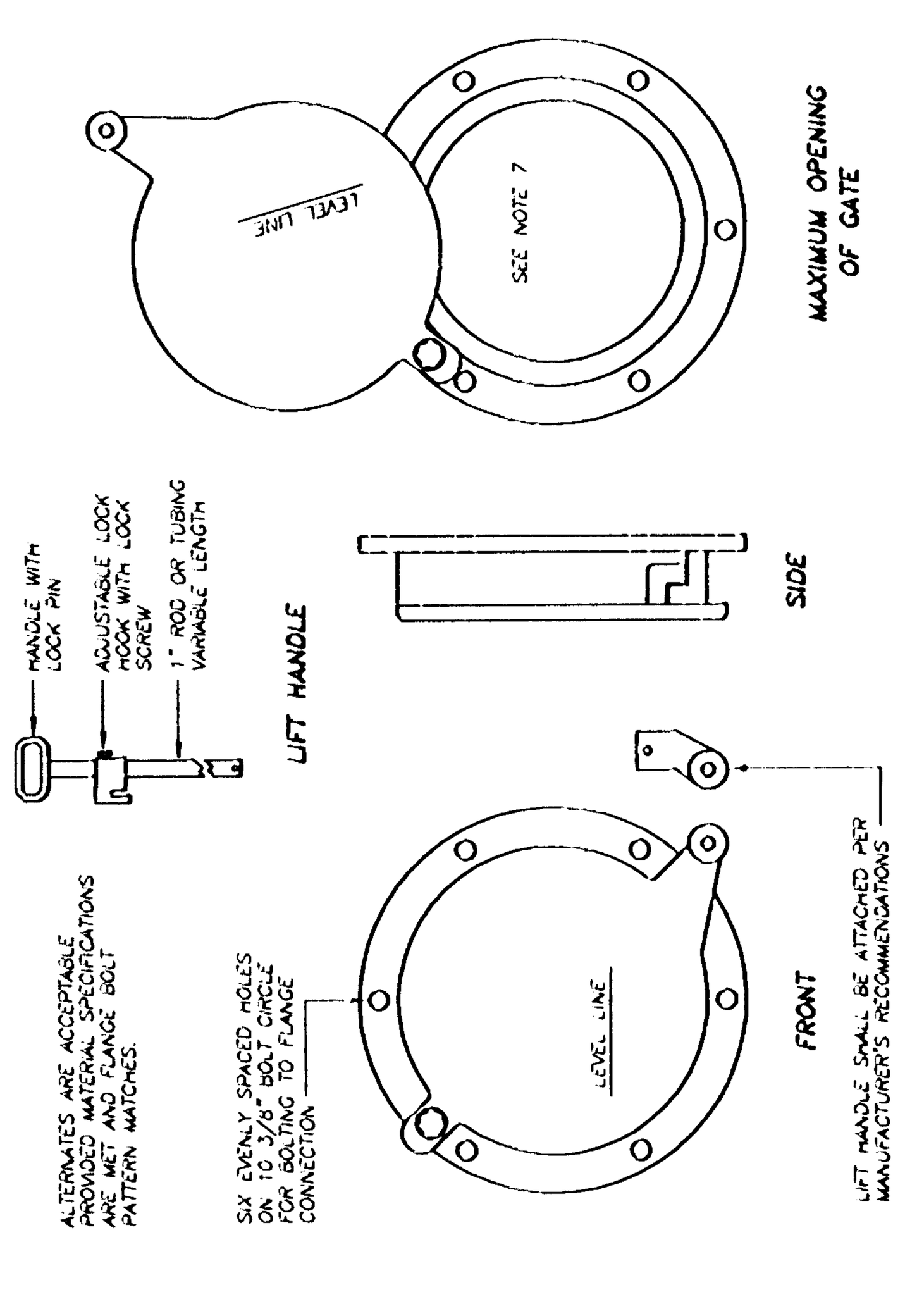


Pollution / Flow Control Manhole

NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478
2. DISTANCE FROM TOP OF OVERFLOW TO MH RIM SHALL BE BASED ON OVERFLOW CAPACITY CALC'S BY DESIGN ENGINEER. ASSUME ORIFICE CONTROL.
3. 72" MINIMUM DIA. MANHOLE REQUIRED FOR OUTLET OR INLET > 21"
4. NO STEPS REQUIRED

West Linn

DATE: JAN 2000
DRAWING NO. WL-607
FILE NO. 00-607



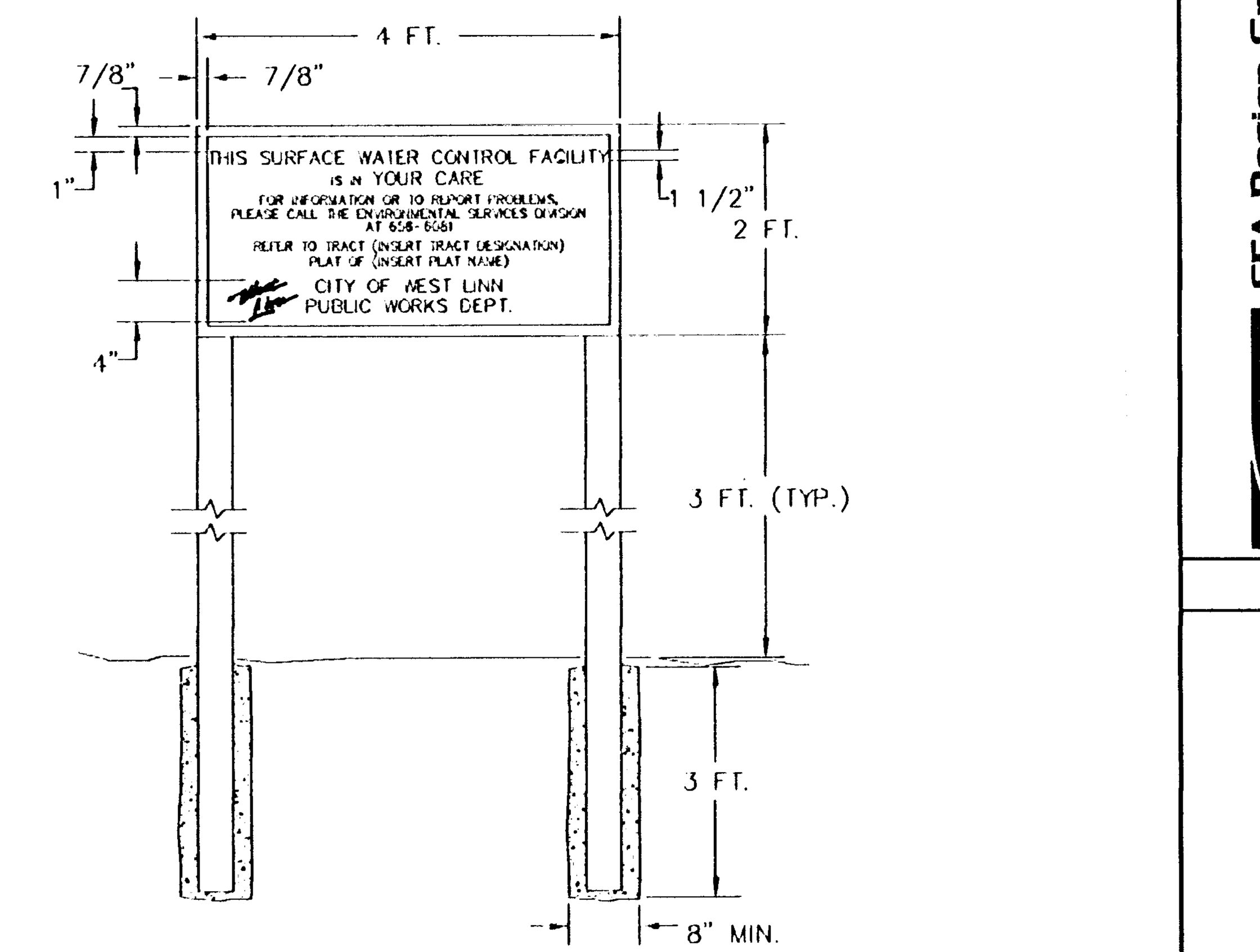
CLEANOUT/SHEAR GATE
SCALE: NTS

NOTES:
1. CLEANOUT/SHEAR GATE SHALL BE ALUMINUM ALLOY PER ASTM B-26-ZG-32a OR CAST IRON ASTM A48 CLASS 30B AS REQUIRED.
2. LIFT HANDLE EITHER SOLID OR TUBING WITH ADJUSTABLE HOOK AS REQUIRED
3. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE.
4. MATING SURFACES OF LID AND BODY TO BE MACHINED FOR PROPER FIT.
5. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIAMETER STAINLESS STEEL.
6. ALTERNATE CLEANOUT/SHEAR GATES TO THE DESIGN SHOWN ARE ACCEPTABLE, PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS ABOVE AND HAVE A SIX BOLT, 10 3/8" BOLT CIRCLE FOR BOLTING THE FLANGE CONNECTION.
7. GATE SHALL NOT OPEN BEYOND THE CLEAR OPENING BY LIMITED HINGE MOVEMENT, STOP TAB, OR SOME OTHER DEVICE.

Cleanout / Shear Gate

West Linn

DATE: JAN 2000
DRAWING NO. WL-611
FILE NO. 00-611



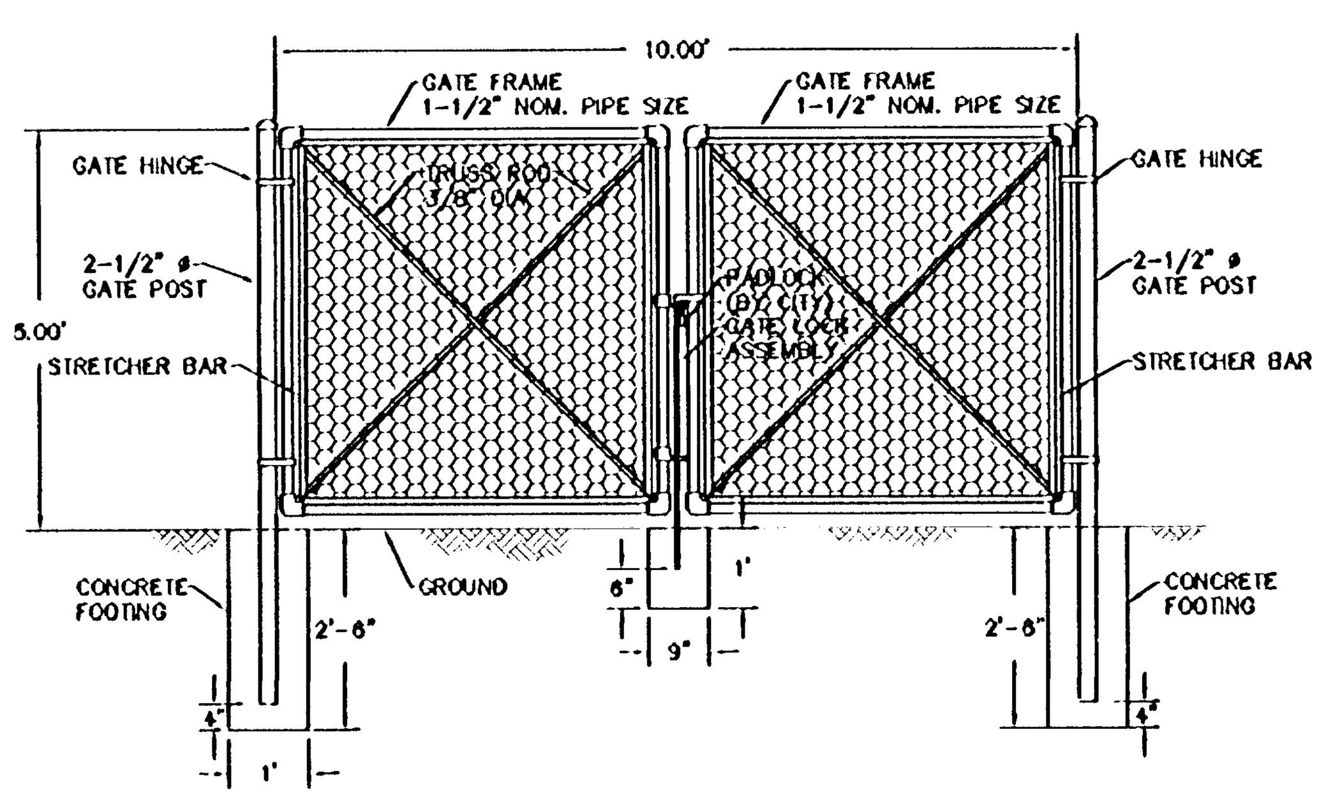
SPECIFICATIONS:

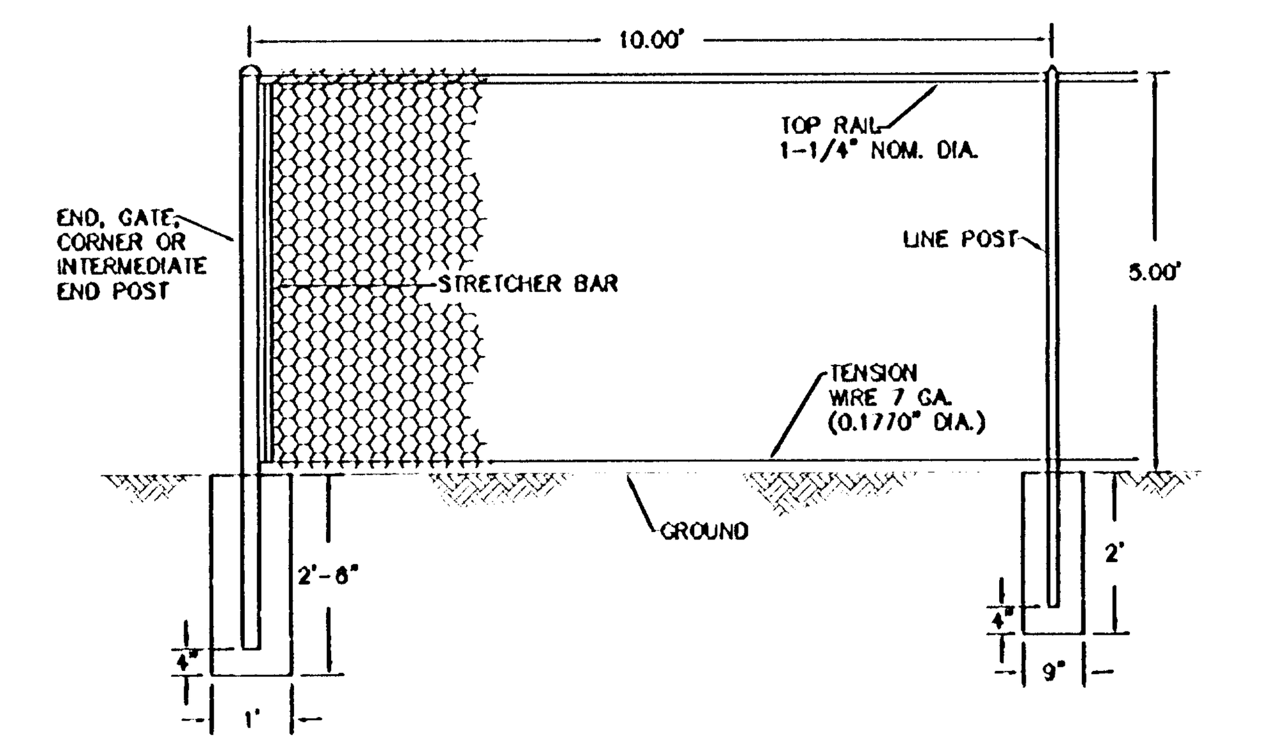
SIZE: 48" BY 24"
MATERIAL: GRADE "B" OR BETTER EXTERIOR PLYWOOD
PAINT: FACE - 3 COATS OUTDOOR ENAMEL (SPRAYED). BACK - 1 COAT OUTDOOR ENAMEL (SPRAYED).
LETTERING: SILK SCREEN ENAMEL WHERE POSSIBLE, OR HAND PAINTED ENAMELS.
COLORS: BLACK AND WHITE. WHITE BACKGROUND, LETTERING AND BORDER IN BLACK
TYPE FACE: HELVETICA. 1 1/2" TALL WITH 7/8" SPACING BETWEEN LETTERS AND OUTER BORDER. OUTER BORDER 1/2" WIDTH
INSTALLATION: SECURED TO CHAIN LINK FENCE IF AVAILABLE, OTHERWISE INSTALL ON TWO 8 FT. LONG 4" X 4" POSTS, PRESSURE TREATED, INSTALLED IN 3 FT. DEEP CONCRETE FILLED POST HOLES (8" MIN. DIA.)

Surface Water Facility Sign

West Linn

DATE: JAN 2000
DRAWING NO. WL-615
FILE NO. 00-615





AS-BUILT

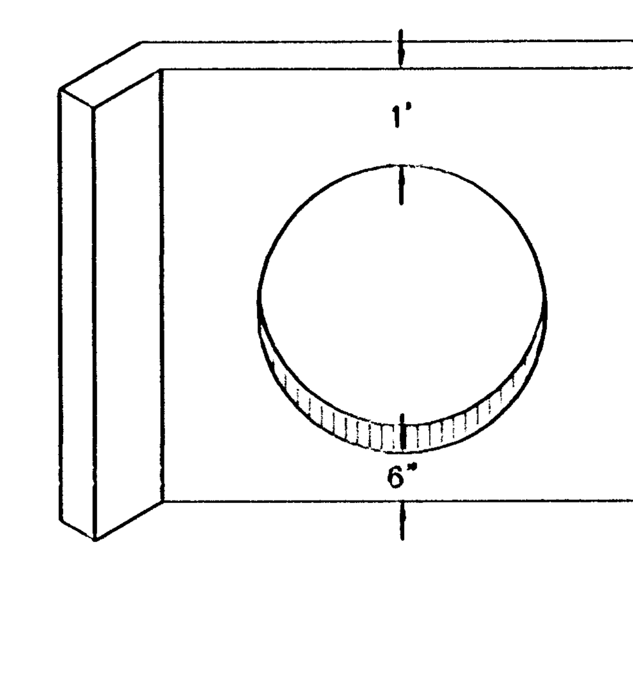
DATE JDF 3-8-07

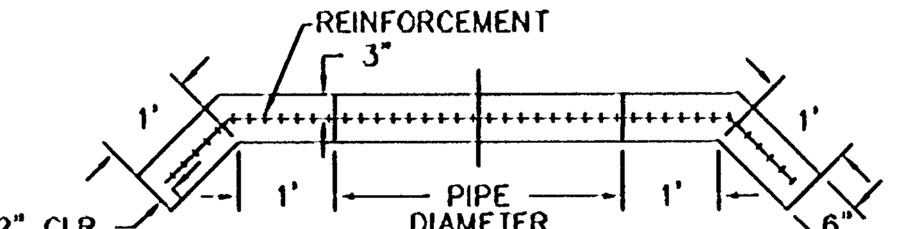
NOTES:
1. BLACK POWDER COATING ON ALL HARDWARE AND ACCESSORIES IS REQUIRED.
2. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF OREGON STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

Surface Water Facility Fence

West Linn

DATE: JAN 2000
DRAWING NO. WL-616
FILE NO. 00-616





NOTES:
1. USE CONCRETE HAVING A 28 DAY DESIGN STRENGTH OF 3300 PSI.
2. OUTLET WING WALL SHALL BE USED FOR ALL OUTFALL PIPES FROM 10" TO 36".
3. THIS DETAIL REPRESENTS THE MINIMUM REQUIREMENT. THE NEED FOR ADDITIONAL STEEL, A FOOTING AND DRAINAGE BEHIND THE WALL SHALL BE INVESTIGATED BY THE DESIGN ENGINEER.
4. FOR PIPES LARGER THAN 33" OR MULTIPLE PIPE OUTLETS, USE DETAIL WL-612.
5. CONCRETE REINFORCEMENT SHALL CONSIST OF:
   A) ADDING A POLY-FIBER MESH TO THE CONCRETE MIX OR
   B) USE (2) #4 BARS ABOVE AND BELOW PIPE AND #4 BARS AT 6" O.C. VERTICALLY.

Outlet Headwall (For Outlet Pipes of 10" to 33")

West Linn

DATE: JAN 2000
DRAWING NO. WL-613
FILE NO. 00-613

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CONSTRUCTION DETAILS
19th STREET SUBDIVISION
WEST LINN, OREGON

REGISTERED PROFESSIONAL ENGINEER 54627PE OREGON MAR. 12, 2002 BRENT E. FITCH
VALID THROUGH 12-31-07

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SCALE N/A
N/A

SHEET 11 OF 11

PROJECT 19th STREET
NO. 105-025
TYPE ENGINEERING

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