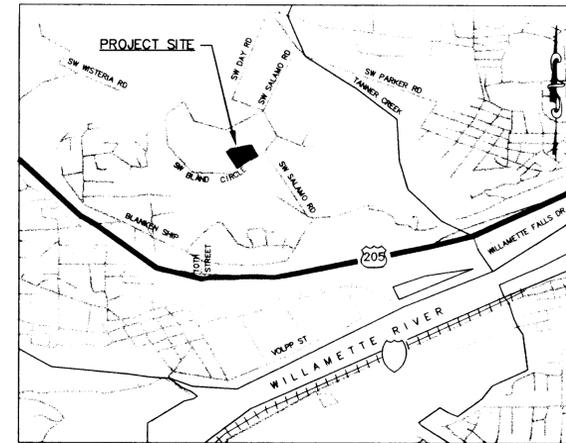


MARNELLA ESTATES

OWNER

**ANTHONY MARNELLA
THE EQUITY GROUP
4035 DOUGLAS WAY
LAKE OSWEGO, 97035**



VICINITY MAP

A PARCEL OF LAND LOCATED IN THE WILLIAM ISLAND D.L.C. NO. 35 IN THE NORTHEAST ONE QUARTER OF SECTION 35, TOWNSHIP 2 SOUTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON, AND BEING A PORTION OF LOT 20 "ISLAND ACRES".

UTILITY COMPANIES

CITY OF WEST LINN 656-4211
NORTHWEST NATURAL GAS 226-4281
PORTLAND GENERAL ELECTRIC 650-1481
US WEST TELEPHONE CO. 242-8496
TCI CABLE 243-7477
PUBLIC TRANSPORT TRI-MET

LOCATES (48 HOURS NOTICE REQUIRED PRIOR TO EXCAVATION)

ONE CALL SYSTEM - 246-6699
(GENERAL TELEPHONE, NORTHWEST NATURAL GAS, US WEST, US SPRING)
PORTLAND GENERAL ELECTRIC - 645-5454
CABLE TELEVISION - TCI - 246-6699

REPAIR EMERGENCIES

NORTHWEST NATURAL GAS - 800-882-3377
US WEST TELEPHONE CO. - 242-8496
PORTLAND GENERAL ELECTRIC - 464-7750
TCI CABLEVISION - 243-7476
CITY OF WEST LINN - 656-4211

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



VALID THROUGH 6-30-00

SHEET INDEX

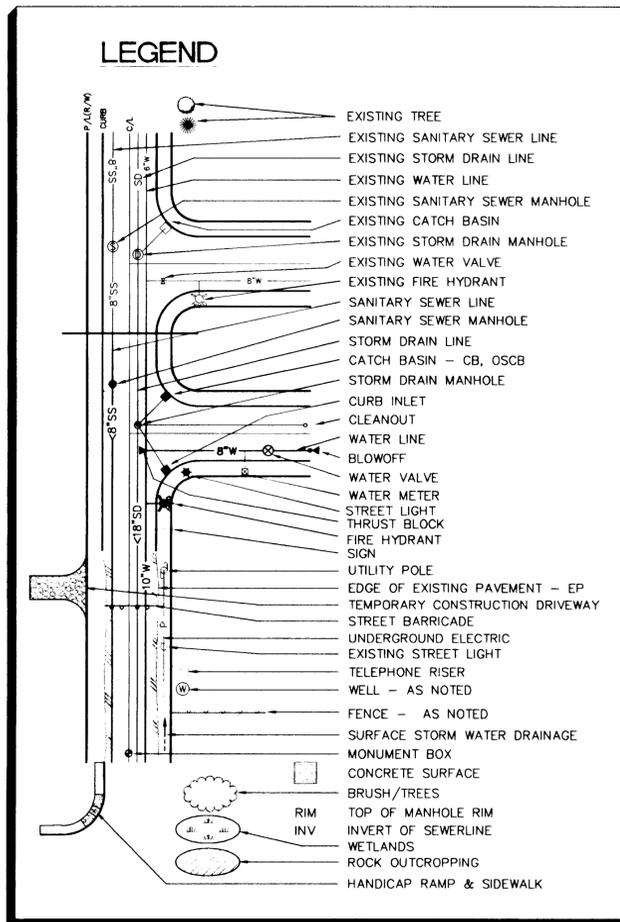
- 1 TITLE SHEET
- 2 CONSTRUCTION NOTES
- 3 GRADING PLAN
- 4 EROSION CONTROL PLAN
- 5 STREET AND SITE PLAN
- 6 STREET PROFILES
- 7 STREET PROFILES
- 8 STORM DRAIN PLAN
- 9 STORM DRAIN PROFILES
- 10 *** NOT USED ***
- 11 SANITARY SEWER PLAN
- 12 SANITARY SEWER PROFILES
- 13 SANITARY SEWER PROFILES
- 14 WATER PLAN
- 15 COMPOSITE UTILITY PLAN
- 16 CONSTRUCTION DETAILS
- 17 CONSTRUCTION DETAILS

DATE: 12-27-95
APPROVED: [Signature]

TITLE SHEET
MARNELLA ESTATES

SHEET 1 OF 17

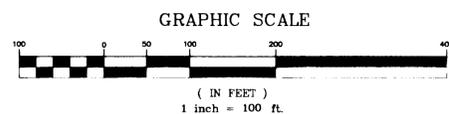
PROJECT MARNELLA ESTATES
NO. 476-001
TYPE CONSTRUCTION



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	CENTERLINE	RCP	REINFORCED CONCRETE PIPE
CMU	CORRUGATED METAL PIPE	R/W	RIGHT-OF-WAY
CO	CONCRETE MASONRY UNIT	S	SEWER
CTV	CABLE TELEVISION	SD	STORM DRAIN
DI	DUCTILE IRON PIPE	SL	SEWER LATERAL
DIP	DROP INLET	STA	STATION
E	ELECTRICAL	STD.	STANDARD DETAIL
ECR	END CURB RETURN	T	TELEPHONE
EJ	EXPANSION JOINT	TB	THRUST BLOCK
EL	ELEVATION	TC	TOP OF CURB
EVC	END VERTICAL CURVE	TCN	TOP OF CONCRETE
EX	EXISTING	TD	TOP OF DIKE
FF	FINISH FLOOR	TF	TOP OF FOOTING
FG	FINISH GRADE	TG	TOP OF GRATE
FH	FIRE HYDRANT	TI	TRAFFIC INDEX
FL	FLOWLINE	TL	TRAFFIC LIGHT
FLG	FLANGE	TP	TOP OF PAVEMENT
G	GAS	TYP.	TYPICAL
GM	GAS METER	TW	TOP OF WALL
GB	GRADE BREAK	VCP	VITRIFIED CLAY PIPE
GSP	GALVANIZED STEEL PIPE	VPI	VERTICAL POINT OF INTERSECTION
HP	HIGH POINT	W	WATER
L	CURVE LENGTH	WM	WATER METER
LF	LINEAL FEET	WV	WATER VALVE
MH	MANHOLE	Δ	DELTA (CURVE CENTRAL ANGLE)
MJ	MECHANICAL JOINT	±	APPROXIMATELY
N.I.C.	NOT INCLUDED IN CONTRACT	%	PERCENT
OCEW	ON CENTER EACH WAY	<	LESS THAN
		>	GREATER THAN

BENCHMARK
5/8" IRON ROD WITH RED PLASTIC CAP
INSCRIBED "TRILAND INC."
ELEVATION = 524.3
(CITY OF WEST LINN)



GENERAL NOTES:

- 1. THE DESIGN ENGINEER WILL BE RESPONSIBLE FOR INSPECTION OF THE PROPOSED IMPROVEMENTS WITH OVERSIGHT FROM CITY'S PUBLIC WORKS AND ENGINEERING STAFF.
2. A WORK SCHEDULE WILL BE REQUIRED FROM THE CONTRACTOR SO THAT THE ENGINEER CAN HAVE AN INSPECTOR ON SITE AT THE APPROPRIATE TIME. 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.
3. THE CONTRACTOR IS TO RECEIVE THE APPROVAL OF THE ENGINEER AND THE CITY OF WEST LINN OF ANY PROPOSED CHANGES TO THE PLANS OR STANDARD REQUIREMENTS.
4. A BUILDING DEPARTMENT PLUMBING PERMIT IS REQUIRED FOR UTILITIES BEYOND THE FIRST CLEANOUT OR METER ON PRIVATE PROPERTY.
5. A PUBLIC IMPROVEMENT GUARANTEE AGREEMENT AND A PRE-CONSTRUCTION MEETING WITH THE CITY OF WEST LINN ARE 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.
6. ALL SPECIFIED 3/4" - 0 OR 1 1/2" AGGREGATE SHALL MEET APWA STANDARDS.
7. ACCESS TO LOTS 1 THROUGH 5 SHALL BE FROM SUNBREAK LANE AND CRESTVIEW DRIVE ONLY. NO ACCESS WILL BE ALLOWED FROM BLAND CIRCLE.

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; TCI CABLE - LINDA PETERSEN, 243-7497, U.S. WEST COMMUNICATIONS - JACKIE LOLLAR 242-8496.

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 ALL CHANGES IN DIRECTION AND BRANCHES. THRUST BLOCKING CONCRETE STRENGTH IS TO BE 2000 PSI. SEE DETAILS FOR THRUST BLOCK SIZING. POUR THRUST BLOCKS AGAINST UNDISTURBED EARTH.
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 ON "VANCOUVER" TYPE MODEL 910.
5. FIRE HYDRANTS SHALL BE CLOW MEDALLION TYPE 2545 OR MUELLER CENTURION ONLY, AND SHALL BE INSTALLED IN ACCORDANCE WITH APWA DIVISION IV, SECTION 404. PUMPER OUTLET IS TO FACE THE DIRECTION OF ACCESS.
6. GRANULAR BACKFILL IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T 99 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 1 1/2" METER SIDES BY SIDE. CORPORATION TAPS SHALL BE FORD OR APPROVED EQUIV. 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.
8. ALL WATERLINES WILL BE PRESSURE TESTED AND PURIFICATION TESTED BEFORE CONNECTION TO THE CITY WATER SYSTEM. PRESSURE TEST SHALL BE CONDUCTED AT 180 PSI AND SHALL MEET THE REQUIREMENTS OF APWA, DIVISION IV, SECTION 402.3.04.
9. DISINFECTION SHALL CONFORM WITH APWA DIVISION 4, SECTION 402.3.05.
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 INSPECTIONS 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. 1 1/2" BASE LIFT SHALL BE CLASS "B" A.C. AND 1 1/2" FINAL LIFT SHALL BE CLASS "C" A.C. AS PER APWA DIVISION II, SECTION 211.2.01. THE TOP LIFT OF ASPHALT CONCRETE SHALL NOT BE PLACED PRIOR TO RECEIVING PERMISSION FROM THE CITY OF WEST LINN ENGINEERING DEPARTMENT.
5. CONSTRUCT CURB AND GUTTER USING CLASS "A" 3300 PSI CONCRETE WITH MAXIMUM 1 1/2" AGGREGATE SIZE. CONSTRUCTION JOINTS AT 15' MAXIMUM ON CENTERS. THREE INCH WEEPHOLES ARE TO BE INSTALLED ON ALL LOTS UPHILL OR EVEN WITH THE STREET. GENERALLY WEEPHOLES SHALL BE LOCATED AT THE CENTER AND LOWEST EDGE OF CURB FOR EACH LOT. CURB DEPRESSIONS FOR HANDICAP RAMPS SHALL BE CENTERED BETWEEN CURB RETURNS AT INTERSECTIONS UNLESS OTHERWISE NOTED ON THE PLANS. CONTRACTOR SHALL STAMP LOCATION OF SEWER AND WATER CROSSINGS WITH AN (S) OR A (W).
6. 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.
7. 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.

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 PRE-CAST OR POURED IN-PLACE CONCRETE BASE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI. 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-99 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.
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.
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.
10. THE NEW SANITARY SEWER LINE SHALL NOT BE CONNECTED TO THE CITY'S SYSTEM PRIOR TO TESTING AND APPROVAL.

STORM DRAINS:

- 1. TEN INCH AND LARGER STORM DRAIN PIPE SHALL BE CLASS 3, NON-REINFORCED, CONCRETE PIPE CONFORMING TO ASTM C14. PIPE CONFORMING TO ASTM D-3034 OR SEAMLESS PVC PIPE CONFORMING TO ASTM F794. (PW RIB). WHERE REQUIRED, JOINTS ARE REQUIRED FOR ALL CONCRETE PIPE. EIGHT INCH AND SMALLER STORM DRAIN PIPE SHALL CONFORM TO ASTM D 3034 PVC PIPE.
2. LARGE DIAMETER STORM DRAIN DETENTION PIPE SHALL BE CORRUGATED ALUMINUM PIPE CONFORMING TO AASHTO M-196 AND M-197 (12 GAUGE).
3. 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.
4. 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.
5. 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.
6. 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.
7. GRANULAR BACKFILL IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-99 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 85% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL.
8. RIPRAP WHERE NOTED ON THE PLANS IS TO BE CLASS 50 IN ACCORDANCE WITH OREGON STATE HIGHWAY DIVISION SPECIFICATION 714.
9. 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.
10. A PLUMBING PERMIT FROM THE CITY OF WEST LINN BUILDING DEPARTMENT IS REQUIRED FOR STORM DRAINS BEYOND THE FIRST CLEANOUT.
11. 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 OVERTFLOW ELEVATION. THESE CHECK VALVES SHALL BE A CANPLAS 3284 4" ABS VALVE OR OTHER EQUAL LOW PRESSURE VALVE.
12. 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.

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 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 OF LESS THAN ONE FOOT, 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, INCLUDING SPREADING OVER LOTS.
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, REVISED AUGUST, 1994 AND THE OREGON ADMINISTRATIVE RULES.
6. EROSION CONTROL MEASURES DURING CONSTRUCTION SHALL BE GOVERNED BY CLACKAMAS COUNTY EROSION CONTROL STANDARDS.

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.

DECISION

BASED UPON THE AFOREMENTIONED FINDINGS AND CONCLUSIONS, THE PLANNING DIRECTOR HEREBY APPROVES THE SUBDIVISION IDENTIFIED AS "MARNELLA ESTATES" (SUB-98-03) WITH THE FOLLOWING CONDITIONS OF APPROVAL:

- 1. THE APPLICANT SHALL CONSTRUCT TEMPORARY FIRE TURNAROUNDS AT THE END OF CRESTVIEW DRIVE AND AT THE END OF SUNBREAK LANE. THE FINAL PLAT SHALL INCLUDE REFERENCES THAT INDICATE THE TEMPORARY FIRE TURNAROUNDS ON LOTS 1 AND 2, AND LOTS 16 AND 15.
2. WHEN THE FINAL PLAT IS RECORDED, TWO FIRE TURNAROUNDS SHALL BE CREATED THROUGH A FORMAL ACCESS EASEMENT ON LOTS 1 AND 2, AND LOTS 16 AND 15.
3. A SHARED ACCESS AND MAINTENANCE AGREEMENT SHALL BE DRAWN UP AT THE TIME OF FINAL PLATTING FOR LOTS 1 AND 2, AND LOTS 16 AND 15. THIS AGREEMENT MUST CONTAIN SATISFACTORY PROVISIONS, INCLUDING FINANCIAL ARRANGEMENTS, FOR THE TERMINATION OF THE AGREEMENT AT SUCH TIME THAT SUNBREAK LANE AND CRESTVIEW DRIVE ARE EXTENDED AND THE CITY DETERMINES THAT THE FIRE TURNAROUND ACCESS EASEMENTS ARE UNNECESSARY.
4. STREET TREES SHALL BE PLANTED ALONG THE BLAND CIRCLE FRONTAGE, LOTS 1-5 AND 6 OF THIS DEVELOPMENT ACCORDING TO CDC SECTION 54.020 AND 54.030 SPECIFICATIONS.
5. THE APPLICANT SHALL DEDICATE THE ADDITIONAL RIGHT-OF-WAY ALONG BLAND CIRCLE TO PROVIDE FOR A 30-FOOT WIDE HALF-STREET RIGHT-OF-WAY. HALF-STREET IMPROVEMENTS SHALL BE MADE TO BLAND CIRCLE ALONG THE FRONTAGE OF THE PROPERTY AND SHALL BE EXTENDED TO THE EAST TO MATCH THE END OF THE IMPROVED PORTION OF THE STREET.
6. THE APPLICANT SHALL CONSTRUCT STORM SEWER LATERALS IN BLAND CIRCLE TO SERVE LOTS 1, 2 AND 3. THESE LATERALS WILL BE CONNECTED TO THE EXISTING STORM SEWER MAIN LOCATED WITHIN BLAND CIRCLE.
7. THE APPLICANT SHALL FINANCE A REVIEW BY THE CITY'S SANITARY SEWER MASTER PLAN CONSULTANT TO DETERMINE IF AN INTERBASIN TRANSFER CAN BE ALLOWED.
8. THE APPLICANT SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL POLICIES AND CODES UNLESS GRANTED A WRITTEN WAIVER, MODIFICATION AND/OR VARIANCE BY THE APPROPRIATE BODY.
9. THE 20-FOOT CORRIDOR FOR THE PEDESTRIAN PATH SHALL BE PLACED SOMEWHERE BETWEEN LOTS 9 AND 16 AND SHALL BE DEDICATED TO THE CITY.

I/WE DECLARE TO HAVE NO INTEREST IN THE OUTCOME OF THIS DECISION DUE TO SOME PAST OR PRESENT INVOLVEMENT WITH THE APPLICANT, THE SUBJECT PROPERTY, OR SURROUNDING PROPERTIES, AND THEREFORE, CAN RENDER AN IMPARTIAL DECISION. THE PROVISIONS OF THE COMMUNITY DEVELOPMENT CODE CHAPTER 99 HAVE BEEN MET.

1-16-99

DATE

Jan, 12, 1999

DATE

DAVE DRENTLAW, Planning Director
DAVE MONSON, City Engineer

Appeals to this decision must be filed with the West Linn Planning Department within 14 days of date of mailing. Appeal cost is \$250 and must include specific grounds or basis for appeal. Approval will lapse one year from the effective date of approval unless an extension is obtained.

Mailed this 12th day of January, 1999.

ALPHA ENGINEERING INC.
PLANNING - DEVELOPMENT SERVICES - SURVEYING
OFFICE: 503-666-9000 FAX: 503-666-9046
PLAZA WEST SUITE 200-9000 SW GALE - PORTLAND, OR 97225

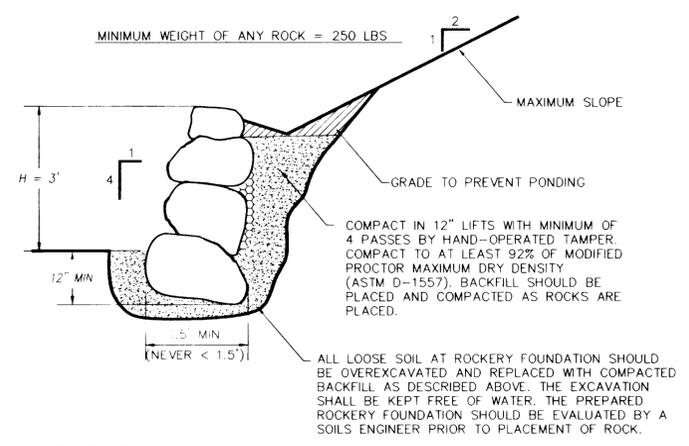
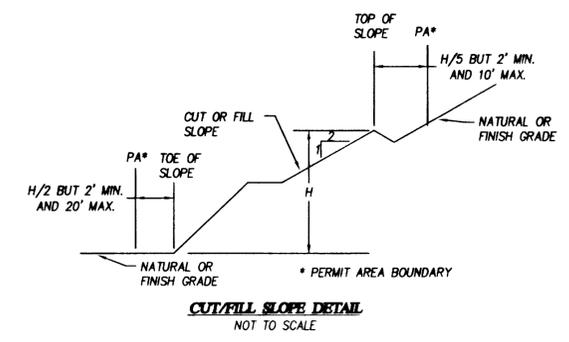
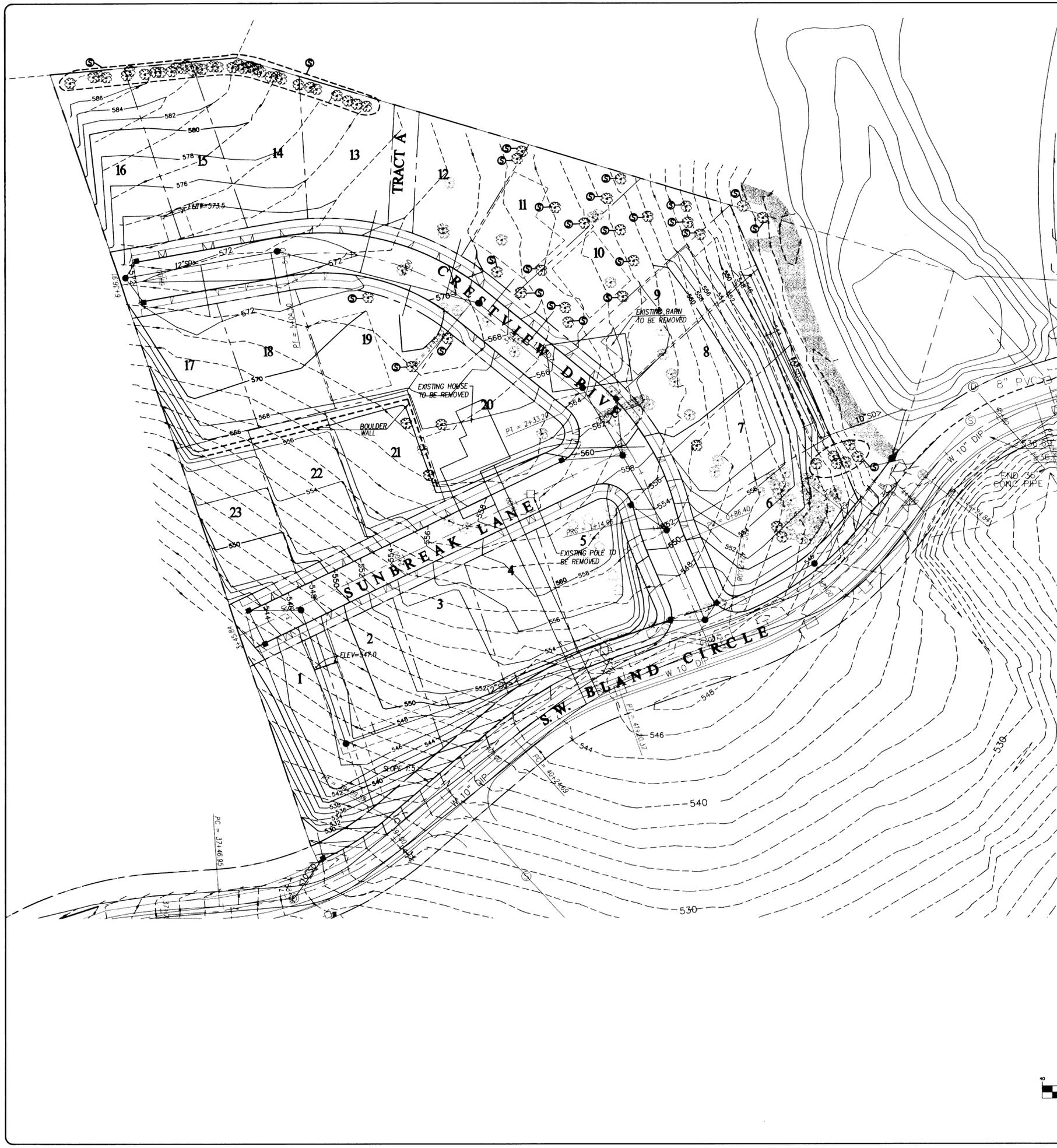
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DESIGNED BY: REF. DATE: 3/10/98
DRAWN BY: REF. DATE: 3/10/98
REVIEWED BY: REF. DATE: 3/10/98
PROJECT NO.: 476-001 REF.
SCALE: NOT TO SCALE
476NOTEDWG

Circular seal: PROFESSIONAL ENGINEER
STATE OF OREGON
No. 11111
MARNELLA ESTATES
JAN 17, 1999
VALID THROUGH 6-30-00

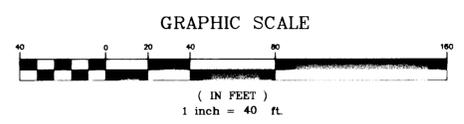
CONSTRUCTION NOTES
MARNELLA ESTATES

SHEET 2 OF 17
PROJECT: MARNELLA ESTATES
NO. 476-001
TYPE: CONSTRUCTION



LEGEND:

- IMPERVIOUS SURFACE LAYER; 8" TO 12" COMPACTED SOIL
- BACKFILL: CLEAN, WELL GRADED, SAND AND GRAVEL OR CRUSHED ROCK, 2" MAXIMUM SIZE, 40 TO 60% GRAVEL, LESS THAN 5% FINES (PASSING U.S. STANDARD SIEVE). FINES SHALL BE NON-PLASTIC.
- QUARRY SPALLS: PLACED IF NECESSARY, SUCH THAT OPENINGS BETWEEN ROCKS ARE FILLED.



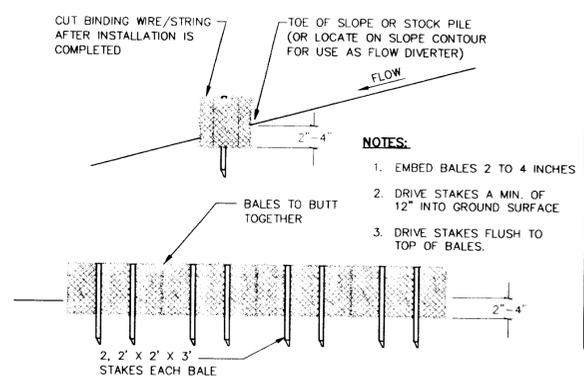
AS-BUILT
DATE 12-29-09
APPROVED SRH

NO.	DATE	REVISION	BY
1	12/28/99	AS-BUILT	JRL

DESIGNED BY	DATE	3/10/99
DRAWN BY	DATE	3/10/99
REVIEWED BY	M.L.	DATE
PROJECT NO.	476-001	REF.
SCALE	HORIZ: 1"=40'	VERT: N/A
476000.DWG		

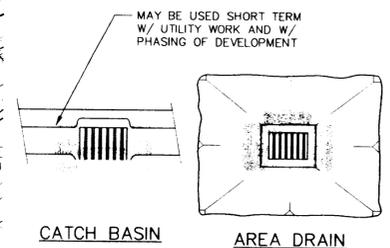


GRADING PLAN
MARNELLA ESTATES

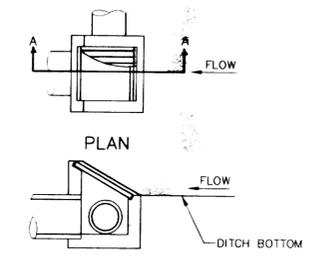


STRAW BALE OVERLAND FLOW

NOT TO SCALE
REF: TECHNICAL GUIDANCE HANDBOOK, DETAIL 3-3A
FEBRUARY 1994

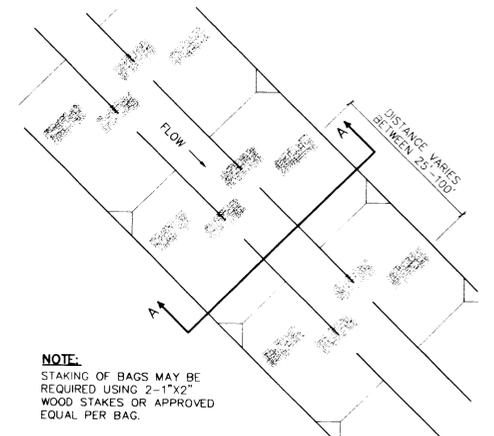


CATCH BASIN AREA DRAIN



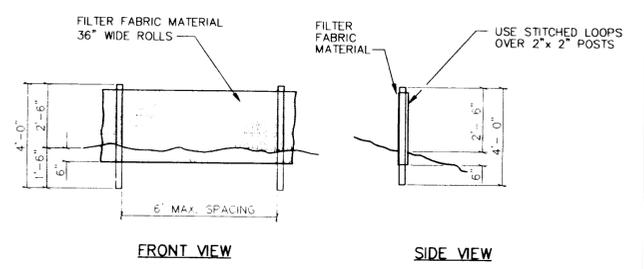
TEMPORARY BIOFILTER BAGS

NOT TO SCALE
REF: TECHNICAL GUIDANCE HANDBOOK, DETAIL 3-7D
FEBRUARY 1994



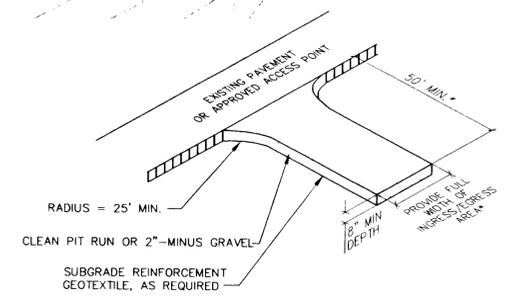
BIOFILTER BAG DITCHES AND SWALES

NOT TO SCALE
REFERENCE: TECHNICAL GUIDANCE HANDBOOK, DETAIL 3-3D
FEBRUARY 1994



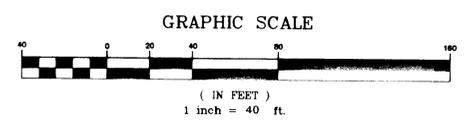
SEDIMENT FENCE

NOT TO SCALE
REF: TECHNICAL GUIDANCE HANDBOOK, DETAIL 3-2
FEBRUARY 1994



GRAVEL CONSTRUCTION ENTRANCE

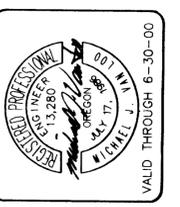
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REF: TECHNICAL GUIDANCE HANDBOOK, DETAIL 3-1A
FEBRUARY 1994



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PLAZA WEST • SUITE 230 • 9600 SW OAK • PORTLAND, OR 97223

NO.	DATE	REVISION	BY
1	12/29/99	As-Built	MVG

DESIGNED BY	REF	DATE	3/10/99
DRAWN BY	REF	DATE	3/10/99
REVIEWED BY	ML	DATE	
PROJECT NO.	476-001	REF.	
SCALE	NOTED 1-40'	VERT. V.A.	
		476001000	



EROSION CONTROL PLAN
MARNELLA ESTATES

SHEET 4 OF 17

PROJECT	MARNELLA ESTATES
NO.	476-001
TYPE	CONSTRUCTION

NO.	DATE	REVISION	BY
1	12/29/99	AS-BUILT	MVL

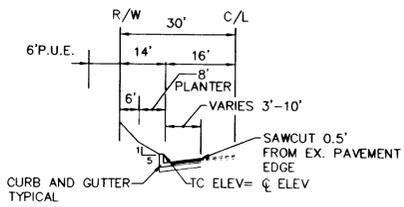
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DRAWN BY:	REF. DATE:	3/10/99
REVIEWED BY:	ML	DATE
PROJECT NO.:	476-001	REF.
SCALE:	HORIZ. 1"=40'	VERT. 1"=4'



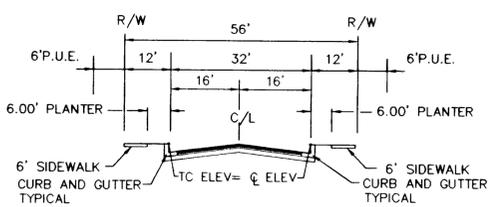
STREET AND SITE PLAN
 MARNELLA ESTATES

CURVE TABLE				
CURVE#	LENGTH	RADIUS	TANGENT	DELTA
C1	49.76'	25.00'	38.53'	114°02'36"
C2	39.74'	25.00'	25.48'	91°04'48"
C3	28.56'	185.00'	14.31'	08°50'43"
C4	40.97'	25.00'	26.76'	93°54'05"
C5	118.24'	185.00'	61.22'	36°37'10"
C6	42.64'	25.00'	28.62'	97°42'53"
C7	159.07'	185.00'	84.82'	49°15'50"

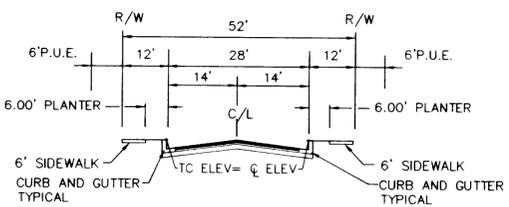
CURB RETURN ELEVATIONS					
CURVE#	PC	A/4	A/2	3A/4	PT
C1	547.26	546.97	546.67	546.52	547.23
C2	547.12	547.20	547.08	546.89	546.70
C4	564.44	564.03	561.92	559.72	559.04
C6	558.96	558.15	555.98	553.32	553.48



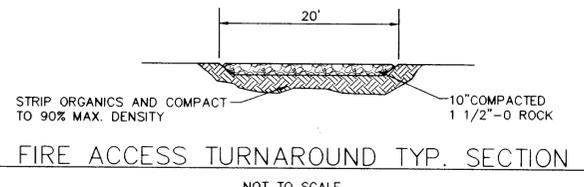
SW BLAND CIRCLE TYPICAL SECTION
 NOT TO SCALE



CRESTVIEW DRIVE TYPICAL SECTION
 NOT TO SCALE



SUNBREAK LANE TYPICAL SECTION
 NOT TO SCALE

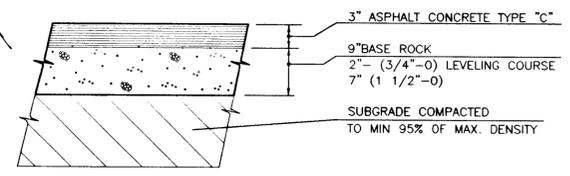
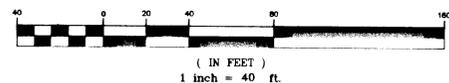


FIRE ACCESS TURNAROUND TYP. SECTION
 NOT TO SCALE

- NOTES:**
1. PROVIDE CONCRETE WHEEL STOP HELD IN PLACE W/ #4 REBAR SET 24" INTO GROUND @ LOTS 1/2.
 2. TURNAROUND DRIVEWAYS TO BE CONSTRUCTED AT TIME OF SITE IMPROVEMENT WORK.
 3. CONSTRUCT COMMERCIAL TYPE DRIVEWAY FOR TURNAROUND.

- NOTES:**
1. PROVIDE WEEP HOLES 1" IN FROM SIDE LOT LINE.
 2. DRIVEWAYS SHALL HAVE 22" WIDE BOTTOMS.
 3. CITY WILL MAKE DECISION TO REPAIR EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION.

GRAPHIC SCALE



TYPICAL STREET A.C. PAVEMENT STRUCTURAL SECTION
 NOT TO SCALE

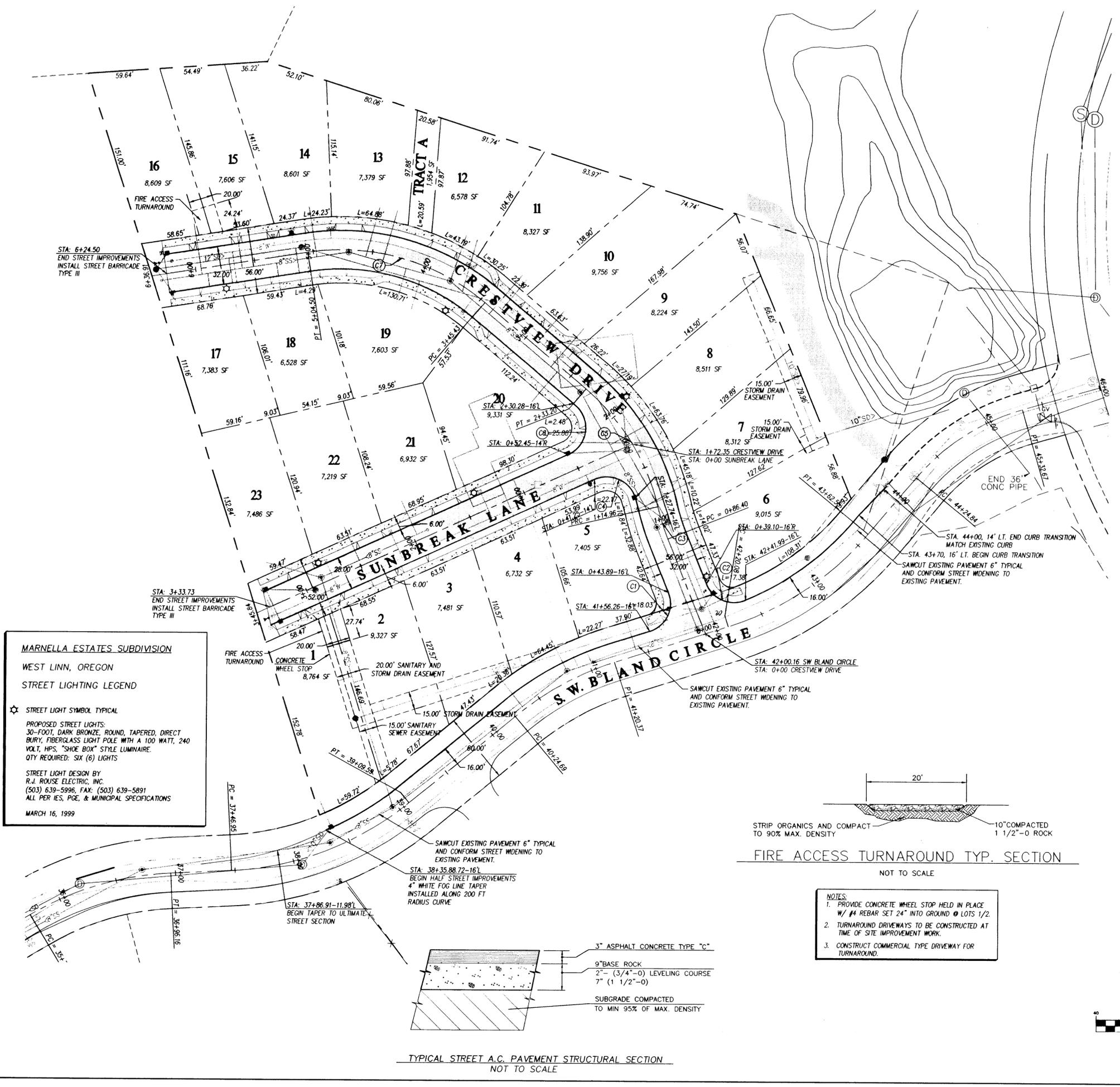
MARNELLA ESTATES SUBDIVISION
 WEST LINN, OREGON
 STREET LIGHTING LEGEND

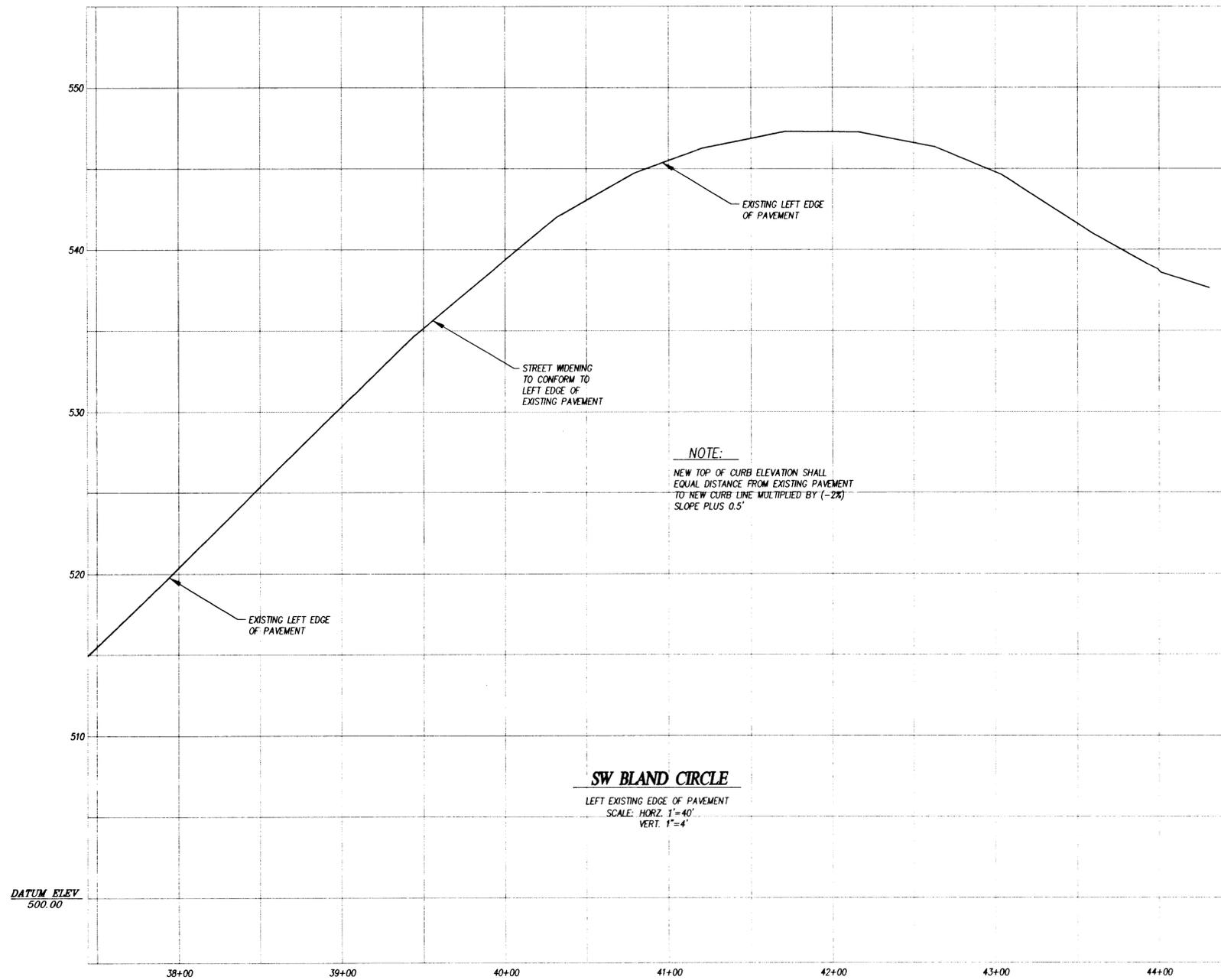
★ STREET LIGHT SYMBOL TYPICAL

PROPOSED STREET LIGHTS:
 30-FOOT, DARK BRONZE, ROUND, TAPERED, DIRECT BURY, FIBERGLASS LIGHT POLE WITH A 100 WATT, 240 VOLT, HPS, "SHOE BOX" STYLE LUMINAIRE.
 QTY REQUIRED: SIX (6) LIGHTS

STREET LIGHT DESIGN BY:
 R.J. ROUSE ELECTRIC, INC.
 (503) 639-5996, FAX: (503) 639-5891
 ALL PER IES, PGE, & MUNICIPAL SPECIFICATIONS

MARCH 16, 1999

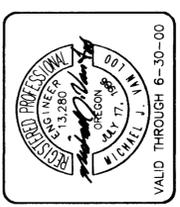




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PLAZA WEST • SUITE 230 • 9000 SW OAK • PORTLAND, OR 97223

NO.	DATE	REVISION	BY
1	12/26/09	As-BUILT	MVL

DESIGNED BY	REF.	DATE	3/10/09
DRAWN BY	REF.	DATE	3/10/09
REVIEWED BY	M.L.	DATE	
PROJECT NO.	476-001	REF.	
SCALE	HORIZ. 1"=40'	VERT. 1"=4'	

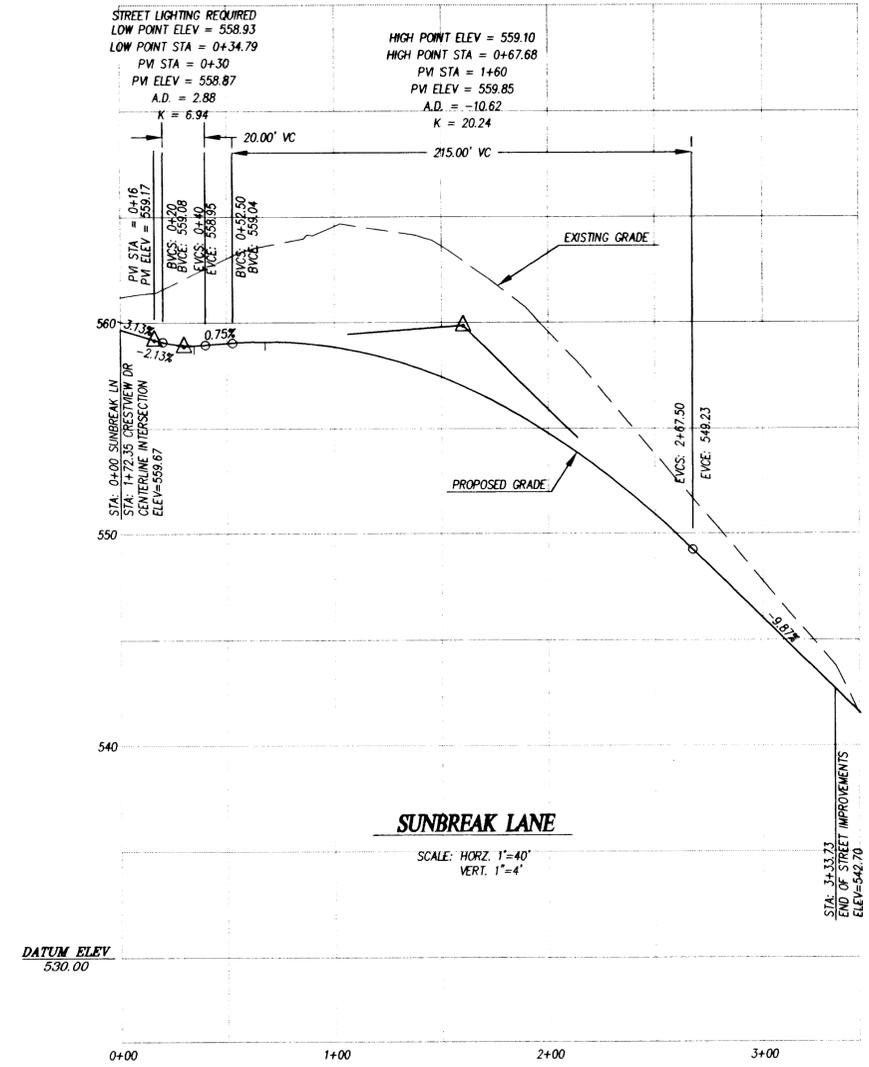
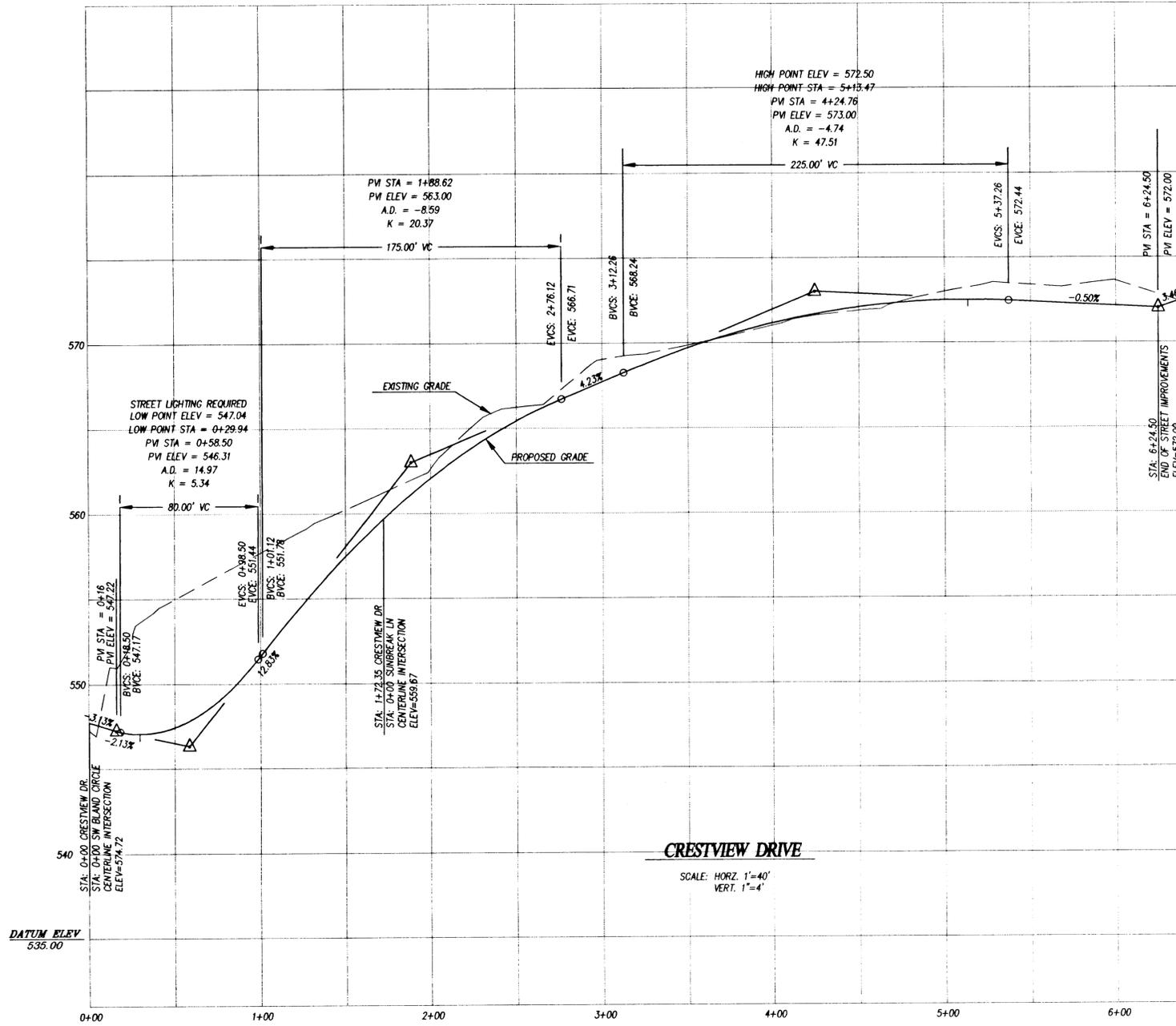


STREET PROFILES
MARNELLA ESTATES

SHEET **6** OF **17**

PROJECT: MARNELLA ESTATES
NO. 476-001
TYPE CONSTRUCTION

12-29-09
SRH

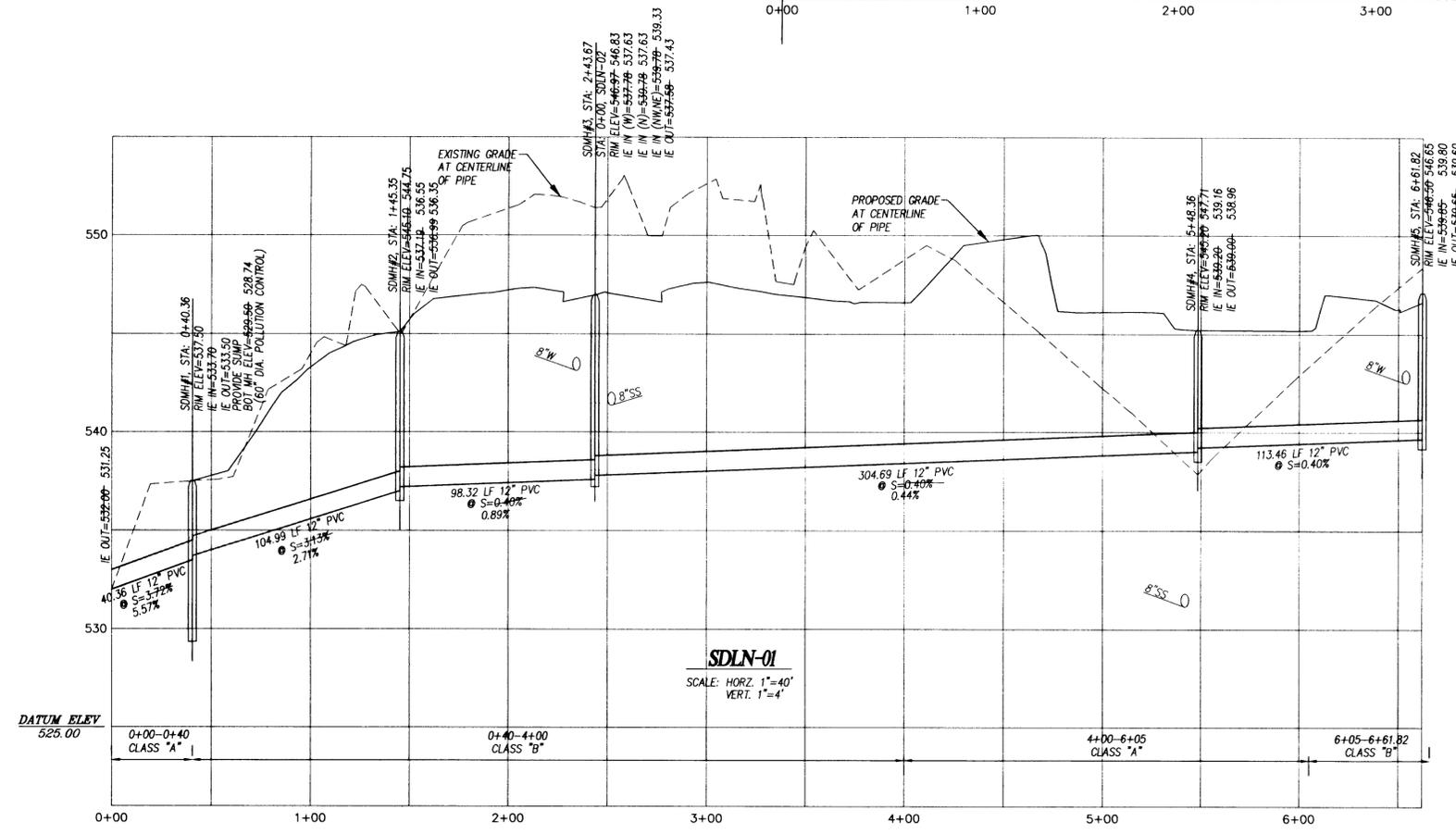
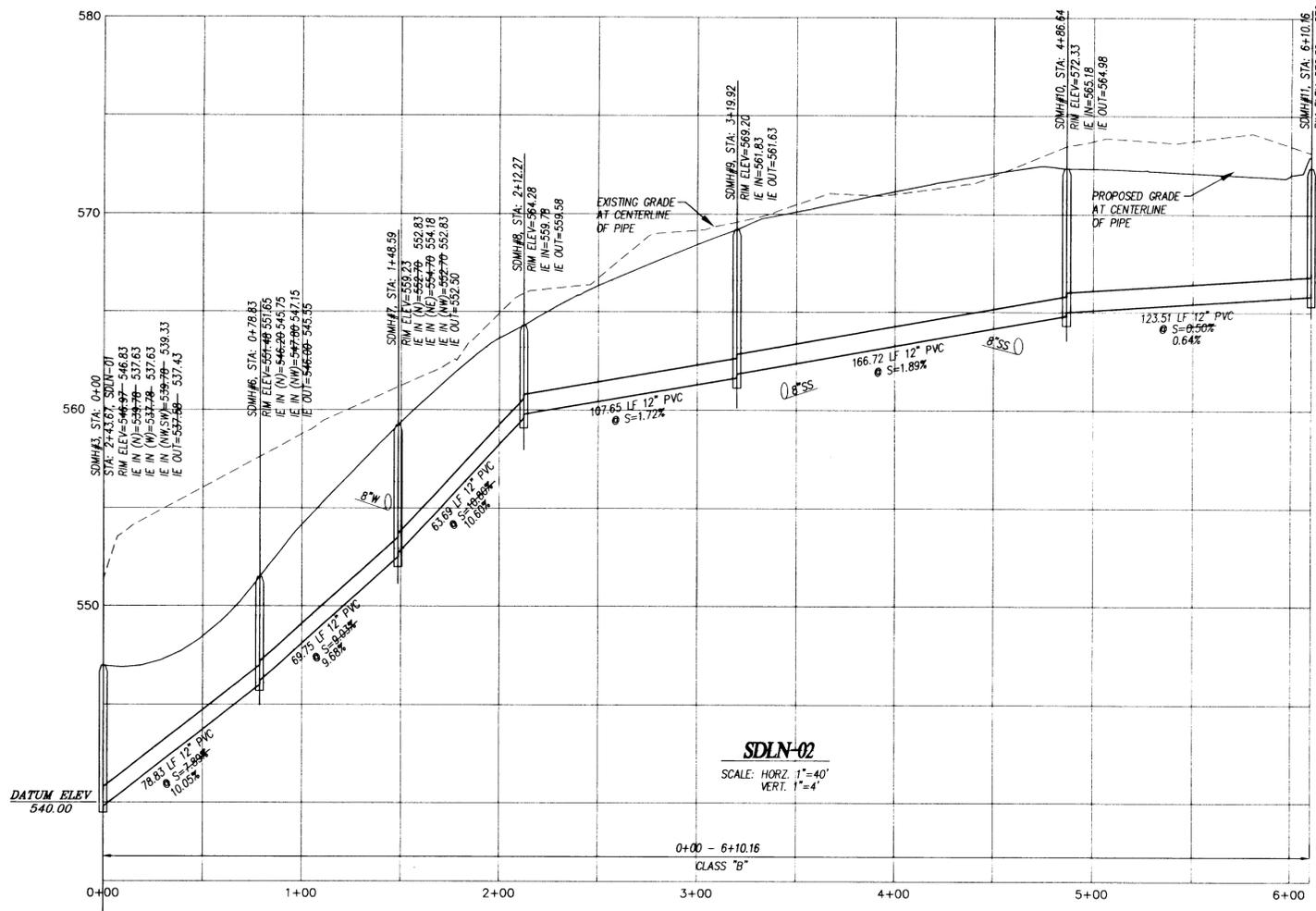
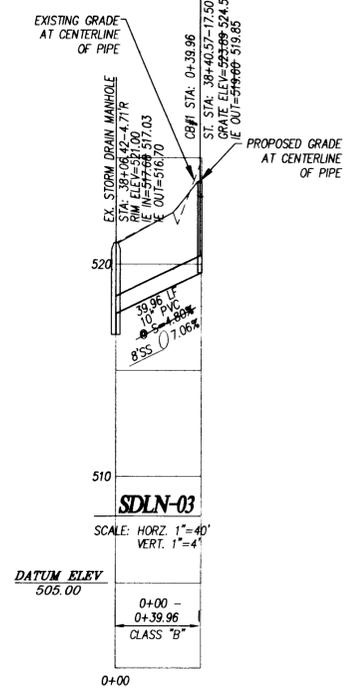
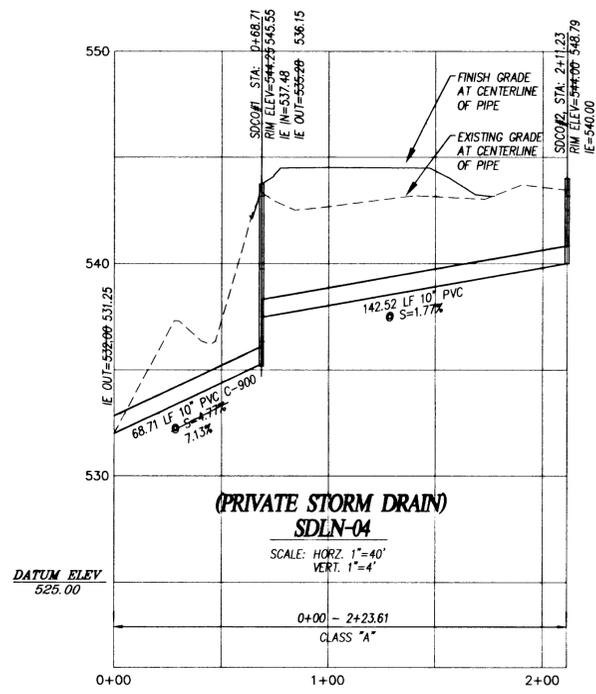


NO.	DATE	REVISION	BY
1	12/29/99	AS-BUILT	MW

DESIGNED BY	REF	DATE	3/10/98
DRAWN BY	REF	DATE	3/10/98
REVIEWED BY	MW	DATE	
PROJECT NO.	476-001	REF.	
SCALE	HORIZ 1"=40'	VERT. N/A	
		VERT. N/A	



STREET PROFILES
MARNELLA ESTATES

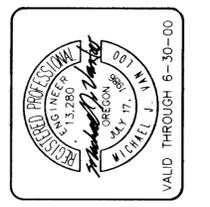


NOTE:
ALL MANHOLES SHALL BE CHANNLED.



NO.	DATE	REVISION	BY
1	12/29/04	AS BUILT	MVL

DESIGNED BY	BEF	DATE	3/10/99
DRAWN BY	BEF	DATE	3/10/99
REVIEWED BY	MAL	DATE	12/29/04
PROJECT NO.	476-001	REF	
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CONCEPT/DWG			



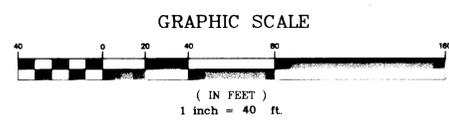
STORM DRAIN PROFILES
MARNELLA ESTATES

AS-BUILT
DATE 12-29-04
APPROVED SRH

SHEET	9	OF	17
PROJECT	MARNELLA ESTATES		
NO.	476-001		
TYPE	CONSTRUCTION		



NOTE:
ALL MANHOLES SHALL
BE CHANNIELED.

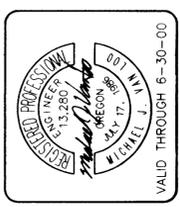


AS-BUILT
DATE 12-29-99
APPROVED S&E

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OFFICE 503-452-8008 • FAX 503-452-8045
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NO.	DATE	REVISION	BY
1	12/28/99	AS-BUILT	JRL

DESIGNED BY	BEF	DATE	3/10/98
DRAWN BY	ML	DATE	3/10/98
REVIEWED BY	ML	DATE	12/28/99
PROJECT NO.	476-001	REF.	
SCALE	HORIZ 1"=40'	VERT	N/A
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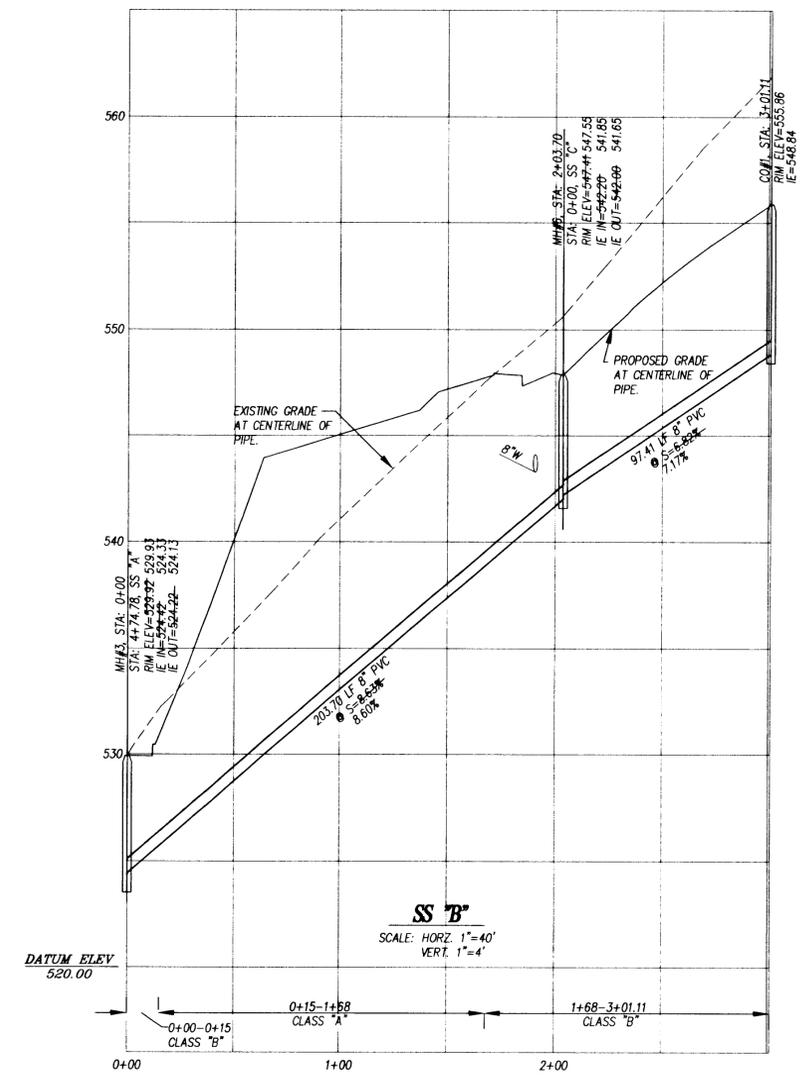
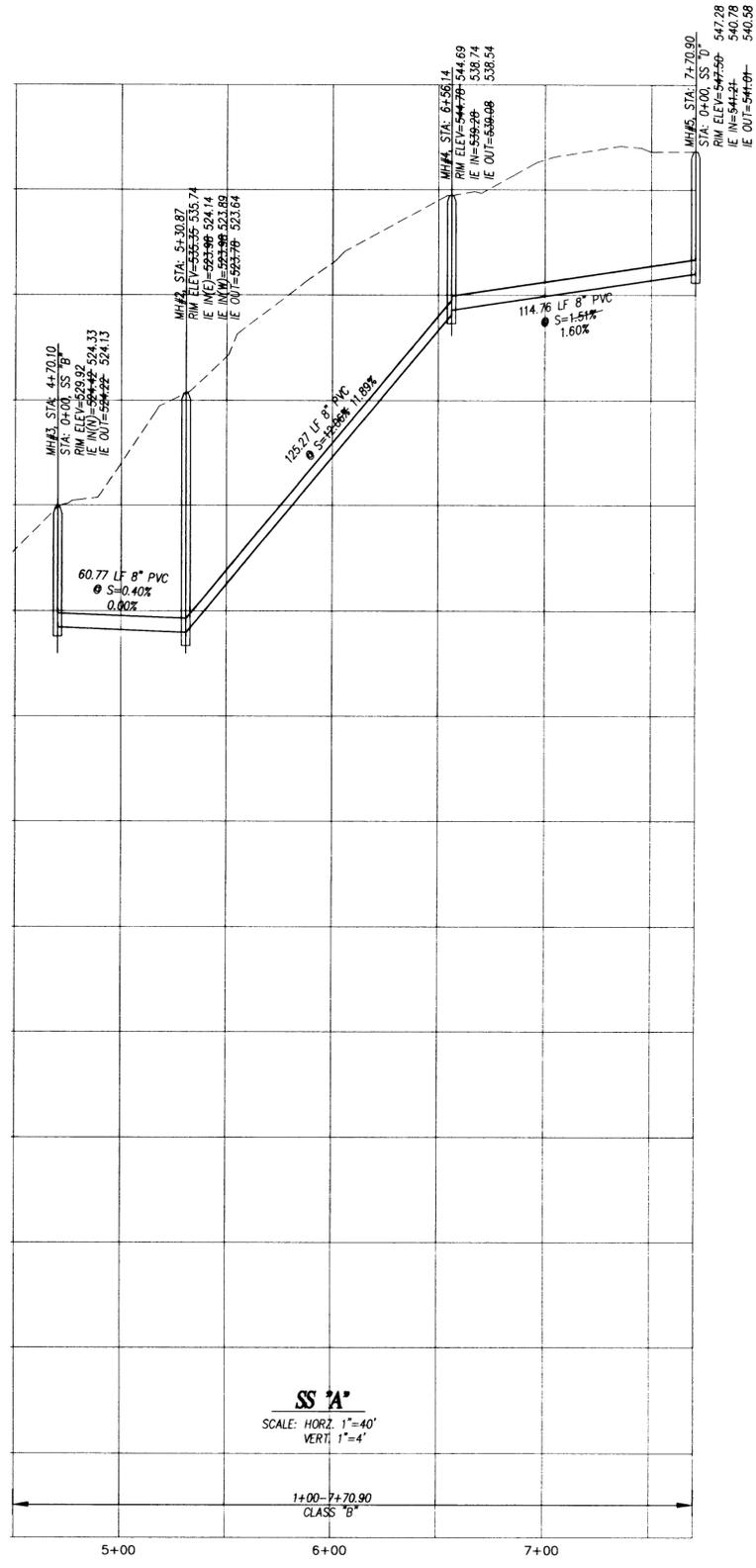


SANITARY SEWER PLAN
MARNELLA ESTATES

SHEET **11** OF **17**

PROJECT: MARNELLA ESTATES
NO. 476-001
TYPE CONSTRUCTION

VALID THROUGH 6-30-00



NOTE:
ALL MANHOLES SHALL
BE CHANNELED.

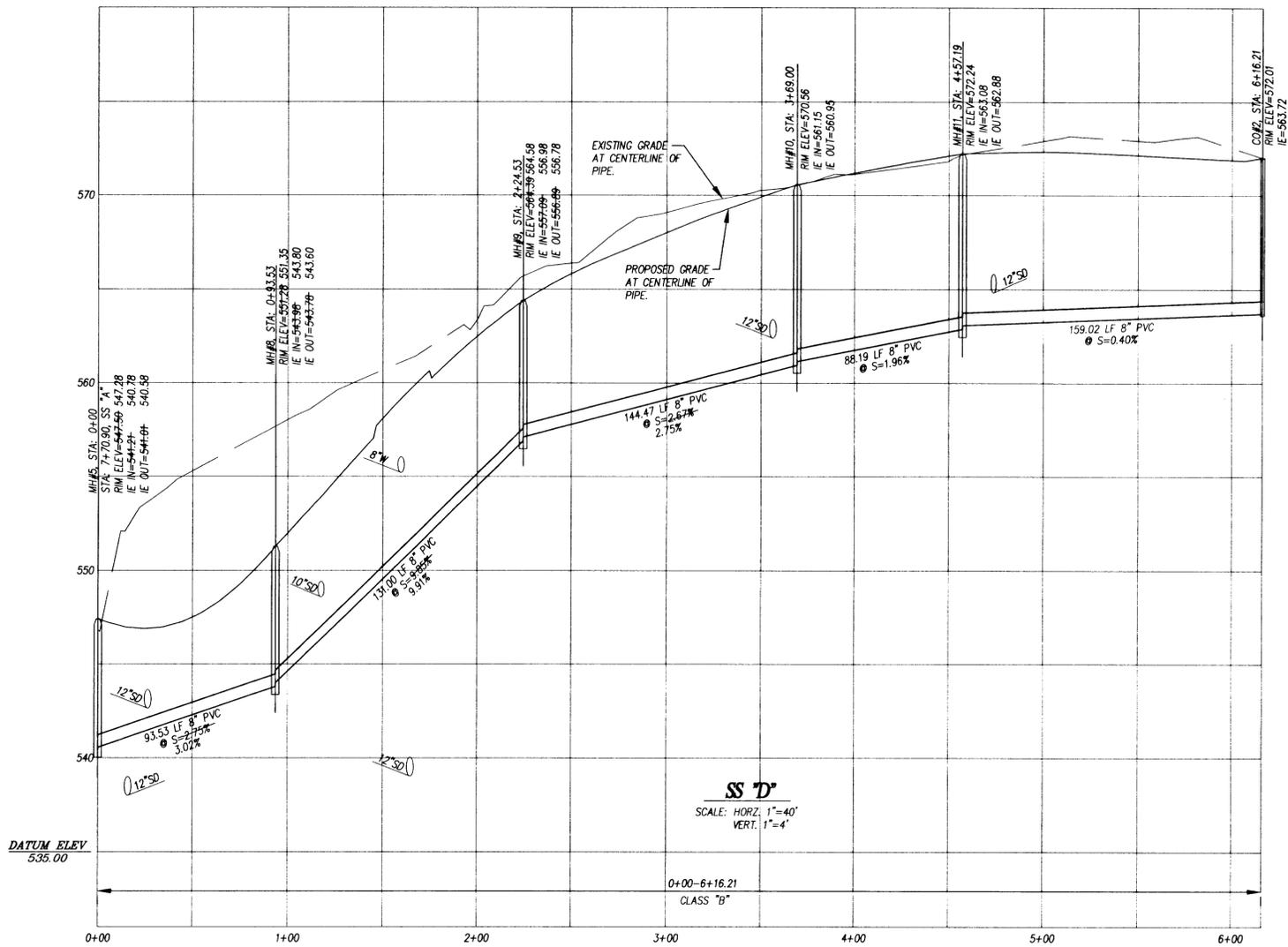
AS-BUILT
DATE 12-29-97
APPROVED: SFA

NO.	DATE	REVISION	BY
1	12/28/99	AS-BUILT	JPL

DESIGNED BY: DATE: 3/10/99
DRAWN BY: DATE: 3/10/99
REVIEWED BY: ML DATE: 12/28/97
PROJECT NO.: 476-001 REF:
SCALE: HORIZ 1"=40'
VERT: N/A
476SEFF.DWG



SANITARY SEWER PROFILES
MARNELLA ESTATES



NOTE:
ALL MANHOLES SHALL
BE CHANNELED.

AS-BUILT
DATE 12-29-99
APPROVED SRP

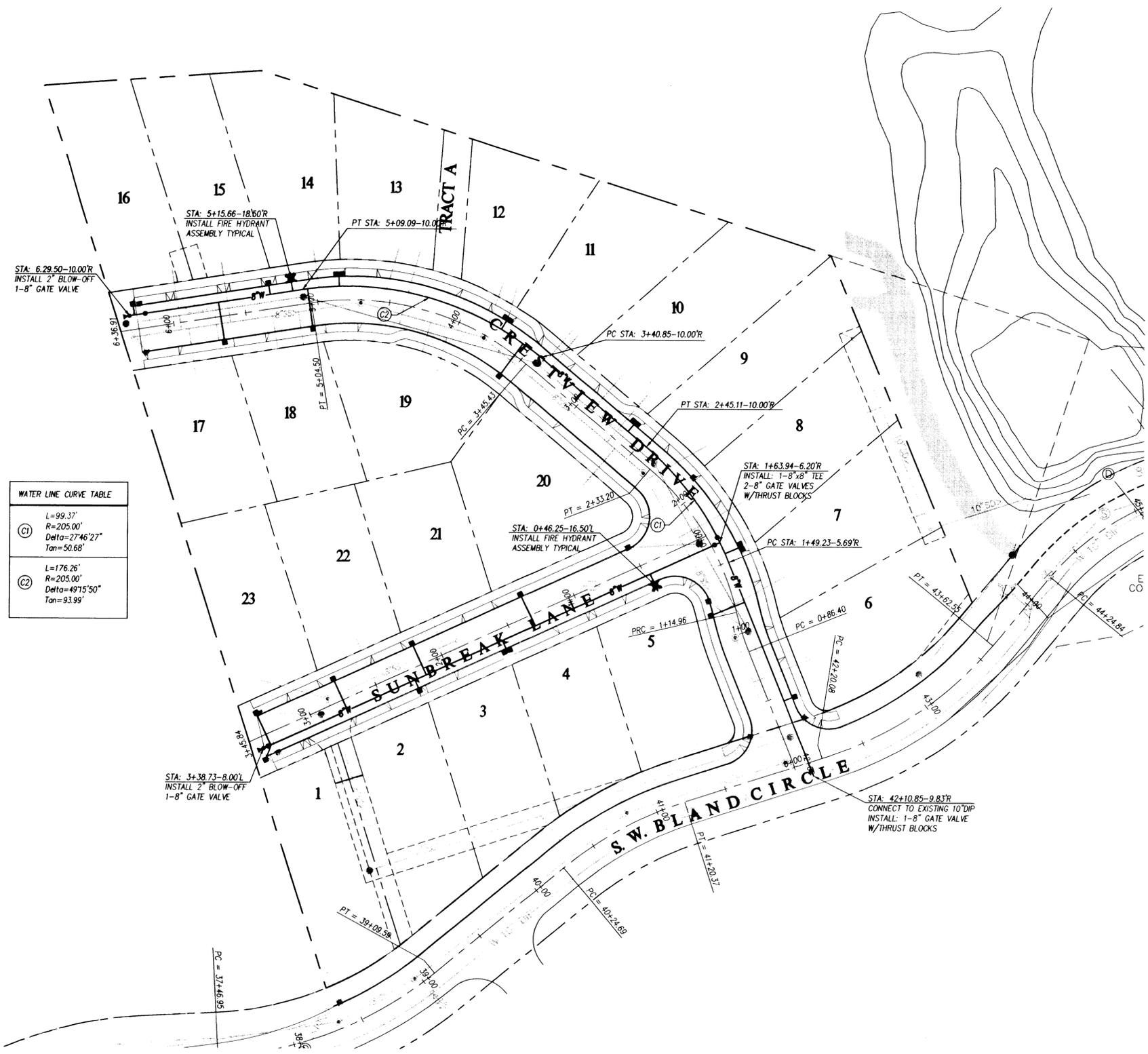
ALPHA ENGINEERING INC.
PLANNING & DEVELOPMENT SERVICES • SURVEYING
OFFICE 509-432-9003 • FAX 503-432-9043
PLAZA WEST • SUITE 230 • 9600 SW OAK • PORTLAND, OR 97223

NO.	DATE	REVISION	BY
1	12/28/99	AS-BUILT	JRL

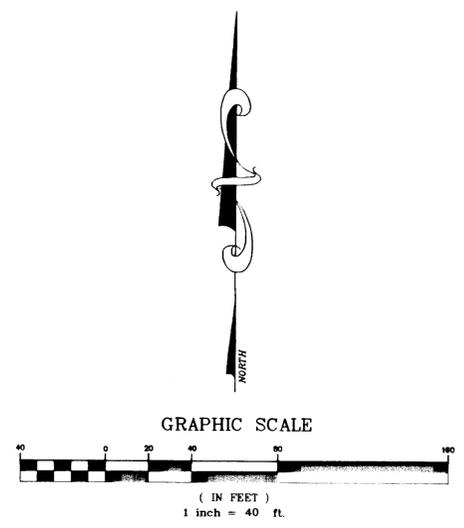
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 DRAWN BY: BEF DATE: 3/10/99
 REVIEWED BY: ML DATE: 12/28/99
 PROJECT NO: 476-001 REF: _____
 SCALE: HORIZ. 1"=40' VERT: N/A
4760001.DWG

REGISTERED PROFESSIONAL ENGINEER
 AS NEELY
 13,280
 OREGON
 M.Y. 77
 MICHAEL J.
 VALID THROUGH 6-30-00

SANITARY SEWER PROFILES
MARNELLA ESTATES



WATER LINE CURVE TABLE	
(C1)	L=99.37 R=205.00' Delta=27°46'27" Tan=50.68'
(C2)	L=176.26' R=205.00' Delta=49°15'50" Tan=93.99'



12-29-99
JRH

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NO.	DATE	REVISION	BY
1	12/29/99	AS-BUILT	MVL

DESIGNED BY	DATE	3/10/09
DRAWN BY	DATE	3/10/09
REVIEWED BY	DATE	
PROJECT NO.	476-001	REF.
SCALE	HORIZ 1"=40'	VERT. N/A
476WATERDWG		

VALID THROUGH 6-30-00

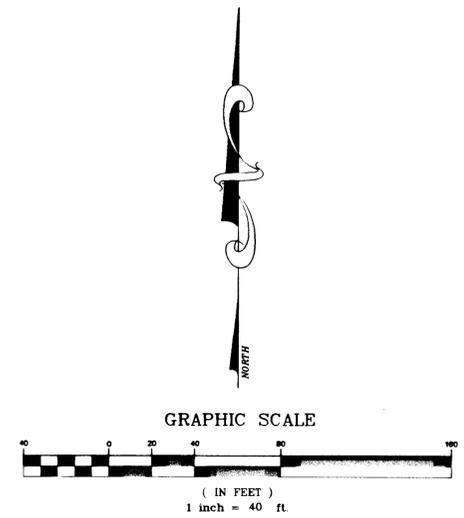
WATER PLAN
MARNELLA ESTATES

SHEET	14	OF	17
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PROJECT	MARNELLA ESTATES
NO.	476-001
TYPE	CONSTRUCTION



NOTE:
 [] POWER DROP



12-29-99
 SAH

ALPHA ENGINEERING INC.
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NO.	DATE	REVISION	BY
1	12/29/99	AS-BUILT	AMK

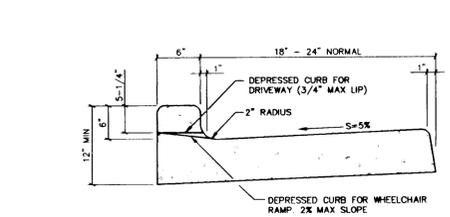
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DRAWN BY	BEF	DATE	3/10/98
REVIEWED BY	ML	DATE	
PROJECT NO.	476-001	REF.	
SCALE	HORIZ: 1"=40'	VERT: N/A	
			476/UTL.DWG

REGISTERED PROFESSIONAL ENGINEER
 MICHAEL J. MARNELLA
 LICENSE NO. 13,286
 STATE OF OREGON
 EXPIRES MAY 17, 1999
 VALID THROUGH 6-30-00

COMPOSITE UTILITY PLAN
 MARNELLA ESTATES

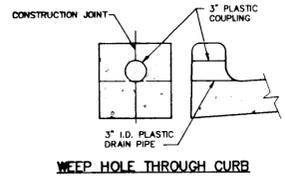
SHEET **15** OF **17**

PROJECT: MARNELLA ESTATES
 NO. 476-001
 TYPE CONSTRUCTION



TYPICAL CURB & GUTTER

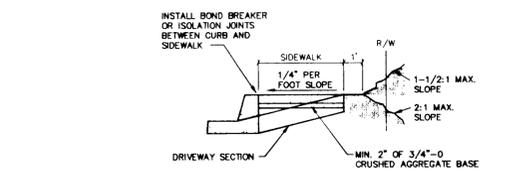
- NOTES:
- ALL RADII SHALL BE 3/4" EXCEPT AS OTHERWISE SHOWN.
 - EXPANSION JOINTS SHALL BE PLACED ONLY AS SPECIFIED.
 - CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS UNLESS OTHERWISE SPECIFIED, AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB AND GUTTER.
 - A CONTRACTION JOINT SHALL BE PLACED ALONG AND OVER THE WEEP HOLE THROUGH THE CURB AND THROUGH THE SIDEWALK.
 - WHEN SIDEWALKS ARE CONSTRUCTED, EXTEND WEEP HOLE TO BACK OF SIDEWALK. INSTALL COUPLING ON END OF WEEP HOLE.



WEEP HOLE THROUGH CURB

TYPICAL CURB and GUTTER, CURB and WEEP HOLE DETAILS

NOT TO SCALE
REF: APWA STD DRAWING #204
DATED 03/16/95

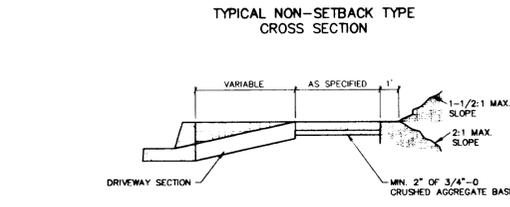


END RAMP FOR PROPERTY LINE SIDEWALKS (COMMERCIAL AREAS OR ARTERIAL STREETS)

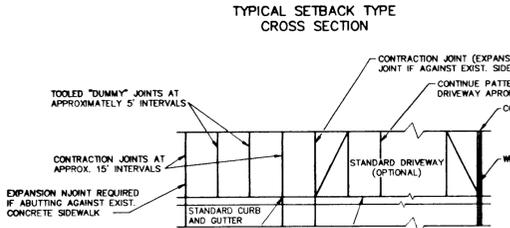
NOT TO SCALE

REF: APWA STD DRAWING #204
DATED 03/16/95

- NOTES:
- STANDARD SIDEWALK CROSS SLOPE SHALL BE 1/4" PER FOOT. WHEN THE LOT IS BELOW THE TOP OF THE CURB AND SLOPES DOWN FROM THE CURB, A MINUS 1/4" PER FOOT SLOPE MAY BE REQUIRED.
 - CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE NOMINAL 4" MIN. DRIVEWAY SECTIONS INCLUDING SIDEWALKS THROUGH DRIVEWAYS SHALL BE NOMINAL 6" MIN.
 - EXPANSION JOINTS WITH PREMELED FILLER SHALL BE INSTALLED BETWEEN DRIVEWAYS AND SIDEWALK AT THE OPTION OF THE ENGINEER. (SEE DRIVEWAY DETAILS) CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATE INTERVALS OF 15 FEET BY CUTTING AT LEAST 1/3 OF THE DEPTH OF THE CONCRETE. "DUMMY" JOINTS SHALL BE INSTALLED AT APPROXIMATE INTERVALS OF 3 FEET.
 - INSTALL A BOND BREAKER OR ISOLATION JOINT BETWEEN BACK OF CURB AND SIDEWALK, AND AROUND ANY OBSTRUCTION WITHIN SIDEWALK AREA.
 - SEE STANDARD WHEEL CHAIR/BICYCLE RAMP DETAILS FOR SIDEWALK PATTERNS AT INTERSECTION CURB RETURNS.
 - SEE ALSO, STANDARD DETAILS FOR DRIVEWAYS.
 - A 4" MIN. SEPARATION BETWEEN CURB AND STRACK SIDEWALK IS RECOMMENDED FOR LANDSCAPE MAINTENANCE.



TYPICAL NON-SETBACK TYPE CROSS SECTION



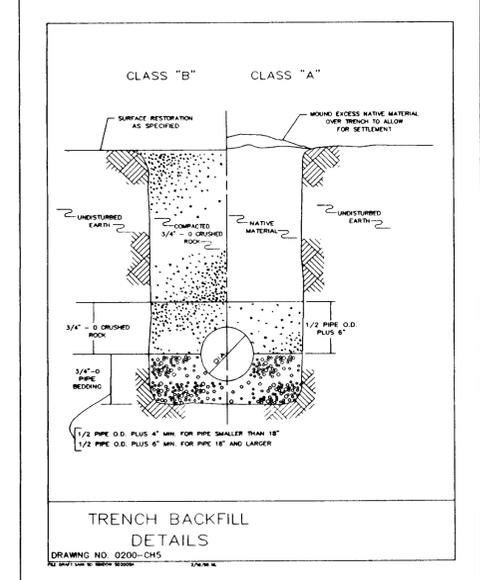
TYPICAL SETBACK TYPE CROSS SECTION



TYPICAL PLAN VIEW

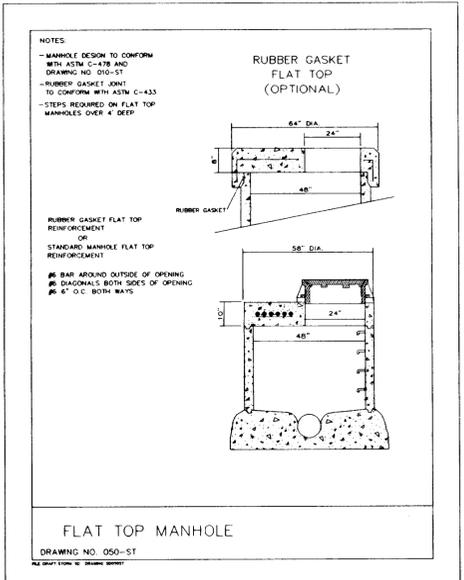
SIDEWALK DETAILS

NOT TO SCALE
REF: APWA STD DRAWING #206
DATED 03/16/95



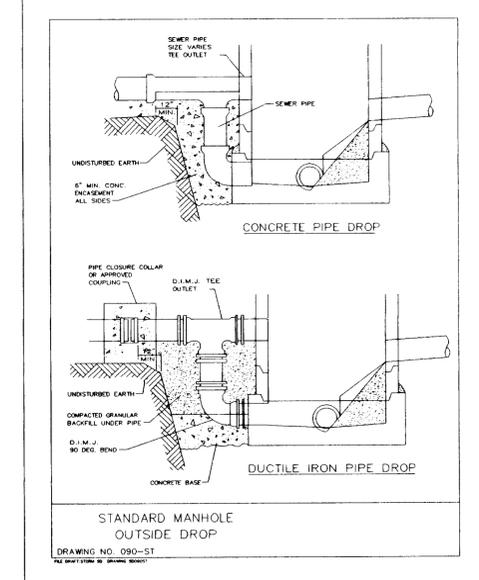
TRENCH BACKFILL DETAILS

DRAWING NO. 0200-CH5



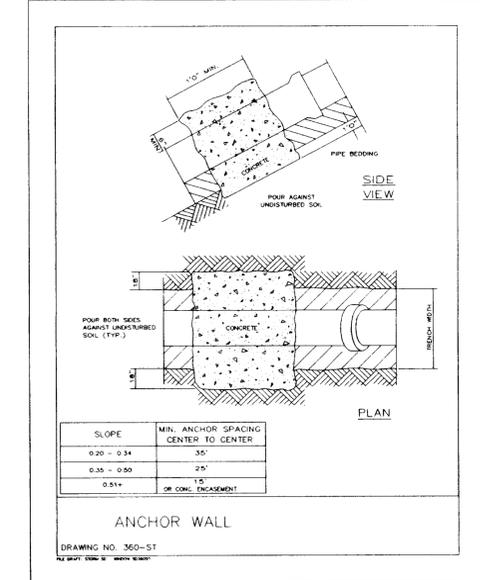
FLAT TOP MANHOLE

DRAWING NO. 050-S1



STANDARD MANHOLE OUTSIDE DROP

DRAWING NO. 090-S1



ANCHOR WALL

DRAWING NO. 350-S1

NOTES:

- MANHOLE DESIGN TO CONFORM WITH ASTM C-438 AND DRAWING NO. 010-S1
- RUBBER GASKET JOINT TO CONFORM WITH ASTM C-433
- STEPS REQUIRED ON FLAT TOP MANHOLES OVER 4' DEEP
- RUBBER GASKET FLAT TOP REINFORCEMENT OR STANDARD MANHOLE FLAT TOP REINFORCEMENT
- 6" BAR AROUND OUTSIDE OF OPENING
- DIAGONALS BOTH SIDES OF OPENING
- 6" O.C. BOTH WAYS

NOTES:

- STANDARD PRECAST MANHOLE SECTIONS AS REQUIRED
- MANHOLE BASE PER STANDARD DRAWING NUMBER INTERIM 316-A
- FOUNDATION STABILIZATION AS REQUIRED

APWA OREGON CHAPTER

MANHOLE

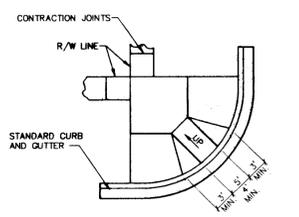
03/16/95 315

APWA OREGON CHAPTER

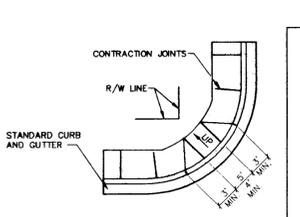
DETAIL FOR OUTSIDE DROP CONNECTION FOR MANHOLES

MAY 1992 DRAWING NO. 318

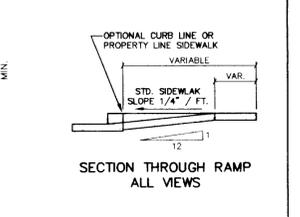
SLOPE	MIN. ANCHOR SPACING CENTER TO CENTER
0.20 - 0.34	35'
0.35 - 0.50	25'
0.51+	OR CONC. ENCASMENT



CENTER RAMP FOR PROPERTY LINE SIDEWALKS (RESIDENTIAL AREAS)



CENTER RAMP FOR CURB LINE SIDEWALKS (RESIDENTIAL AREAS)



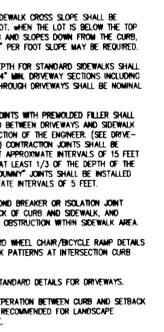
SECTION THROUGH RAMP ALL VIEWS

END RAMP FOR PROPERTY LINE SIDEWALKS (COMMERCIAL AREAS OR ARTERIAL STREETS)

WHEELCHAIR and BICYCLE RAMP

NOT TO SCALE
REF: APWA STD DRAWING #207
DATED 03/16/95

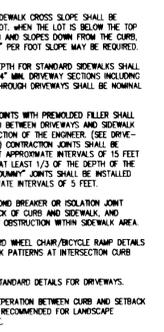
- NOTES:
- STANDARD SIDEWALK CROSS SLOPE SHALL BE 1/4" PER FOOT. WHEN THE LOT IS BELOW THE TOP OF THE CURB AND SLOPES DOWN FROM THE CURB, A MINUS 1/4" PER FOOT SLOPE MAY BE REQUIRED.
 - CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE NOMINAL 4" MIN. DRIVEWAY SECTIONS INCLUDING SIDEWALKS THROUGH DRIVEWAYS SHALL BE NOMINAL 6" MIN.
 - EXPANSION JOINTS WITH PREMELED FILLER SHALL BE INSTALLED BETWEEN DRIVEWAYS AND SIDEWALK AT THE OPTION OF THE ENGINEER. (SEE DRIVEWAY DETAILS) CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATE INTERVALS OF 15 FEET BY CUTTING AT LEAST 1/3 OF THE DEPTH OF THE CONCRETE. "DUMMY" JOINTS SHALL BE INSTALLED AT APPROXIMATE INTERVALS OF 3 FEET.
 - INSTALL A BOND BREAKER OR ISOLATION JOINT BETWEEN BACK OF CURB AND SIDEWALK, AND AROUND ANY OBSTRUCTION WITHIN SIDEWALK AREA.
 - SEE STANDARD WHEEL CHAIR/BICYCLE RAMP DETAILS FOR SIDEWALK PATTERNS AT INTERSECTION CURB RETURNS.
 - SEE ALSO, STANDARD DETAILS FOR DRIVEWAYS.
 - A 4" MIN. SEPARATION BETWEEN CURB AND STRACK SIDEWALK IS RECOMMENDED FOR LANDSCAPE MAINTENANCE.



WHEELCHAIR and BICYCLE RAMP

NOT TO SCALE
REF: APWA STD DRAWING #207
DATED 03/16/95

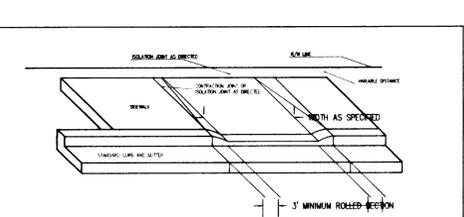
- NOTES:
- ALL JOINTS SHALL BE OF PREFORMED PLASTIC OR RUBBER RING TO FORM A WATER-TIGHT SEAL. GROUNDED JOINTS MAY BE USED FOR STORM DRAIN SYSTEMS ONLY.
 - STANDARD PRECAST MANHOLE SECTIONS AS REQUIRED
 - MANHOLE BASE PER STANDARD DRAWING NUMBER INTERIM 316-A
 - FOUNDATION STABILIZATION AS REQUIRED



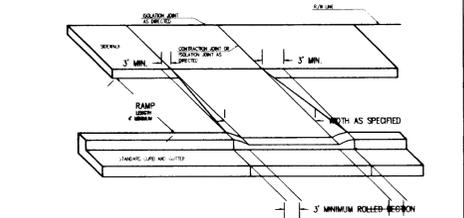
MANHOLE

APWA OREGON CHAPTER

03/16/95 315



DRIVEWAY / ALLEY APPROACH FOR CURBSIDE SIDEWALK

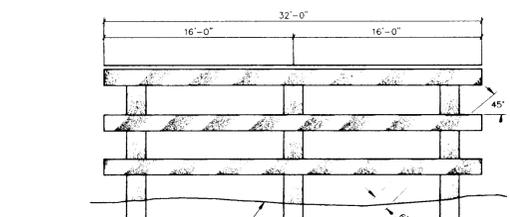


DRIVEWAY / ALLEY APPROACH FOR SET-BACK SIDEWALK

APWA OREGON CHAPTER

TYPICAL DRIVEWAY AND ALLEY APPROACHES

03/16/95 209



ELEVATION

- NOTES:
- RAILS TO BE PAINTED RED WITH WHITE STRIPES. RED AND WHITE STRIPES TO BE REFLECTORIZED FOR NIGHT APPLICATIONS. MULTIPLE SECTIONS AS SHOWN SHALL BE USED.
 - SEE MANUAL ON LINEFLOW TRAFFIC CONTROL DEVICES FOR SIGNETS AND HIGHWAYS AND THE OREGON SIGN MANUAL.
 - ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF OREGON STANDARD SPECIFICATIONS FOR HWY. CONSTRUCTION. WOOD - SEE SIGN POSTS - SECTION 642.

5/8" GALVANIZED SQ. HD. MACHINE BOLTS/WASHERS

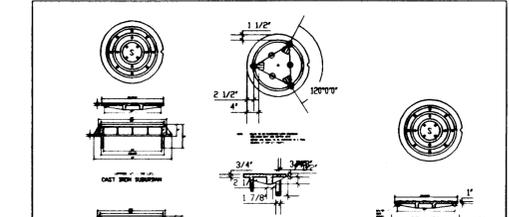
2"x8" RAILS

4"x6" POSTS

END VIEW

STREET BARRICADE - TYPE III

NOT TO SCALE

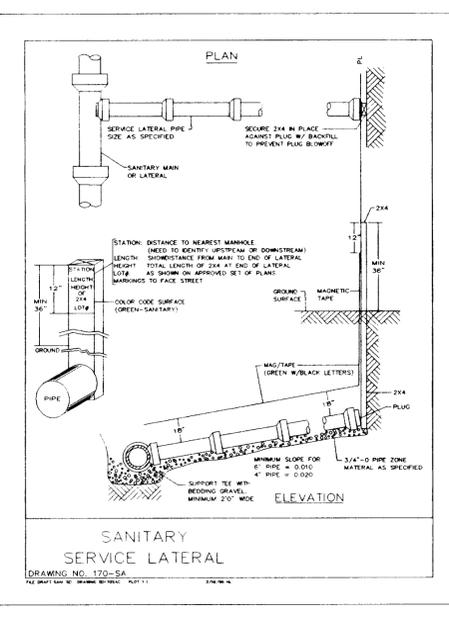


APWA OREGON CHAPTER

TYPICAL MANHOLE COVER AND FRAME DETAILS

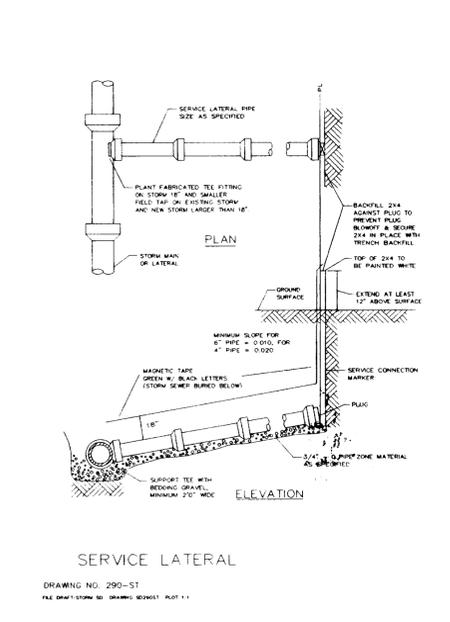
03/16/95 314

DESIGNED BY: REF. DATE: 3/10/99
DRAWN BY: REF. DATE: 3/10/99
REVIEWED BY: REF. DATE: 3/10/99
PROJECT NO. 476-001 REF.
SCALE: NOT TO SCALE



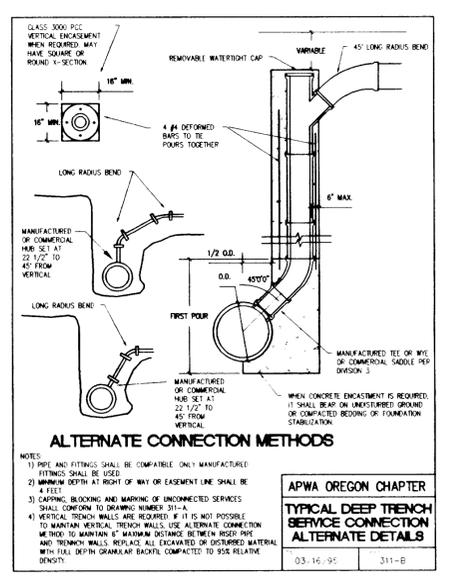
SANITARY SERVICE LATERAL

DRAWING NO. 170-S1



SERVICE LATERAL

DRAWING NO. 290-S1



ALTERNATE CONNECTION METHODS

- NOTES:
- PIPE AND FITTINGS SHALL BE COMPATIBLE. ONLY MANUFACTURED FITTINGS SHALL BE USED.
 - MINIMUM BENCH AT RIGHT OF WAY OR EASEMENT LINE SHALL BE 4 FEET.
 - SAFING, BLEEDING AND MARKING OF UNCONNECTED SERVICES SHALL CONFORM TO DRAWING NUMBER 311-A.
 - VERTICAL TRENCH WALLS ARE REQUIRED IF IT IS NOT POSSIBLE TO MAINTAIN VERTICAL TRENCH WALLS. USE ALTERNATE CONNECTION METHODS TO MAINTAIN 6" MAXIMUM DISTANCE BETWEEN PIPE AND TRENCH WALLS. REPLACE ALL EXCAVATED OR DISRUPTED MATERIAL WITH FULL DEPTH GRANULAR BACKFILL, COMPACTED TO 90% RELATIVE DENSITY.

APWA OREGON CHAPTER

TYPICAL DEEP TRENCH SERVICE CONNECTION ALTERNATE DETAILS

03/16/95 311-B

ALPHA ENGINEERING, INC.
PLANNING - DEVELOPMENT SERVICES - SURVEYING
OFFICE 503-485-0000 • FAX 503-485-0045
PLAZA WEST - SUITE 230 • 9800 ST. OAK • PORTLAND, OR 97223

NO.	DATE	REVISION	BY
1	12/24/99	AS-BUILT	MMW

DESIGNED BY: REF. DATE: 3/10/99
DRAWN BY: REF. DATE: 3/10/99
REVIEWED BY: REF. DATE: 3/10/99
PROJECT NO. 476-001 REF.
SCALE: NOT TO SCALE



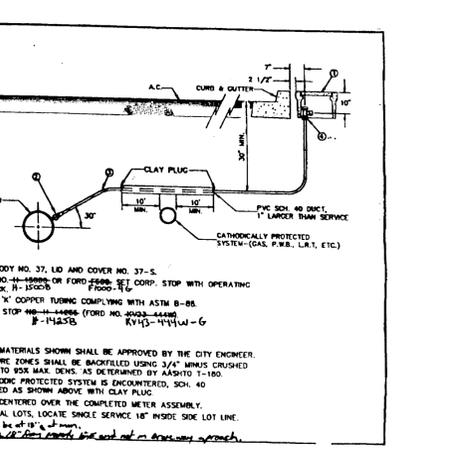
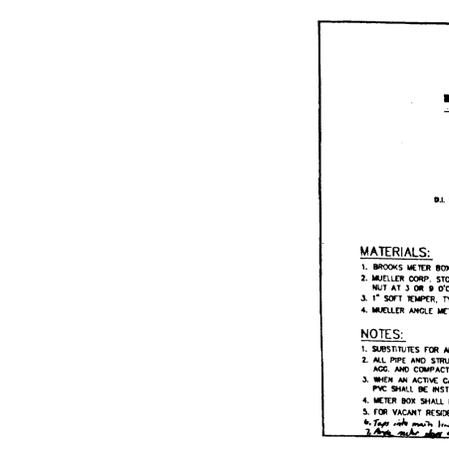
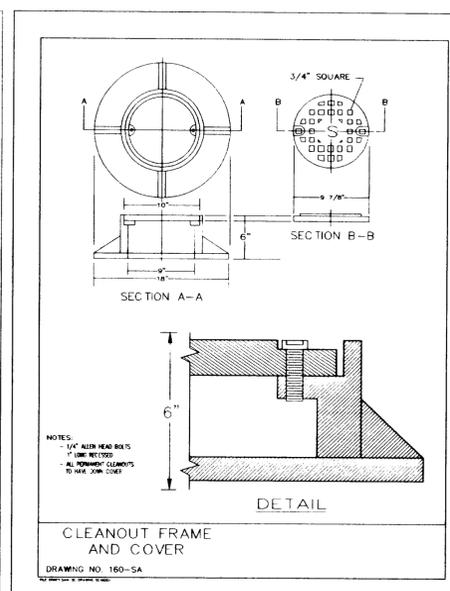
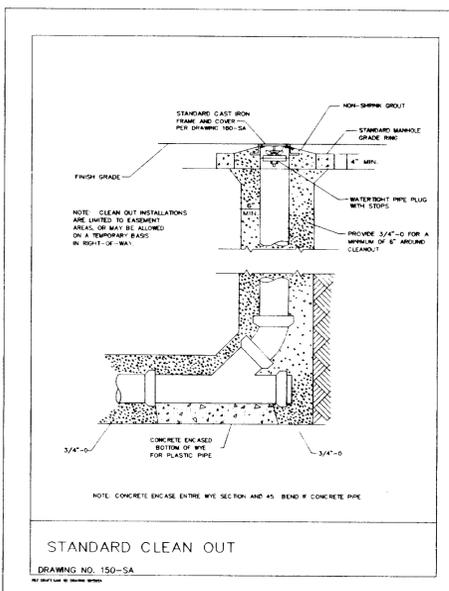
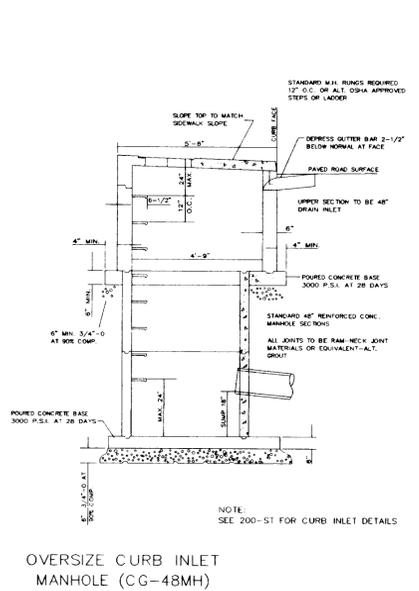
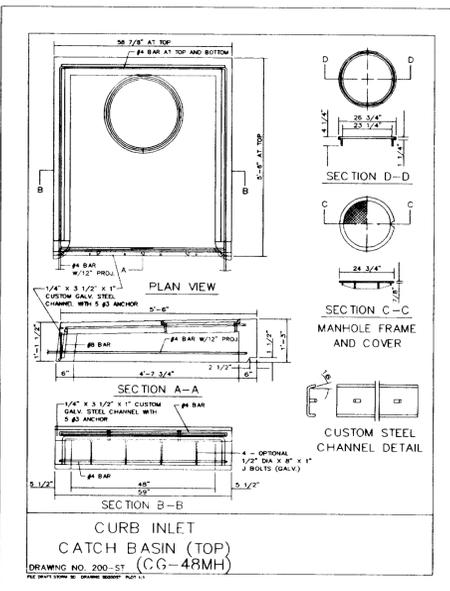
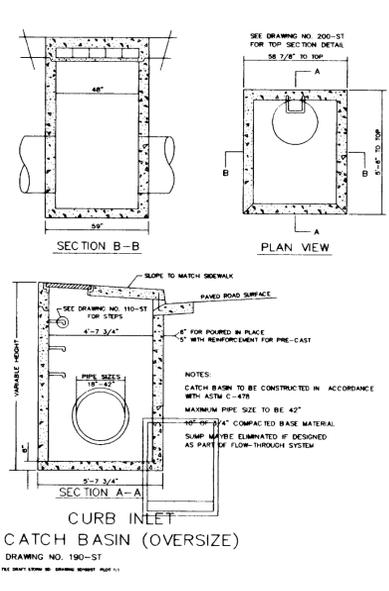
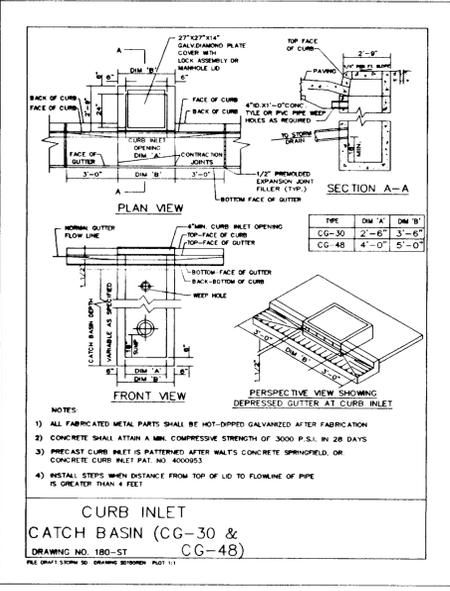
VALID THROUGH 6-30-00

CONSTRUCTION DETAILS

MARNELLA ESTATES

SHEET 16 OF 17

PROJECT: MARNELLA ESTATES
NO. 476-001
TYPE: CONSTRUCTION



NO.	DATE	REVISION	BY
1	7/1/88	REVISED DETAILS	MW
2	12/1/88	AS-BUILT	MW

DESIGNED BY: BEF DATE: 3/17/88
 DRAWN BY: BEF DATE: 3/17/88
 REVIEWED BY: MAL DATE: 3/17/88
 PROJECT NO.: 476-001 REF. _____
 SCALE: NOT TO SCALE
 476001L2



VALID THROUGH 6-30-00

CONSTRUCTION DETAILS
 MARNELLA ESTATES

SHEET: **17** OF **17**
 PROJECT: **MARNELLA ESTATES**
 NO: **476-001**
 TYPE: **CONSTRUCTION**